सत्यमेव जयते

RBSK
RASHTRIYA BAL SWASTHYA KARYAKRAM
राष्ट्रीय बाल स्वास्थ्य कार्यक्रम
FROM SURVIVAL TO HEALTHY SURVIVAL

NATIONAL HEALTH MISSION
राष्ट्रीय स्वास्थ्य मिशन

Resource Manual for
EQUIPMENT AND INFRASTRUCTURE
for DEIC (including Model DEIC) Under RBSK

Government of India
Ministry of Health and Family Welfare
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RASHTRIYA BAL SWASTHYA KARYAKRAM

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स्वास्थ्य एवं परिवार कल्याण विभाग
निर्माण भवन, नई दिल्ली-110011
GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
DEPARTMENT OF HEALTH & FAMILY WELFARE
NIRMAN BHAVAN, NEW DELHI - 110011

27th June, 2017

FOREWORD

The Ministry of Health and Family Welfare, Government of India, is committed to improving survival outcome of the children. Rashtriya Bal Swasthya Karyakram has been initiated to achieve this objective through screening, early identification and management of Defects at Birth, Deficiencies, Diseases, Developmental Delays including disabilities and assured linkage to care, support and treatment for all children up to 18 years of age.

For initial screening, trained Mobile Health Teams at Block level have already been deputed in most of the States. The next vital step of confirmation of preliminary findings, referral support, management & follow up of screened children is to be achieved through District Early Intervention Centres (DEICs) which are being established in all districts across the country. The States are also required to set up Nodal DEICs with state- of-the-art training and treatment facilities in some of their districts to support all other DEICs.

Resource Manual for Equipment and Infrastructure at Nodal DEIC is aimed at providing essential information regarding establishment and operationalization of various sections of the DEIC, technical specifications of domain specific equipments and general instruments with their normative costing.

I hope this manual will provide all the necessary information required for procurement of equipments and will be useful to the States and UTs in planning and operationalization of DEICs to ensure the delivery of quality services.

(Dr. Arun K Panda)

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PREFACE

Common health problems such as hearing defects, visual impairments, respiratory disorders, micronutrient deficiencies and development delays starting in early childhood years adversely affect a significant percentage of children. In addition, the country is having a large number of infants born with Birth Defects. Ministry of Health & Family Welfare has launched child health screening and early intervention services under Rashtriya Bal Swasthya Karyakram to address these challenges.

All children from birth to 18 years of age are covered under RBSK through a systematic approach of screening and intervention. Newborns are screened at public health facilities and at home followed by screening of children aged 6 weeks to 6 years at Anganwadi centres and the 6-18 years age group is covered through screening in Government and aided schools. Screening is followed by confirmation, intervention and management at District Early Intervention Centres (DEICs).

District Early Intervention Centre (DEIC) are to be set up in all districts and are envisaged to provide comprehensive management, care and referral services. These DEICs are to be established as per laid down standards and specifications.

This manual provides the specifications on all aspects required to set up a DEIC and also explains the technical specifications of the equipment, instruments and furniture for a fully functional DEIC.

I hope that the States/UTs will make effective use of this document for procurement of equipment and operationalization of DEICs.

Vandana Gurnani

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ACKNOWLEDGEMENT

Under Rashtriya Bal Swasthya Karyakram (RBSK) of National Health Mission, all the children from 0-18 years of age are screened for 4D's i.e Defects at Birth, Deficiency, Developmental Delays and specific diseases and their confirmation, management and follow up is carried out at District Early Intervention Centres (DEICs).

A resource manual for equipment and infrastructure at DEIC has been developed. This provides essential information required for planning and establishing DEICs including the sectional layouts and technical specifications. The detailed technical specifications of various instruments required specifically for 0•6 and 6•18 years of age groups with their tentative costing are also included for reference purpose.

The manual has been finalized through extensive consultation with domain experts and reviewed by the technical team. We would like to acknowledge the support of all the experts and contributors who have given their inputs that has immensely helped in giving this manual a final shape.

(Dr. Ajay Khera)

ABOUT THE DOCUMENT

This document provides specifications of equipment for establishing various sections of District Early Intervention Centre (DEIC) with details of each section including sectional layout dimension. It also explains in detail about the general equipment/items and their specifications of required furniture in DEIC. Detailed technical specifications of various domain specific equipments required specifically for 0-6 and 6-18 years of age groups is given which will help in uniformity in availability of equipments targeted specifically for both age groups. The document covers details and classification of equipment into desired and essential category for District DEICs and Model DEICs.

Illustrative costing for each equipment is also provided as reference which may help in procurement and thus establishment and operationalization of fully functional DEIC.

The document also includes a list of few vendors. Single vendor Equipment certificates with quotation and product details is also included for reference.

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ABBREVIATIONS

AWC	Anganwadi Center	NBSU	Newborn Stabilization Unit
AWW	Anganwadi Worker	RBSK	Rashtriya Baal Swasthya Karyakram
ANM	Auxiliary Nurse Midwife	NFHS	National Family Health Survey
ASHA	Accredited Social Health Activist	NIPI	Norway India Partnership Initiative
CHC	Community Health Center	NMR	Neonatal Mortality Rate
CHD	Congenital Heart Disease	NRC	Nutrition Rehabilitation Center
DDH	Developmental Dysplasia of the Hip	NRHM	National Rural Health Mission
DEIC	District Early Intervention Center	NSSK	Navjaat Shishu Suraksha Karyakram
DH	District Hospital	OPD	Out Patient Department
DLHS	District Level Household Survey	ORS	Oral Rehydration Solution
ESR	Erythrocyte Sedimentation Rate	PHC	Primary Health Center
FBNC	Facility Based Newborn Care	PIP	Programme Implementation Plan
FRU	First Referral Unit	PNC	Post Natal Check-up
GMDN HBNC	Global Medical Device Nomenclature Home Based Newborn Care	RCH II	Reproductive and Child Health Programme Phase II
IAP	India Academy of Pediatrics	RF	Rheumatic Fever
IEC	Information Education and Communication	RHD	Rheumatic Heart Disease
IFA	Iron Folic Acid	ROP	Retinopathy of Prematurity
IMNCI	Integrated Management of Neonatal and Childhood Illnesses	RSBY	Rashtriya Swasthya Bima Yojana
IMR	Infant Mortality Rate	SAM	Severe Acute Malnutrition
JSSK	Janani Shishu Suraksha Karyakram	SDH	Sub District Hospital
JSY	Janani Suraksha Yojana	SNCU	Special Newborn Care Unit
LBW	Low Birth Weight	SRS	Sample Registration System
MHT	Mobile Health Team	UNICEF	United Nations Children Fund
MDG	Millennium Development Goal	VHND	Village Health and Nutrition Day
MOHFW	Ministry of Health and Family Welfare	VHSNC	Village Health Sanitation and Nutrition Committee
NBCC	Newborn Care Corner	WHO	World Health Organization

CONTENTS

CHAPTER - 1

DISTRICT EARLY INTERVENTION CENTER

Concept of DEIC

Rashtriya Bal Swasthya Karyakram (RBSK) screens children from birth to 18 years of age for selected health conditions including Defects at Birth, Deficiencies, Diseases & Developmental delays including disabilities through trained and dedicated Mobile Health teams. The next vital step is confirmation of preliminary findings, referral support, and management and follows up and needs to be planned according to the age of the child. Developmental impairment is a common problem in children health that occurs in approximately 10% of the childhood population and even more among "at risk" children discharged from the Sick newborn care unit. All intervention done before 6 years either prevents or minimizes disability. Once the disability is already established or becomes permanent then the only intervention left is to prevent it from becoming socially handicapped.

Research has proved that the period from birth to 2 years are the most critical years for all children. This is especially true for children with developmental delay. Therefore, it stands that early identification and early intervention programs can significantly improve the quality of their lives. Such programs will work towards these children achieving their maximum potential and thereby, early inclusion in main streaming. Children at risk of disability especially those discharged from the NICU are often denied access to appropriate services under one roof. hence the need of DEIC linked to the follow up of SNCU graduates.

The District Early Intervention Centers (DEIC) are being established at District Hospital level across the country. The purpose of DEIC is to evaluate and manage all children below the age of 6 years by providing medical therapy, physiotherapy, psychological therapy , vision and hearing therapy , dental therapy , nutritional therapy, plaster therapy under one roof. It will also provide referral support for children requiring surgery or are above the age of 6 years provide referral support to children identified with health conditions during health screening by RBSK Mobile Health Teams, primarily for confirmation of preliminary identification, referral to appropriate facilities for further management for 30 selected health conditions as under RBSK.

Each DEIC is manned by a team consisting of Pediatrician, Medical officer, Dentist, Staff Nurses, and Paramedics to provide services. There is also a provision for engaging a manager who would liaison with identified public and if not available private empaneled tertiary care facilities for ensuring adequate early referral support. The funds for such management for selected health conditions are provided under NHM for management at the tertiary level at the rates ¬as per RBSK guidelines on **Procedures and Model Costing for Surgeries and/or** fixed by State Governments in consultation with Ministry of Health & Family Welfare.

Thus, the DEIC is the hub of all management activities, post identification, acts as a clearing house and also provides referral linkages and intervention especially to children identified with developmental delays including disability.

Rationale for establishing dedicated DEIC structure linked with NICU/SNCU

Developmental impairment is a common problem in children health that occurs in approximately 10% of the children population and even more among "at risk" children discharged from the sick newborn care unit.

Children, disabled or non-disabled, under 6 years of age, represent a rapidly growing sub-population in India. Children with disabilities often have limited access to appropriate services. The National Sample Survey Organization (NSSO 2002), estimated the total number of disabled population in India to **approximately 1.85 crores (1.8% of the population).** Critics however points that the actual estimates may be higher.

The idea behind early intervention is to initiate management early minimizing the progression of delays towards disability. Once the disability is established then the course of intervention would also include enhancement of child development for the child to reach the possible highest potential preventing health condition progression towards handicap that may arise among such children without intervention.

Research has proved that the years from birth till 6 years age are mostcritical for all children. In the postnatal years, the cognitive growth and development of the child is at its greatest in the first two to three years. It is during this first phase of cognitive development when the underpinnings of intelligence and behavior begin to evolve. Additionally, plasticity, the ability of the brain to affect structural and functional changes caused by external and internal influences is at its peak in the birth to2 year period. The malleability of the developing brain at this stage makes it possible to bring about these changes. If the child misses this opportunity, further learning will be slow or inadequate.

The importance of early intervention can never be over-emphasized. This is especially true for children with developmental delay. With w early identification, planned and sustained intervention programs can significantly improve the quality of their lives when started early. Among these children such programs works towards achieving their maximum potential and thus early inclusion into the mainstream.

Developmental intervention requires an **interdisciplinary approach and discipline expertise** of a multi-disciplinary team placed under one roof as in DEIC to work towards a holistic development for such children.

As of now there are very few centers in India which provide such services but even most of these centers do not cover all the components required for a holistic evaluation and thus intervention for such children.

The second challenge is absence of quality services for very small children. Parents are, often advised to come for intervention when the children become older, by that time these delays become permanent and the child thus misses the critical period of development. The adverse effect of failing in early identification and early intervention can lead to irreversible developmental damage. This adds to the existing stress of the family and even the diagnosis, evaluation and advices from various OPDs are at times conflicting and contradictory and may be confusing.

At this point of time, India is making sincere efforts to strengthen Health Systems for Publicly provided care. We also have more SCNU survivors who are "at-risk" for developmental impairments. Our aim is to offer equitable and quality health facilities with infrastructure and resources for interdisciplinary evaluation and interventions to be delivered under one roof.

District Early Intervention Services are needed to support children to address Defects at Birth, Diseases, Deficiencies and those with developmental delays or Disabilities or Neuro-behavioral problems or children "at risk" for disabilities with a holistic plan for the child in totality. These common issues of child development and their future health, occurs in 10 % of the childhood population. An integrated holistic age appropriate periodic assessment in the pre-school age since birth, including management of coexisting morbidities - diseases, and deficiencies all under the same roof is to be offered under each District Early Intervention Centre. Towards this, the Operational Guidelines for District Early Intervention is already issued by National Health Mission, Ministry of Health & Family Welfare.

RBSK ensures such comprehensive services, under one roof with a holistic approach to children with special needs. Under RBSK, Early intervention centers at district level will provide the much needed equitable,

easily approachable, adaptable, user friendly and above all cost effective early intervention services. After screening and identification of any of the 4Ds i.e. Defects at Birth, Deficiencies, Diseases and Developmental delays including disabilities, the child referred to DEIC are assessed, investigated, evaluated and early intervention planned and executed in a comprehensive manner. It is envisaged that the DEIC are equipped with dedicated health professionals, materials, tools, etc. for such activities. It would be important to mention here that more than 600 districts in the country now have functional SNCUs and an estimated 30 % of SNCU discharged would be requiring such support.

Goals of a District Early Intervention Centre (DEIC)

DEICs are aimed at ***early detection and early intervention so as to minimize disabilities among growing children. The WHO also stated that if not addressed adequately, defect or developmental delay leads to functional disability and in turn to handicap.*** The burden of this handicap is borne by the family and also by society. DEIC thus aim at detection of defect and minimize disability through intervention. Medical services and professionals rendering such services are the best entry point for such activity because of general acceptance of such professionals across sections of society for such conditions. Social services and educational service should then work in tandem for maximizing the effect.

Services to be Provided at DEIC are broadly classified based on the clients to be attended by each DEIC:

1. **Children below the age of 6 years**
2. **Children above the age of 6 years**

For children above the age of 6 years, the services to be functionally integrated with the existing pediatric facilities at the district hospital and the DEIC manager in consultation with District authorities are expected to establish such linkages. In case the particular service does not exist in the routine pediatric OPD in the District hospital, but exists in the DEIC - the children may be referred to DEIC for availing the existing services. The district administration can fix a day or time for these referral to be attended by experts. To manage such referrals in such specialist clinic, patient overflow, arrangements based on local need may be fixed for block(s) of the district.

The approach to evaluate and manage the two broad groups viz below and above 6 years is so distinct that DEIC manager should ensure that the two groups are not mixed in OPDs. This would also reduce the burden on providers.

For children below the age of 6 years, including in-patient sick new born at the SNCU and follow up of SNCU/ NICU graduates; comprehensive services should be provided at the DEIC with the help of DEIC manager. Referral services should provide in all days at DEIC.

A. Core services for Children below the age of 6 years

a. **Medical services –** for diagnostic or evaluation purposes. Medical treatment of children suffering from diseases and deficiencies. **(Doctor: Pediatrician/ Medical officer)**

b. **Pediatric Dental services –** for problems of teeth, gums and oral hygiene in children from birth to 6 years esp. "Early Childhood Caries" **(Dentist)**

c. **Pediatric Orthopedic services:** for Club foot, DDH including space for plaster and bath tub for removal of plaster.

d. **ENT services:** for Otitis media and other hearing problems

e. **EYE or Othalmology services:** including ,ROP services, congenital cataract , squint : **Ophthalmologist for both screening and management**

f. **Occupational therapy & Physical therapy:** services that relate to self-help skills, adaptive behavior

and play, sensory, motor, and postural development i.e. services to prevent or lessen movement's difficulties and related functional problems. Sensory Integration, oro-motor and feeding difficulties. **(Physiotherapist/Occupational therapist)**

g. **Psychological services:** administering and interpreting psychological tests and evaluation of a child's developmental milestones, learning and mental health as well as planning services including counseling, consultation, parent training, behavior modification and knowledge of appropriate education programs. **(Rehabilitation Psychologist/Clinical Psychologist)**

h. **Cognition services:** identifying cognitive delays and providing intervention to enhance cognitive development, adaptive and learning behaviors**. (Clinical Psychologist and Early Interventionist)**

i. **Audiology:** identifying and providing services for children with hearing deficiency including hearing loss among children from birth to 6 years for both congenital deafness and also acquired deafness. **(Audiologist cum speech and language pathologist)**

j. **Vision services:** identification of children with visual disorders or delays and providing services and training to those children. **(Optometrist).** Retinopathy of Prematurity (RoP) – for premature or preterm children. **(Optometrist and ophthalmologist)**

k. **Lab services:** for routine blood investigations among children to begin with but slowly offer services for confirming congenital hypothyroidism, Thalassemia and Sickle cell anemia or other inborn error of metabolism depending on the prevalence of such diseases. **(Lab technician)**

l. **Nutrition services:** services that help address the nutritional needs of children that include identifying feeding skills, feeding problems, food habits, and food preferences. **(Nutritionist/ Dietician or Nursing staff)**

m. **Social support services:** preparing an assessment of the social and emotional support and needs of a child and family and providing individual or group services such as counseling. Socio economic evaluation of the family and linkages with the need based social services. **(Social Worker /Psychologist)**

n. **Psycho-social services:** includes designing learning environments and activities that promote the child's development, providing families with information, skills, and support to enhance the child's development. **(Special Educator)**

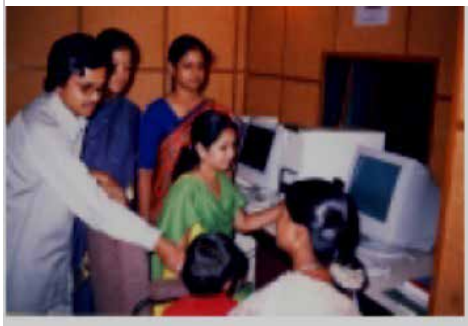
- Transportation and related costs –All referral support should include free transport services to all children. Under the National Patient transport facilitates are supported by National Health Mission at States/UTs. All mobile health teams should arrange free transport to all with the help of DEIC manager and National Health Mission, District Programme Management Unit.. (DEIC Manager)
- **Service coordination: (DEIC Manager)**
- **Referral services following referral guidelines** children diagnosed with any of the selected health conditions would receive follow-up referral support and treatment including surgical interventions at tertiary level. **(DEIC Manager)**
- **Documentation and maintenance of case records, data storage for service delivery, follow up. (Data entry operator)**
- **Training and enhancing capability** of multi-skilled community personnel in the district and helping in operationalizing of early intervention services at blocks and in the community and provide supportive supervision and domain specific referral services in the community. **(DEIC core Intervention team)**


Registration


Medical Examination


Developmental Assessment


Motor Assessment


Audiological Testing


Speech Therapy


Anthropometric Measurement


Vision Screening


Physiotherapy


Occupational Therapy


Behaviour Modification


Play Therapy


Parent Training Programmes

B. SUPPLEMENTARY SERVICES:

a. **Disability certificates:** facilitate certification process in collaboration with other members of the disability board of the district **(DEIC Manager)**

b. **Liaison** with other departments under various ministries: **(DEIC Manager)** e.g.

1. Department of Disability affairs, Ministry of Social Justice and Empowerment (MoSJE)

   i. Assistive technology devices and services – equipment and services are offered to improve or maintain abilities of a child for Hearing, Seeing (Vision), Movement, Communication and learning to compensate with a specific biological limitation.

   ii. Special Education services for School age groups from six to sixteen, Pre- Vocational training for age 16-18 years and Vocational training for the age of 18.

   iii. Aids and appliances: linkages with "Assistance to Disabled Persons for Purchase/ Fitting of Aids/Appliances (ADIP)" Scheme, with the objective of assisting needy persons with disabilities in procuring durable, sophisticated and scientifically manufactured standard aids and appliances that can promote physical, social and psychological rehabilitation.

   iv. Rehabilitation of the differently abled child above 6 years of age linkages with functional District Disability Rehabilitation Centers (DDRCs) or Composite Regional Centers (CRCs) or National Institutes/Regional Centers etc.

   v. Family support services esp. for children with Autism, Cerebral palsy, Mental retardation, multiple disabilities. These Services are aimed to support those children who requires long term support and in their natural environments with in their daily experiences and activities. All these services use a family-centered approach, recognizing the importance of working in partnership with the family or Caregiver(s). Whenever a detailed domain specific management is required these children would be referred to the DEIC.

   vi. Guardianship

   vii. Parent associations

   viii. Promoting advocacy for right-based society.

   ix. Social security's such as disability scholarship and disability pension

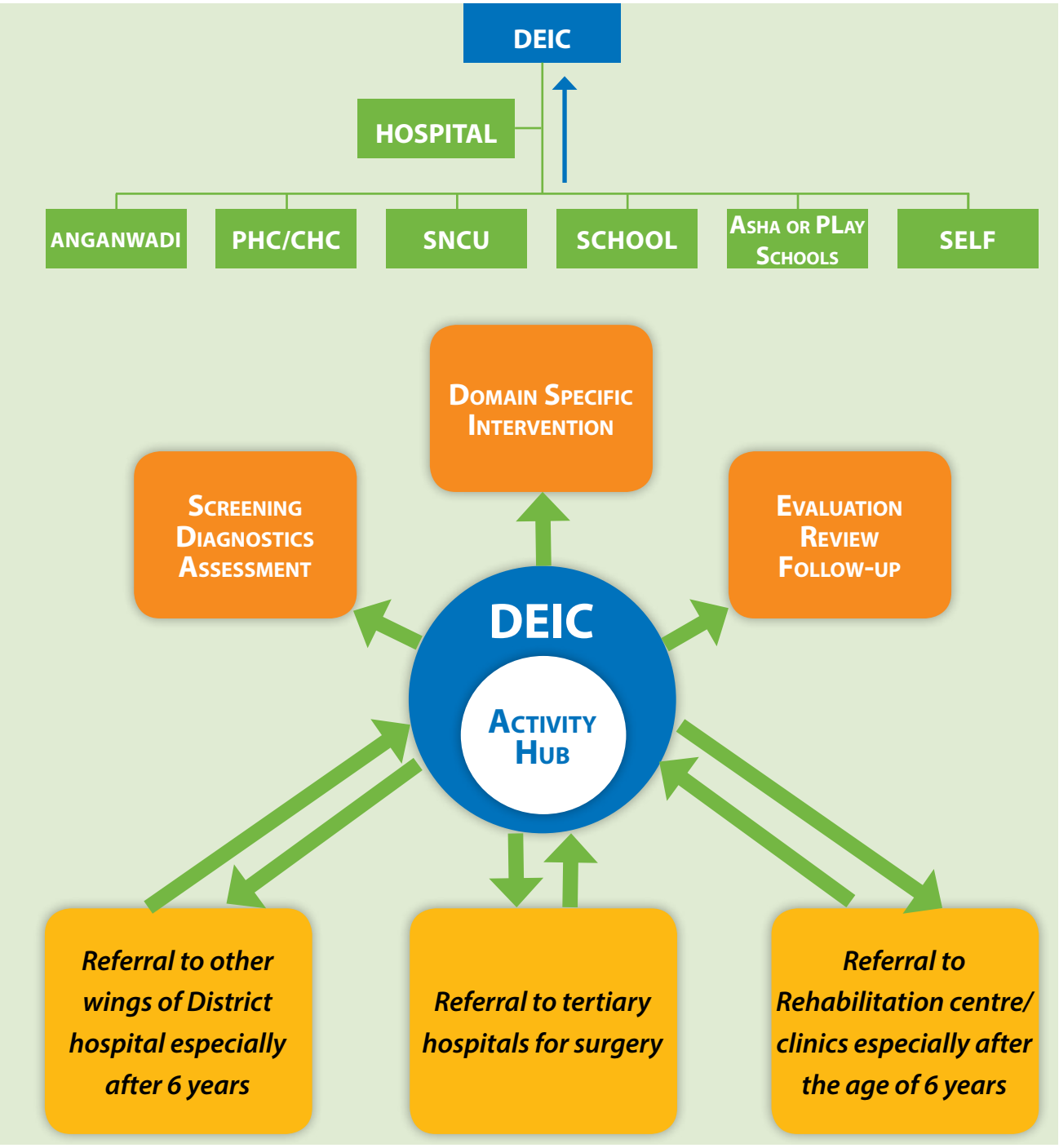
2. Linkages with **Ministry of Human Resource Development (MoHRD)**, Department of School Education & Literacy for "Education of Children with Special Needs" under "Sarva Shiksha Abhiyan"

   i. Provide inclusive education and support to children from age of 6 -14 years

   ii. Provide Aids and appliances to school going children with special needs and support of trained special educators to these children.

   iii. To provide home based educational services to children with special needs on need basis.

"Process flow of referral to District Early Intervention Centre"



CHAPTER - 2

PHYSICAL SPACE OF DEIC

Specifications for Establishing District Early Intervention Centre (DEIC) with dedicated domain specific areas. The idea is to bring the domains and their practitioners under one roof for holistic management of a child in totality rather individual experts suggesting domain specifics without the considerations of the need of the child in complete development.

A Typical DEIC as in Operational Guidelines of DEIC would comprise of the following dedicated space/ rooms. Total estimated area of DEIC as per Operational Guidelines is 6300 sq ft.

	AREAS	ILLUSTRATIVE DIMENSION
1	Reception lounge cum waiting	12'x12' (150 sq. ft.)
2	Registration and anthropometry	13'X15' (200 sq. ft.)
3	Nursing /nutrition	10'X10' (100 sq. ft.)
4	Sensory Integration area : 480 sq. ft. divided in to two parts	a. 12'X20' (240 sq. ft.) b. 12'X20' (240 sq. ft.)
5	Pediatric Examination :	14'X20' (280 sq. ft.)
6	ECG cum ECHO	13'x15' (200 sq. ft.)
7	Dental intervention	15'x 12' (180 sq. ft.)
8	Speech & Language Assessment	10'x11' (110 sq. ft.)
9	Vision Assessment 1. One 21 ft. X 11 ft. = 230 sq. ft. 2. Second 10 ft. x 11 ft. =.110 sq. ft. 3. Third Stimulation room 10ft. X 11ft=110 sq. ft.	Total 450 sq. ft. 230 sq. ft. 110 sq. ft. 110 sq. Ft.
10	Hearing Assessment	9'X 20' (180 SQ FT)
11	Early Intervention Occupational Therapy	20'X50' (1000 sq. ft.)
12	Psychological Assessment	10'X10' (100 sq. ft.)
13	Laboratory	10'X20' (200 sq. ft.)
14	Play Area	14'X30' (420 sq. ft.)
15	Pantry	70 sq. ft.
16	Gender Specific and User-friendly toilets	100 sq. ft.
17	Manager and data entry	10'X12' (120 sq. ft.)
18	TwoOPDs : OPD 1 + OPD 2	10'x11' (110 sq. ft.) + 10'x11' (110 sq. ft.)
19	Special education	10'x11' (110 sq. ft.)
20	Social worker	10'x11' (110 sq. ft.)
21	Plaster	10'x11' (110 sq. ft.)
22	Store	10'x11' (110 sq. ft.)
23	Ramp (disabled friendly)	
24	Outdoor space for Sensory integration garden	1500 sq. ft

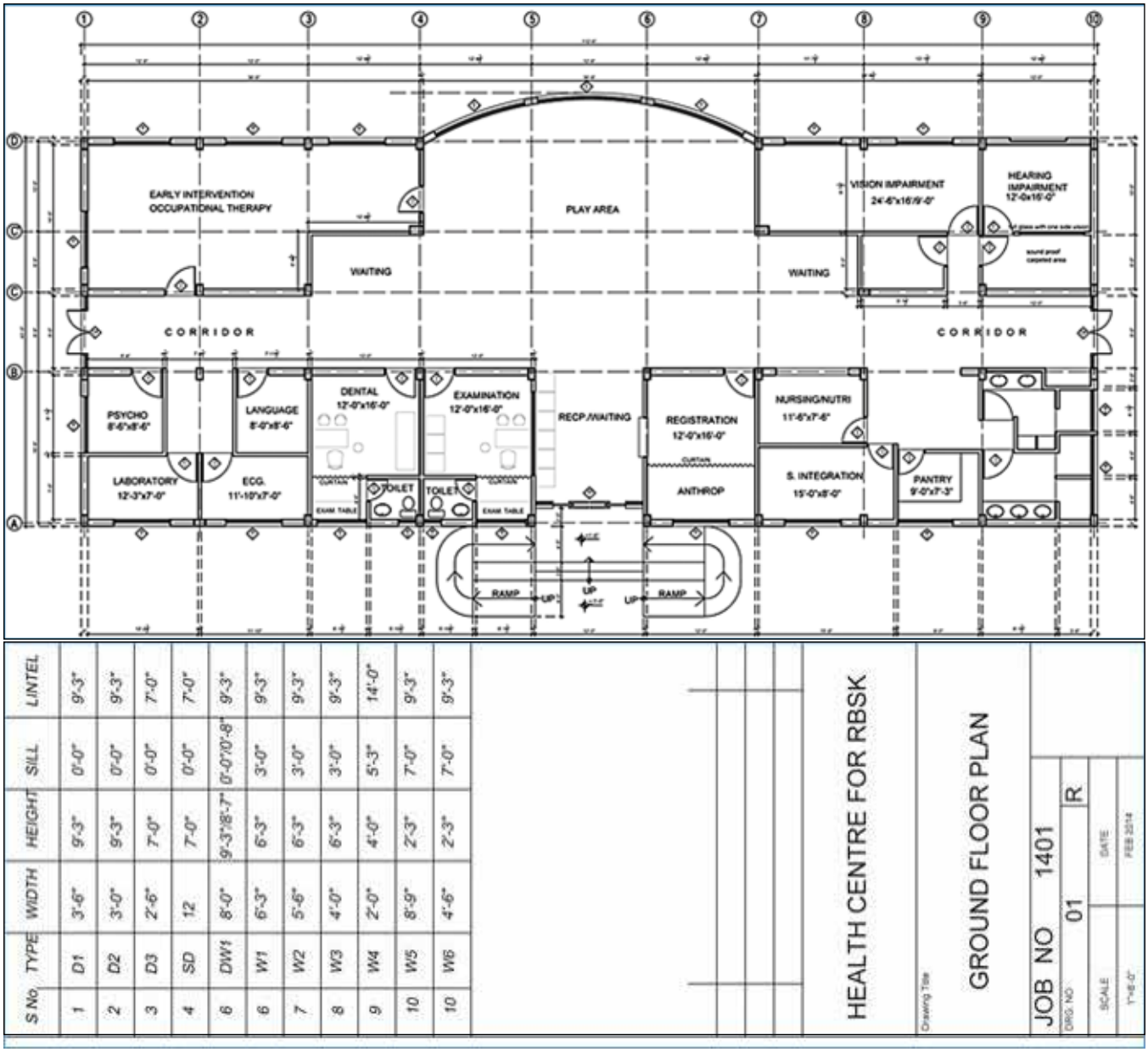
It is expected that DEIC practitioners would require domain specific supportive inputs and handholding for standardized approach in managing children and improve on quality in approaches. As a sustainable approach it is proposed that some of the DEICs in a State are developed as Model DEIC offering teaching - for other DEICS in State and management of children. If the DEIC is also to be developed as teaching and training facility for other DEICS it is anticipated that provision for at least two teaching rooms with adequate space for batch size of 40 students, a small library and a staff sitting room is additionally added.

Regarding the infrastructure Of DEIC, it should be next to the SNCU preferably on the ground floor.

However, if there is constraint of space, a porta cabin can be built on the terrace of the hospital, advantage being since it is lightweight structure, and it does not require building sanction plan.

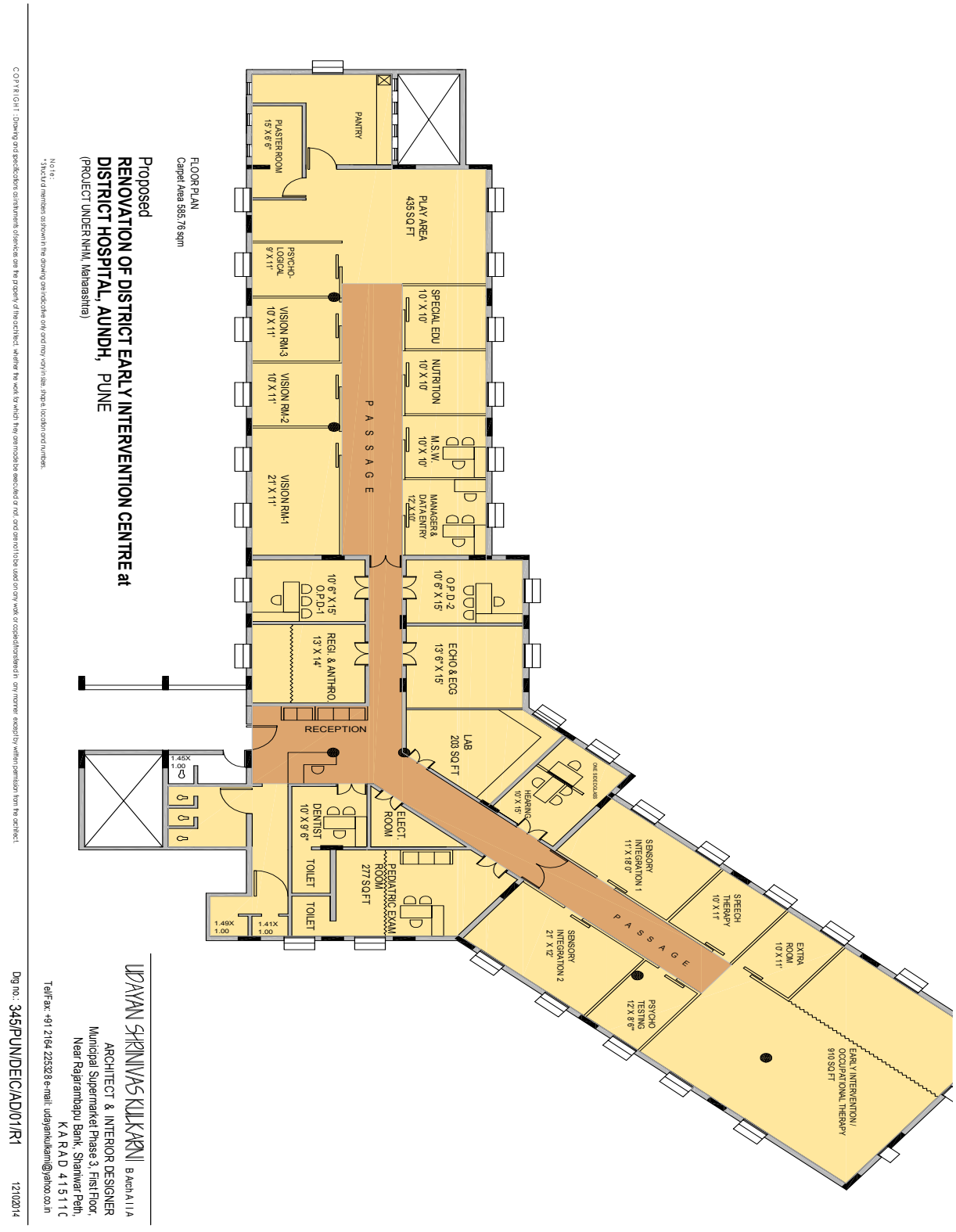
The following designs have been mentioned especially for the model DEICs.

A. Typical structure as mentioned in the operational guidelines of DEIC



Typical design and Section of a DEIC as in Operational Guidelines of DEIC
(For reference only)

B. In case, linear space is available instead of square space, an alternate design use at district hospital Aundh Pune has been mentioned.



Alternate Structure of DEIC, Pune
(For reference only)

Manoj Jhalani, IAS
Joint Secretary
Telefax : 23063687
E-mail : manoj.jhalani@nic.in

सत्यमेव जयते

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
निर्माण भवन, नई दिल्ली – 110011
Government of India
Ministry of Health & Family Welfare
Nirman Bhavan, New Delhi - 110011

DO Z 28020/21/2015-CH (RBSK)
Dated the 26th February, 2015

Dear Colleague,

You are aware that support is being provided under the National Health Mission for setting up dedicated MCH wings in States/UTs for providing comprehensive care to mother and child. Special Newborn Care Units (SNCUs) are already an integral part of these MCH wings. However, babies discharged from these SNCU may continue to be at risk of developing developmental delay leading to disability. Hence it is required to identify such children who require early intervention in the critical period of the first six years.

2. To minimize and prevent such disabilities, support is also being provided for "District Early Intervention Centers (DEIC)" under Rashtriya Bal Swasthya Karyakram (RBSK) with facilities for Pediatric Physiotherapy, Pediatric Optometry, Speech Pathology, Pediatric Audiometry, Clinical pediatric psychology and various other specialties, which are required for young children. In order to provide a continuum of care as an extension of SNCU, these DEICs need to be integrated with the MCH wings of the district hospital, where facilities such as ante-natal, post-natal and Pediatric wards, Sick New Born Care Unit (SNCU), are already present. Functional and hence structural Linkage with SNCUs is imperative to initiate early identification and early management.

3. May I therefore request all States/UTs to ensure that the DEICs are integrated with MCH wings in the district hospital. MCH wings that are under construction may also be required to incorporate DEICs along with SNCUs. A revised outlay and engineering drawing of MCH wing integrating DEICs are enclosed for further action.

With regards,

Yours sincerely,

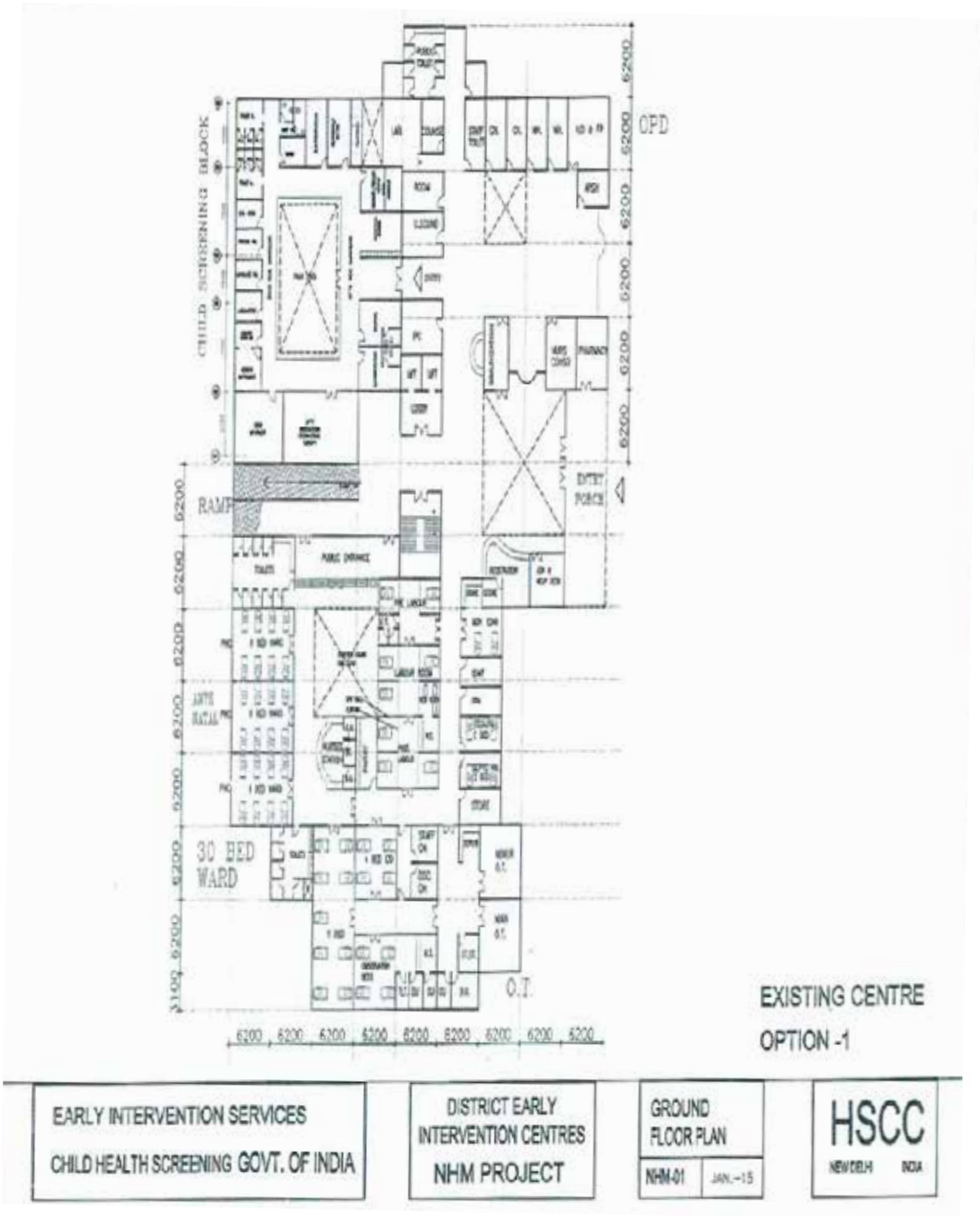
(Manoj Jhalani)

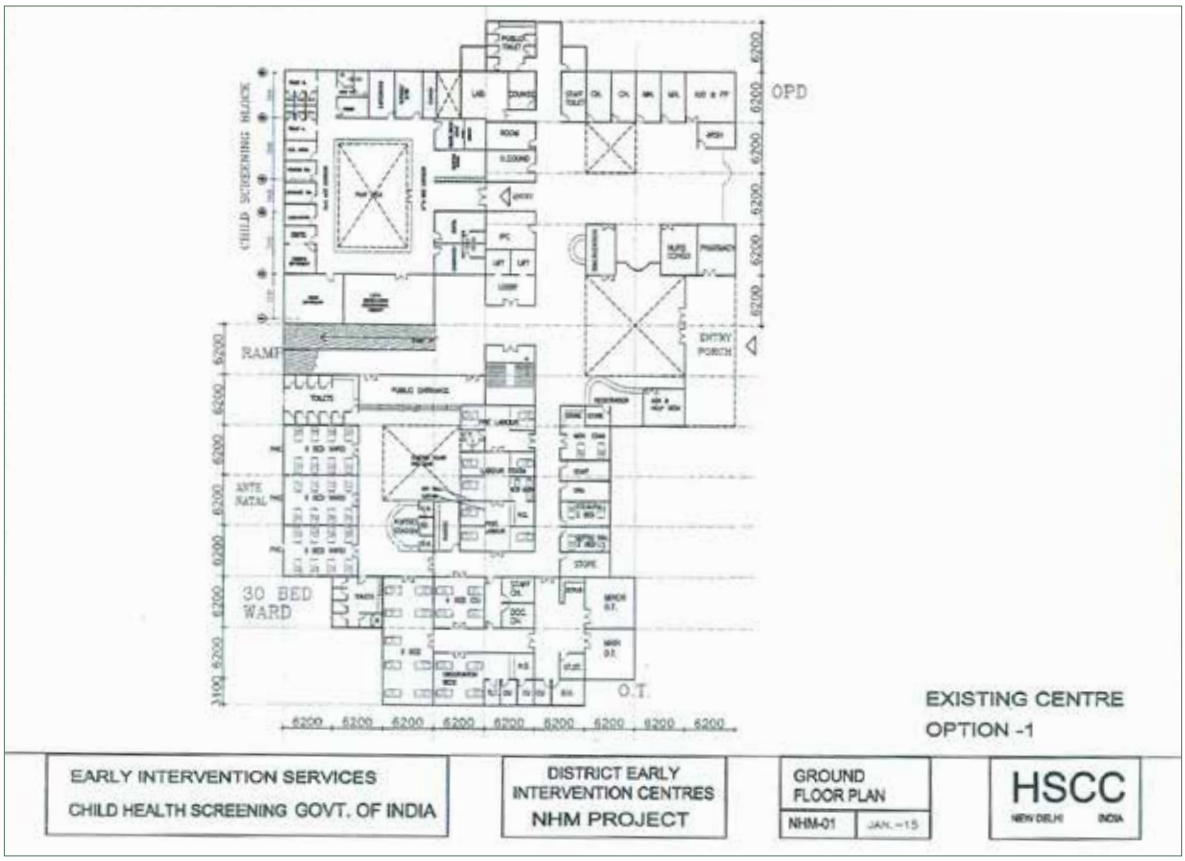
Encl: As above

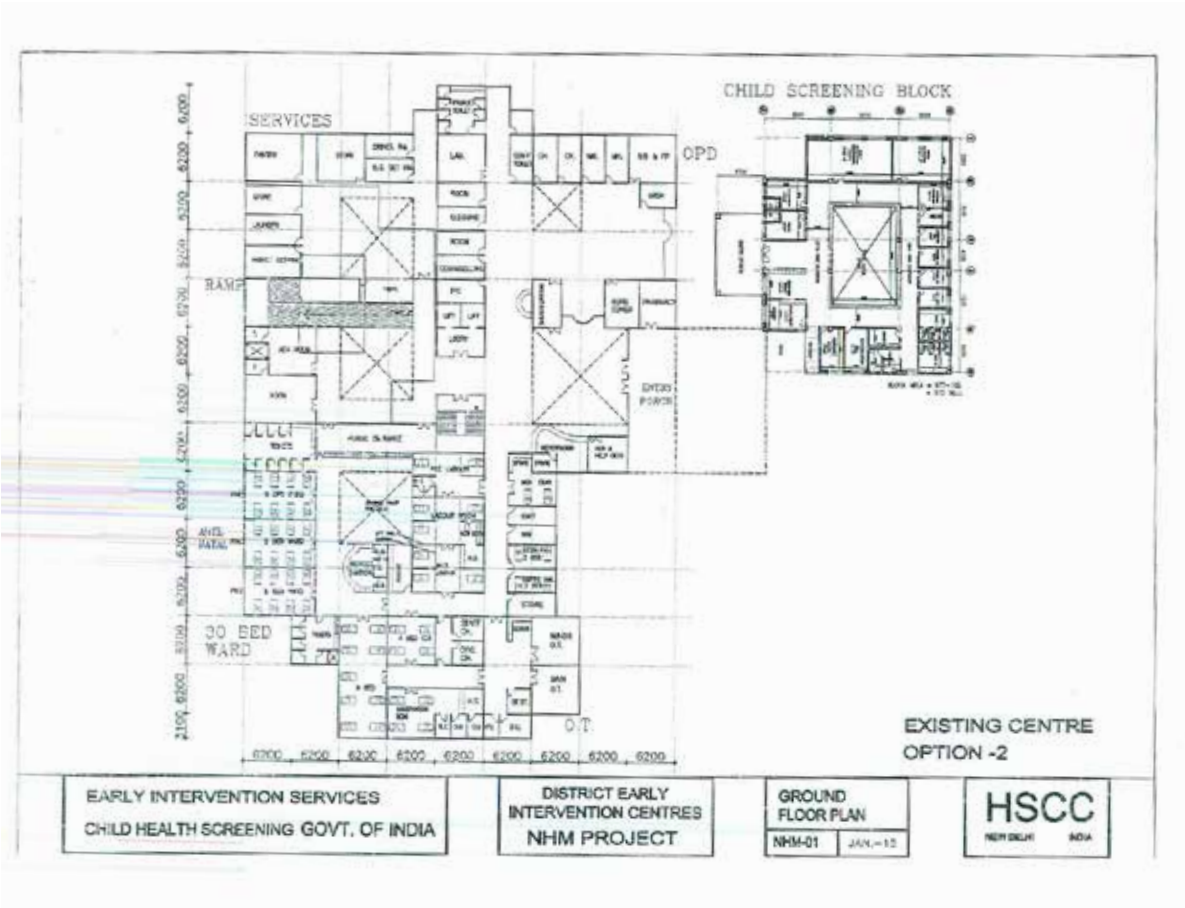
All Principal secretary and Mission Directors of States/UTs

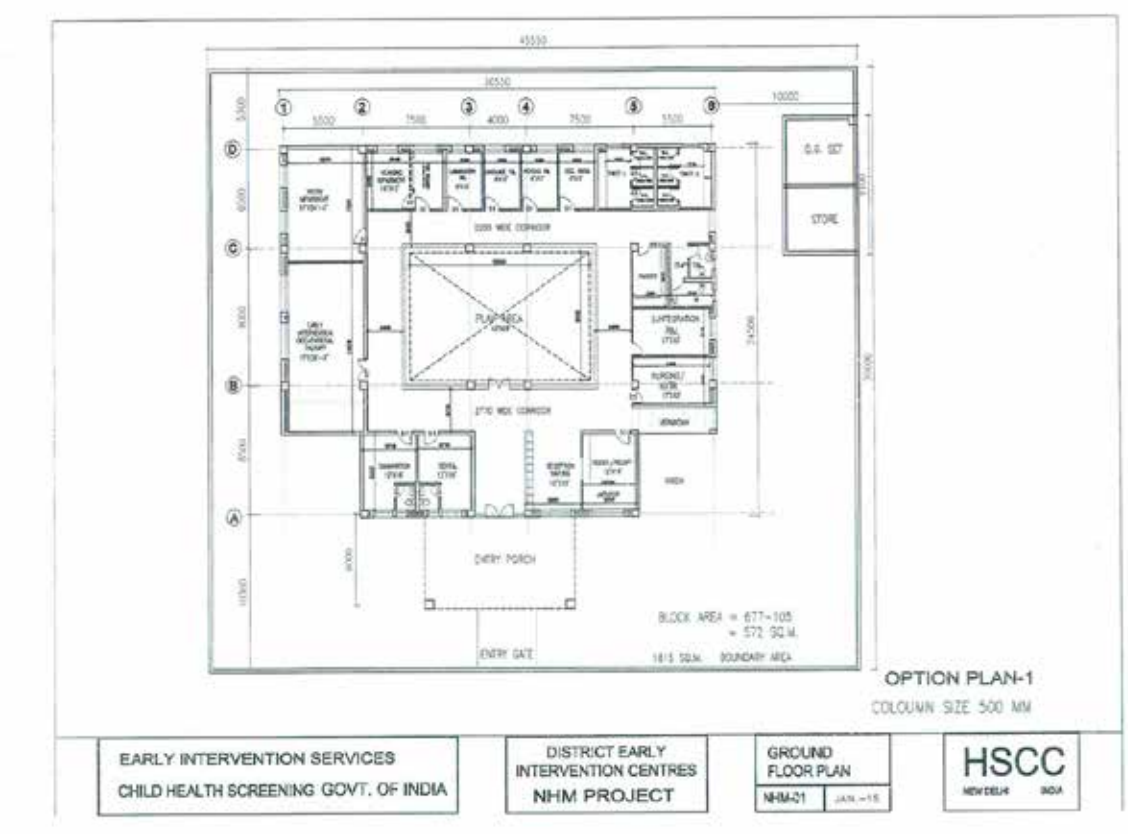
C. National Health Mission is supporting dedicated MCH wings at States/UTs for comprehensive care to mother and child. Special New Born Care Units (SNCUs) are already an integral part of these MCH wings. It is important to screen each new-born before discharging from facilities for Defect at Birth. Further, babies discharged from the SNCUs may continue to be at risk of developing developmental delay leading to disability. Hence it is important to identify such children and initiate intervention early. In order to provide continuum of care functional and hence structural linkages with SNCUs and MCH wings is imperative so that if identified early the management plan can be initiated early. MCH wings that are under construction may also be required to incorporate DEICs along with SNCUs.

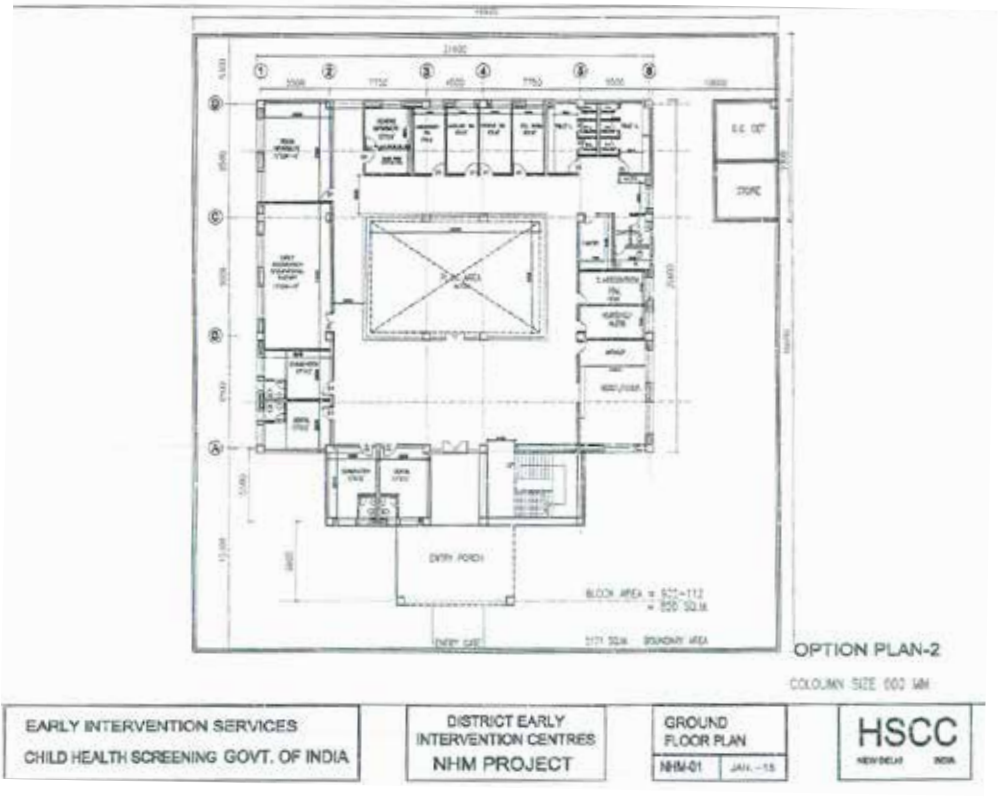
In a GO letter dated 26th Feb 2016, a letter has been issued to integrate DEIC within the MCH wings especially for those states where the MCH wing is in the process of being constructed. A design regarding this has been mentioned below. The details can be referred at http://nrhm.gov.in/images/pdf/programmes/RBSK/RBSK-ORDERS/Integration_of_DEIC_with_CH_wings.pdf.

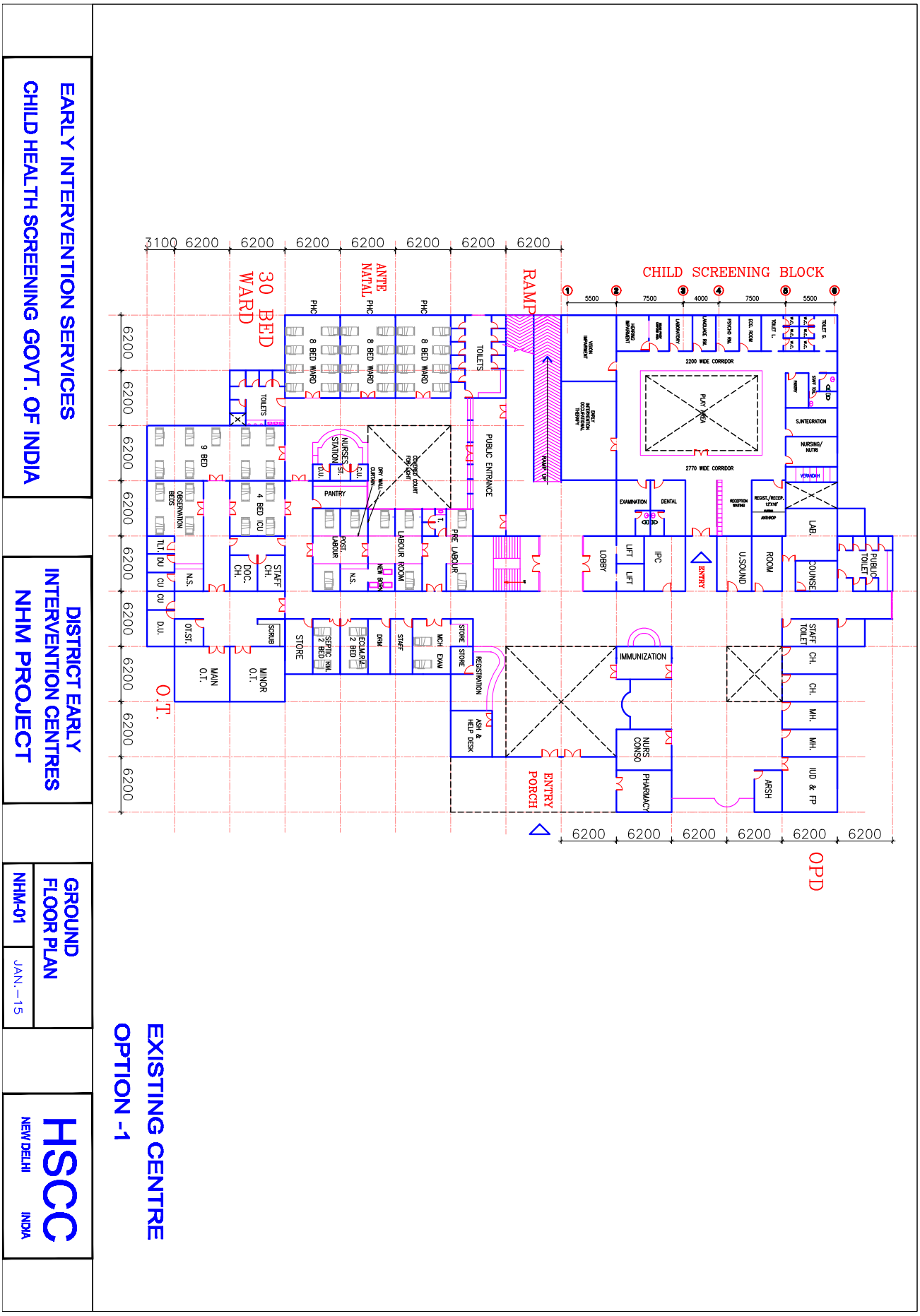


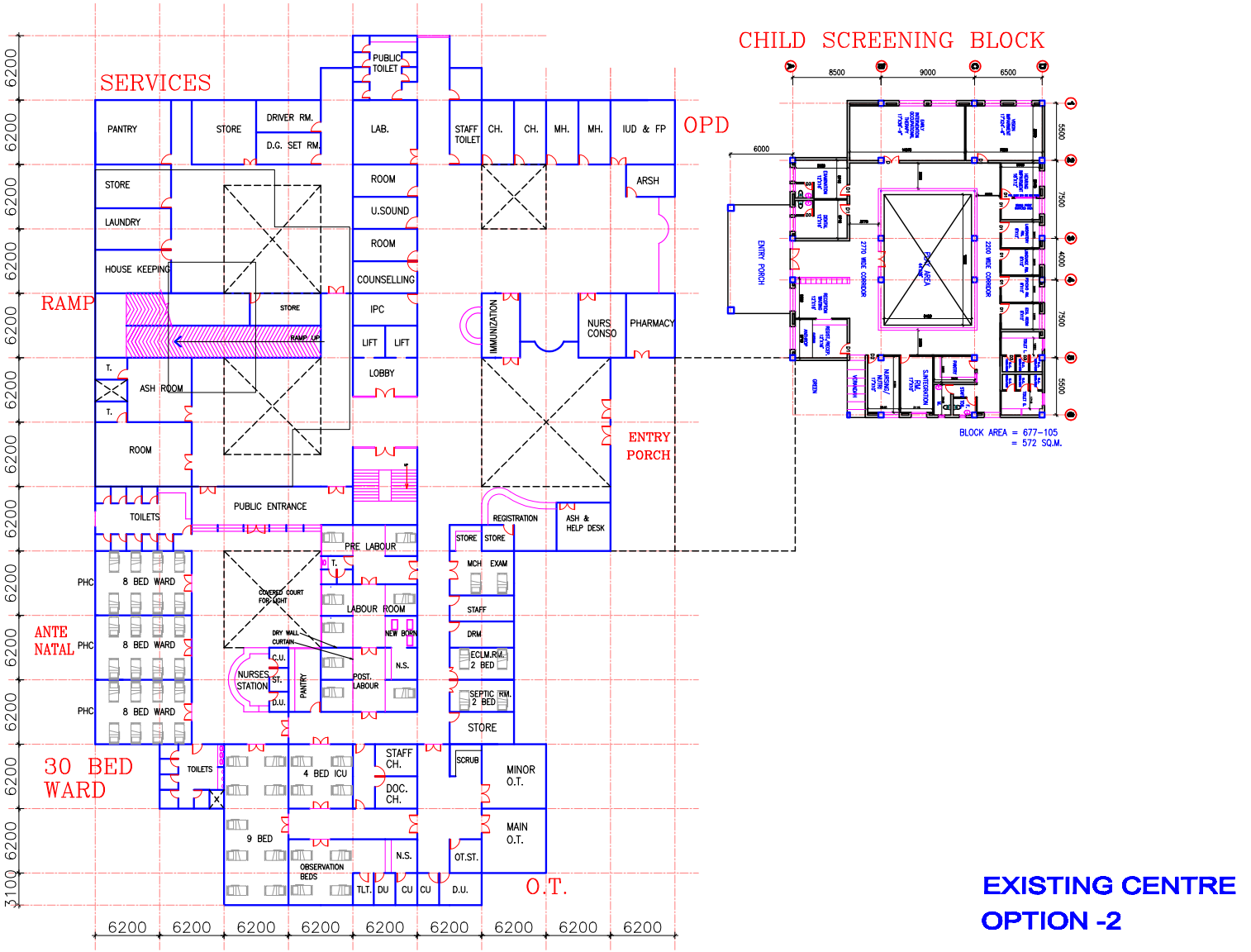

CHILD SCREENING BLOCK
OPD
RAMP
ENTRY PORCH
ANTE NATAL
30 BED WARD
O.T.
EXISTING CENTRE
OPTION -1
EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
HSCC


SERVICES
CHILD SCREENING BLOCK
OPD
RAMP
ENTRY PORCH
ANTE NATAL
30 BED WARD
O.T.
EXISTING CENTRE
OPTION -2
EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
HSCC


OPTION PLAN-1
COLOUMN SIZE 500 MM
EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
HSCC

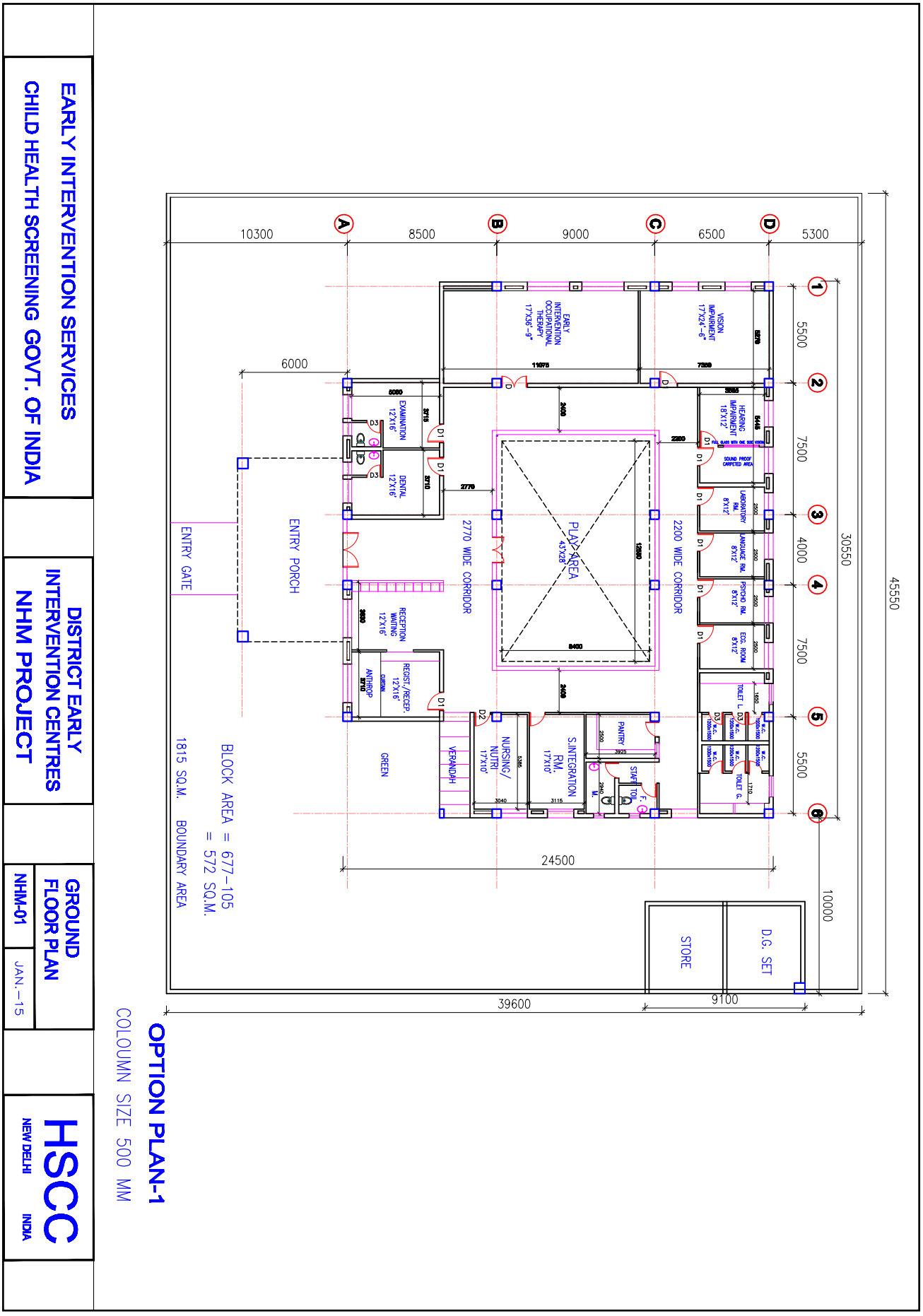

OPTION PLAN-2
COLOUMN SIZE 600 MM
EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
HSCC

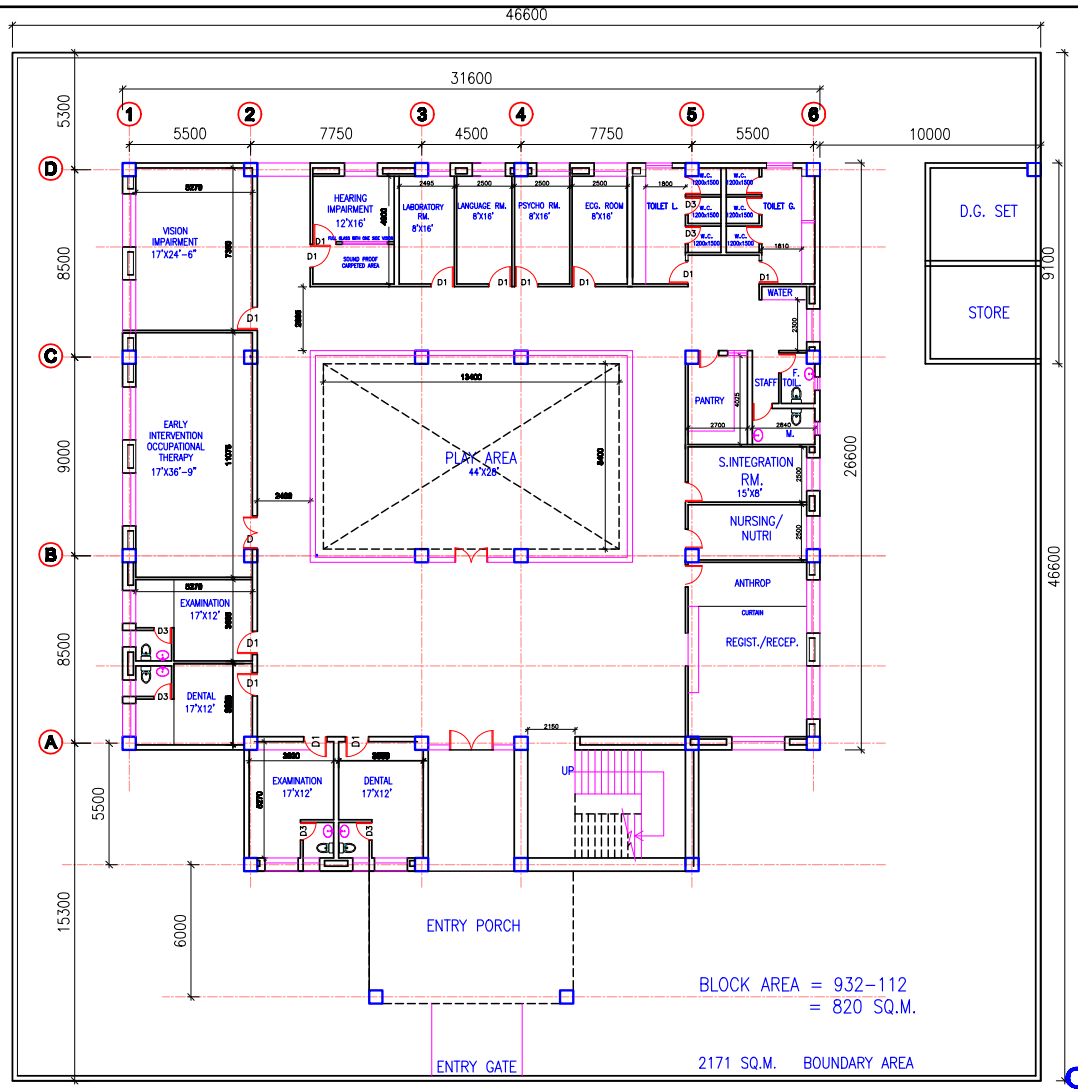

EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
JAN.-15
HSCC
NEW DELHI INDIA
EXISTING CENTRE
OPTION -1
CHILD SCREENING BLOCK
OPD
30 BED WARD
O.T.
RAMP
ENTRY PORCH
ANTE NATAL
PHC
8 BED WARD
PUBLIC ENTRANCE
TOILETS
PANTRY
NURSES STATION
LABOUR ROOM
PRE LABOUR
POST LABOUR
STORE
MAIN O.T.
MINOR O.T.
SCRUB
OT.ST.
STAFF CH.
DOC. CH.
4 BED ICU
9 BED
OBSERVATION BEDS
N.S.
D.U.
C.U.
T.L.
2200 WIDE CORRIDOR
2770 WIDE CORRIDOR
PLAY AREA
LABORATORY
PSYCHO RM.
EDU. ROOM
TOILET G.
TOILET L.
S.INTEGRATION
NURSING/ NUTRI
EXAMINATION
DENTAL
LOBBY
LIFT
IPC
ENTRY
U.SOUND
ROOM
LAB.
COUNSE
PUBLIC TOILET
IMMUNIZATION
NURS CONSO
PHARMACY
ASH & HELP DESK
REGISTRATION
MCH EXAM
DRM
STAFF
ECG/M.R.P. 2 BED
SEPTIC RM. 2 BED
STAFF TOILET
CH.
MH.
IUD & FP
ARSH
3100 6200 6200 6200 6200 6200 6200 6200
5500 7500 4000 7500 5500
6200 6200 6200 6200 6200 6200



EXISTING CENTRE
OPTION -2

EARLY INTERVENTION SERVICES CHILD HEALTH SCREENING GOVT. OF INDIA	DISTRICT EARLY INTERVENTION CENTRES NHM PROJECT	GROUND FLOOR PLAN NHM-01 JAN.–15	HSCC NEW DELHI INDIA


EARLY INTERVENTION SERVICES
CHILD HEALTH SCREENING GOVT. OF INDIA
DISTRICT EARLY INTERVENTION CENTRES
NHM PROJECT
GROUND FLOOR PLAN
NHM-01
JAN.–15
HSCC
NEW DELHI
INDIA
OPTION PLAN-1
COLOUMN SIZE 500 MM
BLOCK AREA = 677–105 = 572 SQ.M.
1815 SQ.M. BOUNDARY AREA
ENTRY GATE
ENTRY PORCH
PLAY AREA 43'X28'
2770 WIDE CORRIDOR
2200 WIDE CORRIDOR
EARLY INTERVENTION OCCUPATIONAL THERAPY 17'X35'-9"
VISION IMPAIRMENT 17'X24'-6"
HEARING IMPAIRMENT 16'X12'
SOUND PROOF CARPETED AREA
LABORATORY RM. 6'X12'
LANGUAGE RM. 6'X12'
PSYCHO RM. 6'X12'
EGG. ROOM 6'X12'
EXAMINATION 12'X16'
DENTAL 12'X16'
RECEPTION WAITING 12'X16'
REGIST./RECEP. 12'X16'
ANTHROP 12'X16'
NURSING/ NUTR. 17'X10'
S.INTEGRATION RM. 17'X10'
PANTRY
STAFF TOIL.
TOILET L.
TOILET G.
VERANDH
GREEN
STORE
D.G. SET
10300
8500
9000
6500
5300
6000
5500
7500
4000
7500
5500
30550
45550
24500
10000
39600
9100



OPTION PLAN-2

COLOUMN SIZE 600 MM

EARLY INTERVENTION SERVICES CHILD HEALTH SCREENING GOVT. OF INDIA	DISTRICT EARLY INTERVENTION CENTRES NHM PROJECT	GROUND FLOOR PLAN NHM-01 | JAN.-15	HSCC NEW DELHI INDIA

D. It is desirable to have an outdoor sensory integration garden, mentioned below

Sensory integration garden

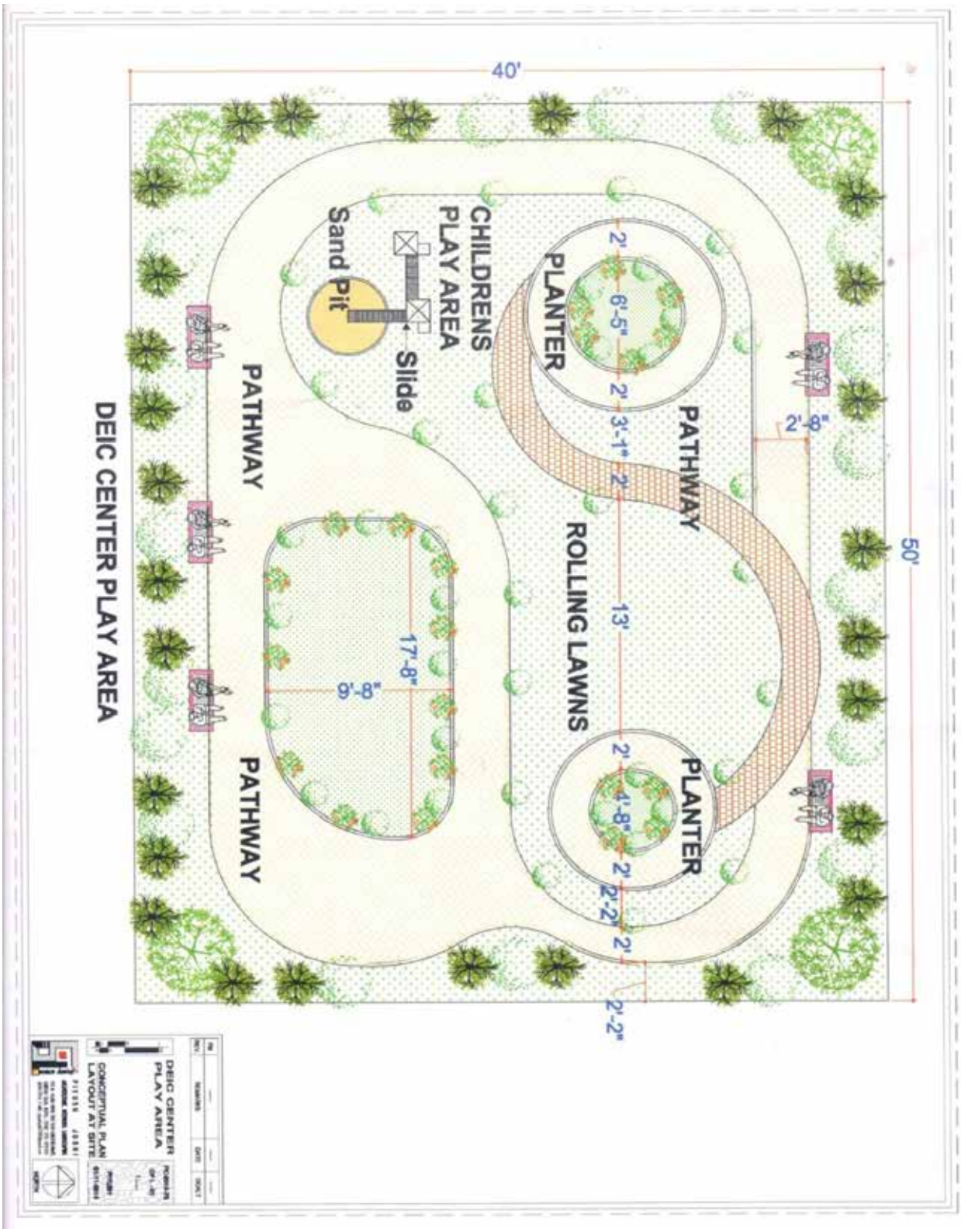
Sensory garden is a garden environment that is designed with the purpose of stimulating the senses. This stimulation occurs courtesy of plants and the use of materials that engage one's senses of sight, smell, touch, taste, and sound. Such gardens are popular with and beneficial to both children and adults, especially those who have sensory processing issues, including autism and other disabilities.

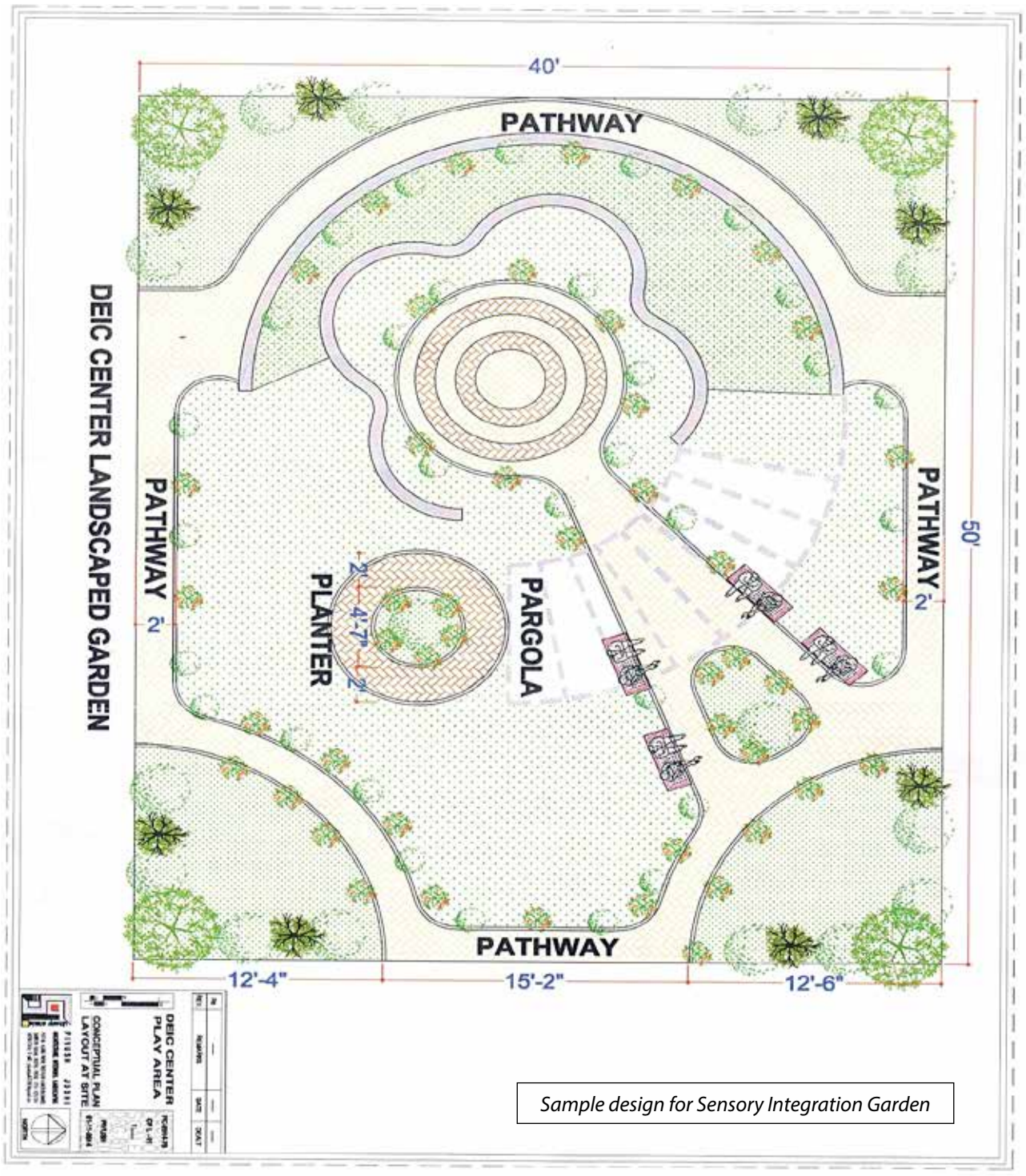
Children with sensory processing disorders tend to have extreme reactions to sensory stimulation in that they are either stimulated too much or too little. This can be caused by a number of factors, such as autism, brain injury, and premature birth, to name a few. As a result, the individual will often have developmental issues.

A sensory integration garden in the DEIC premise is desirable for completeness of the holistic service provision under DEIC. This is while part of child friendly environment but in addition, it also brings aesthetics to the DEIC.

This low cost intervention may prove beneficial especially to children suffering from sensory processing issues. A sensory garden can be very therapeutic for people who suffer from sensory problems. It may be used as a calming place and as a gentle way to stimulate the senses. This type of environment can become a place where children with sensory processing disorders feel safe and comfortable in exploring their senses without feeling overwhelmed by them.

- Depending on the child's needs, a sensory garden can primarily focus on one sense, or it can incorporate all of them. For children who are hyper-reactive to stimuli, the sensory garden should provide a relaxing environment, and for children who tend to be under-reactive to stimuli, the garden is a great way to stimulate the senses.
- For children who do not suffer from a disability, a sensory garden is beneficial in that it is a fun educational tool that allows them to explore and learn about their senses and nature. While in the garden, they are encouraged to touch, smell, taste, and generally interact with the environment around them.


40'
50'
DEIC CENTER PLAY AREA
PATHWAY
PATHWAY
PATHWAY
CHILDRENS PLAY AREA
Sand Pit
Slide
PLANTER
PLANTER
ROLLING LAWNS
6'-5"
4'-8"
17'-8"
9'-8"
13'
2'
3'-1"
2'-2"
DEIC CENTER PLAY AREA
CONCEPTUAL PLAN LAYOUT AT SITE



Sample design for Sensory Integration Garden

Decorated side Walls with three dimensional effect to touch

Approach road to DEIC from main road

E. It is also to note that lay out of a DEIC depends on available space within the District hospital compound. In case state decides to use porta cabin, some guidelines have been mentioned below

Porta cabin at the roof top in case space is not available :-

It may happen that some of the DEICs in the districts may not get a separate space within the District Hospital Campus. In such cases, porta cabin structure may be established on the rooftop of an existing hospital building. The concept of porta cabin may prove useful as it may reduce the permission formalities for construction, easy to assemble and can be relocated easily. More importantly use the available space which otherwise remains unused.

Light steel structure sandwich panel - porta cabin

Quick Details

Material:	Sandwich Panel	Use:		Roof Shape:	Slope,
Color:	White grey, blue---as your requirement	Size:	Customized	Main material:	EPS/Rockwool sandwich panels
House body:	Steel structure	Wall:	EPS sandwich panels	Installation:	Professional guide
Earthquake resistance:	Grade 7	Wind resistance:	Grade 7	Life span:	About 10 years

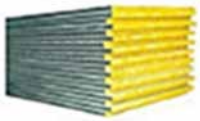
The K-house is built on a modular mild steel structure, enclosed by sandwich panels and attached to other bolted components which can be assembled and disassembled quickly. In addition, its innovative approach on the easy-to-transport and flexible assembling system, ensure high performance in creating building environments in a simple, fast and economical way. While constructing DEIC with porta cabin module, it is advisable to make necessary changes in consultation with experts to minimize indoor heat especially in summer months due to exposure to sun.

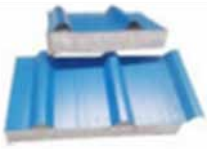
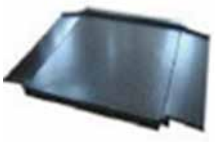
Advantage

Light steel structure sandwich panel porta cabin

- *Easy to assemble and disassemble*: light weight, 20~30m^2 per day per people.
- *Safe & steady*: seismic capability grade 7, anti-wind capacity grade 7, floor loading 1.5KN/M^2.
- *Flexible layout*: Various modular combinations, doors & windows could be fixed optional.
- *Durable, water proof and preventing rust*: ALL the light steels painted with anticorrosive paint.
- *Energy saving & Eco-friendly*: Energy-efficient, no construction garbage, recycles use.
- *Low material cost and labor cost*: Cheaper than traditional buildings.
- *Longevity*: It can work for more than 10 years under proper use.
- *Easy to load & delivery*: 300~350m^2 per 40 HQ.

MAIN MATERIAL LIST

SL NO	COMPONENT	MATERIAL	SPECIFICATION	UNIT	PICTURE
1	Exterior wall	Double 0.326mm colorrock wool sandwichpanel	1800*950*50	mm	
2	Interior wall	Double 0.326mm colorrock wool sandwich panel	2560*950*50	mm	
3	Column	C Chanel steel	80*40*20*1.5	mm	
4	A shape beam	C Chanel steel	80*40*20*1.5	mm	

SL NO	COMPONENT	MATERIAL	SPECIFICATION	UNIT	PICTURE
5	Purlin	C Chanel steel	80*40*20*1.5	mm	
6	Floor	Plywood	2440*1220*18	mm	
7	Roof panel	Color steel panel	840#		
8	Window	PVC-Steel Panel	1740*925	mm	
9	Door	Steel door	800*2000	mm	
10	Eave Covering	Angle steel	80*40*20*1.5	mm	
11	Hand rail	Square tube	30*30	mm	
12	Wark Board	Pattern Steel board	Thickness :3	mm	

F. **Special precautions have to be taken when constructing and designing sound proof audiometry room. The details regarding on this have been mentioned on page no149.**

G. Similarly, Guidelines have been mentioned for the construction for specific areas like vision room, lab for DEIC, plaster room etc. are mentioned in subsequent sections.

CHAPTER - 3

GENERAL EQUIPMENT/ITEM AND SPECIFICATIONS

It is critical to maintain child friendly environment including paints on the walls, motif, curtains, Padded mattresses on floor are recommended to eliminate injury to children. Game and toy based support, care and learning are basic in DEIC.

1. FURNITURE

Minimal furniture in the DEIC is suggested so that there is ample space for the child to move about. Screening of the child within his/her natural surroundings and to observe their interaction with surroundings is critical to identify any specific health conditions specifically the developmental delays in children. As safety measure, things that are breakable, injurious/toxic should be out of reach of the children.

Available space should be utilized to its fullest capacity and be attractive to children by placing brightly-colored toys for children, adequate playing area and different colorful child friendly posters.

The common requirement of furniture and logistics for the child being at the center in DEIC is recommended to be age appropriate and is as follows:

- Tables for consultation and examination for each room including reception with adequate numbers of Age appropriate Chairs for seating
- Cupboards for storage for each room
- Racks for material for each room
- Display boards for each room
- Computer Desktops for Reception/Registration and DEIC Manager room with internet facility
- Water Dispenser
- Television for the Waiting area
- Speaker System
- Intercom System for each room

Pediatric Examination Tables are to be a convenient height of 36 inches, for easy access to the child.

Note The underneath of the table can be modified with ample area for supplies.

The two drawers and 2-door storage cabinet medical treatment/exam table with stairs. The examination table should be 4' (feet) in length, 2' in width and height should be 3' .The table should have a high density foam mattress of 4"(inch) thickness and should have a waterproof zip off and washable cover. On three sides the height above the level of mattress should be 4" and in the front side it should be 2" with a rounded and smooth cut out at the level of the mattress. The boundaries should be rounded and padded properly to prevent any injury. This can be also used by the mothers as napkin changing place. Take precaution that you place a pillow on the front side.

Age appropriate chairs for comfortable siting for children in DEIC

SL NO	AGE OF CHILD	HEIGHT OF CHAIR	HEIGHT OF TABLE	WIDTH OF TABLE
1	2-3 years	8"-10"	18"	10.625"-11.625"
2	3-5 years	10"-12"	20"	11.625"
3	3-6 years	12"-14"	22"-24"	11.625"-13.75"
4	6-9 years	14"-16"	24"-26"	13.75"
5	above 9 years	18"-20"	26"-30"	16" or 17.5".

2. TOYS FOR PLAY AREA

i. Swings ii. Slides iii. See Saw iv. Tunnel v. Tricycle vi. Any locally suitable toy

3. Rooms are well demarcated with short description on specific functions in each of them

4. Services available with room/area number and Staff detail at Centre are well displayed at entrance and in front of respective room/area.

Services at Centre

Staff at Centre

5. Rooms are equipped with Computers with LAN and Internet for electronic record keeping.

Chair and Table should be exclusively for young children. Doctors would be expected to also share the same when interacting with the child. Also have Toys kept in the Cupboard. One should also have a small Freeze to keep breast milk

CHAPTER -4

AREA DESCRIPTION WITH DOMAIN SPECIFIC EQUIPMENT AND THEIR TECHNICAL SPECIFICATIONS

Procurement of equipment as under National Health Mission is to follow the General Financial Rules (GFR 2017) available in public domain at https://doe.gov.in/sites/default/files/GFR2017_0.pdf.

For procurement of DEIC equipment, quality is of prime concern and thus rule 192 - Quality and Cost Based Selection (QCBS) along with rule no 163 - Two bid system (simultaneous receipt of separate technical and financial bids) or 164 -Two-Stage Bidding (Obtain bids in two stages with receipt of financial bids after receipt and evaluation of technical bids) is applicable as in the GFR. Rule no 189 - Evaluation of Technical Bids: may be applicable for evaluation of technical committee. Representation of National RBSK Unit or Healthcare Technology, National Health Systems Resource Centre may be sought for a neutral opinion on technical bids. This is to emphasise that equipment in DEIC are for Newborn, Infant and Child screening. Procurement process should adhere to this precondition in deciding technical specification in tender floating, analysis of technical bid and procurement.

QUALITY COST BASED SYSTEM ILLUSTRATION

STAGE 1: TECHNICAL BIDS EVALUATION

Bidder details	Technical Mark Obtained
Bidder1	92
Bidder2	85
Bidder3	55
Bidder4	75

QCBS Grading System

Grade	Range	Marks
Outstanding	91-100	100
Excellent	81-90	90
Very Good	71-80	80
Good	61-70	70
Very Fair	51-60	60
Fair	41-50	50
Average	31-40	40
Below Average	21-30	30
Poor	11-20	20
Very Poor	1-10	10
Zero	0	0

STAGE 2: Conversion of Technical Marks to Technical Score

Bidder details	Technical Score based on Grading System
Bidder1	100
Bidder2	90
Bidder3	Rejected *
Bidder4	80

*Since the eligible technical score should be 70 & above, bidder 3 is rejected

STAGE 3: FINANCIAL BID EVALUATION

Bidder details	Financial Bid Amount
Bidder1	1,30,000
Bidder2	1,20,000
Bidder4	1,00,000

Stage 4: Conversion of financial bid amount to score

Bidder Details	Financial Bid Amount	Financial Score (LFB/F*100)
Bidder1	1,30,000	100000/130000*100=**76.92**
Bidder2	1,20,000	100000/120000*100= **83.33**
Bidder4	1,00,000	**100**

LFB = Lowest Financial Bid, **F** = Quoted Amount

Consolidated Technical & Financial Score

Bidder Details	Technical Score	Financial Score
Bidder 1	100	76.92
Bidder 2	90	83.33
Bidder 4	80	100

Stage 5: Combined Technical and Financial Score (CTFS) With Weightage 70:30

Bidder Details	Applying weights for the Technical Score & Financial Score	CTFS	Rank of the Bidder
Bidder1	100*(70/100) + 76.92*(30/100)	**93.07** (70+23.7)	L1
Bidder2	90*(70/100) + 83.33*(30/100)	**87.99** (63+24.99)	L2
Bidder4	80*(70/100) + 100*(30/100)	**86** (56+30)	L3

Example of Quality and Cost Based Selection (QCBS) is available at http://iica.in/images/QCBS-Illustration.pdf.

Disclaimer: Images shown in technical specification is for illustrative purpose and tentative costing of medical devices are given for estimation purpose only. Ministry of Health and Family Welfare, Government of India or authors/experts do not endorse any Manufacture/Brand/Model.

AREA 1: RECEPTION/WAITING

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
12'x12'(approx.)	1. 6 Chairs for Patients & Attendants 2. Fan 3. Water Dispenser 4. Speaker System	1. Air-conditioner 2. TV Low standing bookshelf (for illustrated children's books), a toy corner/ play-zone	1) DEIC Manager 2) Data Entry Operator
Cost of equipment: Rs. 60,000/- approx.			
Some Design concepts			

AREA 2: REGISTRATION AND ANTHROPOMETRY

The registration desk is manned and registration is computerized.

Paper copy and case files are maintained nonetheless.

Area	Equipment		Required staff
	ESSENTIAL	DESIRABLE	
13'X15'	1. 1 Table 2. 1 Desktop 3. Intercom System 4. Registers 5. 2 chairs for staff 6. Anthropometry related equipment 7. Curtain for visual privacy 8. Examination Table	1. Air-conditioner	One Nurse
Cost of equipment: Rs. 50,000/- approx.			
Some design concept			

1. Equipment for Anthropometry

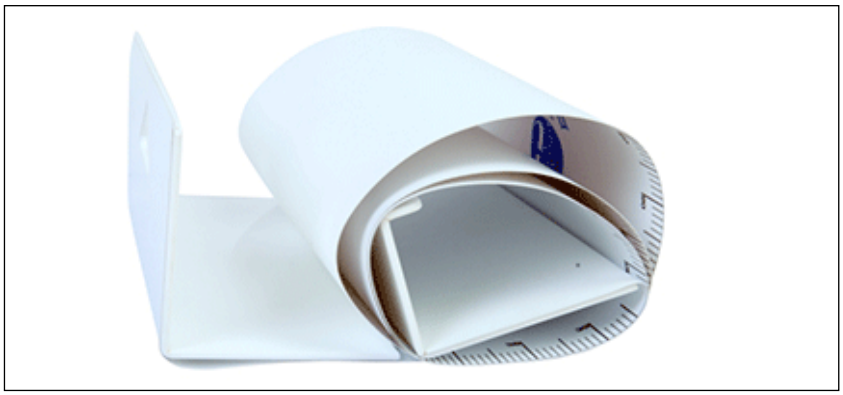
1 Infantometer with integrated head piece and sliding leg positioner 10-99cm:

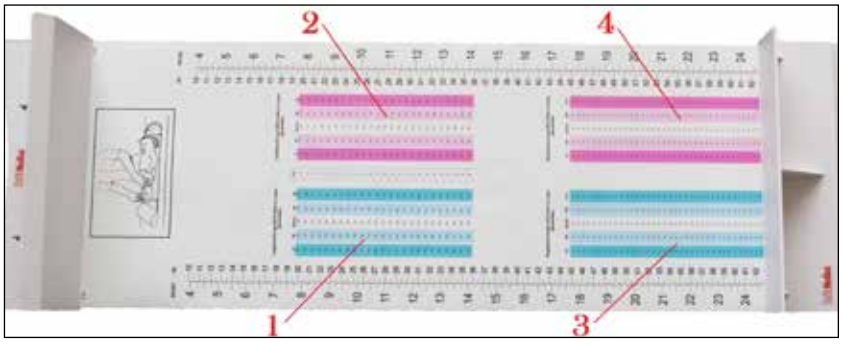
a. **Infantometer–** for infants and small children.

Features:

- Measuring range 10 - 99 cm / 4 - 36 in Graduation 5 mm / 1/4 in Dimensions (WxHxD) 300 x 140 x 1340 mm Weight 500 g.
- For easy, precise length measurement of the babies and toddlers while lying down. Measurement Options in both cm and inches.
- Clinical Length v/s age and weight charts for easy reference.
- Easy to clean, easy to store, foldable with fitting for storing on wall.
- Light weight, portable and easy to carry.
- Ergonomic Design to ensure safety of the baby.
- Fixed head piece and the sliding foot positioned for easy use.

b. **Baby Height Measuring mat–** for infants and small children.





Features

- A space saving, easy and accurate solution for baby length measuring
- Measuring range - 8 to 75 cm
- Dimension - 95 x 25 x 10 cm
- Wall Hanging possible
- Washable material
- Flexible, foldable and easily position able

2. Electronic Baby Weighing Scale

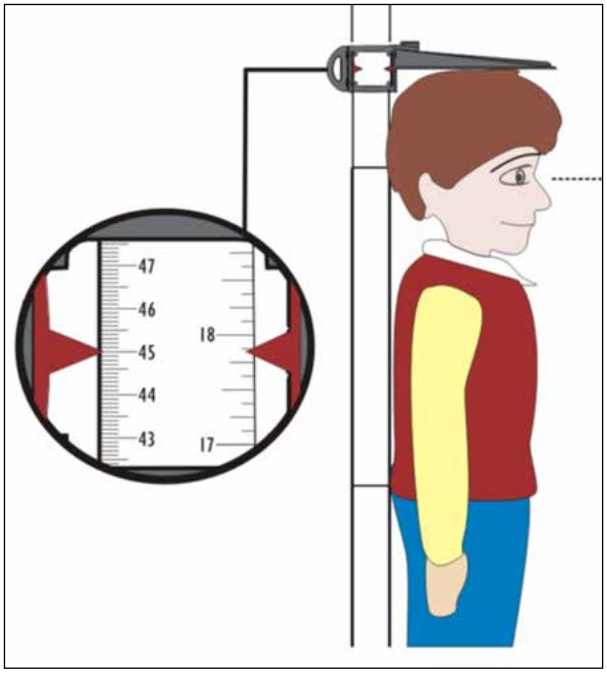
MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
WEIGHING SCALE		
Version no. :		1.0
Date:		13/08/13
Done by : (name / institution)		HCT/ NHSRC
NAME AND CODING		
GMDN name		NA (Instrument)
GMDN code(s)		NA
Definition		NA
GENERAL		
1	USE	
1.1	**Clinical purpose**	to measure body mass of the neonate
1.2	**Used by clinical department/ ward**	NICU/SNCU
1.3	**Overview of functional requirements**	
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	1. Table top, light and portable, 2. Built in rechargeable battery, 3. Easy to clean baby tray (acrylic), 4. Zero weight adjustment facility, 5. Quick, clear digital read outs, 6. Measurement does not change with position of baby on the pan; 7. Provision to measure the height of the baby in its laying position. 8. Accuracy: 5g, resolution: 1g, limit: 10gm ~ 15kg
2.2	**Settings**	Auto setting to 0.00 once a the machine is switched on or when no external weight has been put on
2.3	**User's interface**	LCD display
2.4	**Software and/or standard of communication(where ever required)**	in built
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	Base: 300mm x 265mm x 85mm, Pan: 510mm x 300mm x 85mm
3.2	**Weight (lbs., kg)**	NA
3.3	**Configuration**	N.A.
3.4	**Noise (in dBA)**	N.A.
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	Portable
4	ENERGY SOURCE (ELECTRICITY, UPS, SOLAR, GAS, WATER, CO2 ....)	
4.1	**Power Requirements**	230 V AC,
4.2	**Battery operated**	6V, one hour backup
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA

4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)**	NA
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	Capable of stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90% in ideal circumstances – Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. – an ambient air velocity less than 0.3 m/s.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washed and disinfected using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	The Scale should be as per BIS specifications. The scale should have ISI mark i.e. IS: 2489 Or CE/FDA certified. Should have model approval from Legal Metrology Dept., Govt. of India.
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-off**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	NA
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	one year
9.2	**Maintenance tasks**	calibration schedule to be provided
9.3	**Service contract clauses, including prices**	Any Contract (AMC/MC/ad-hoc) to be declared by the manufacturer
10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	Cautionary Note: Do not press the weighing pan with your hand. It could damage the load cell system in the weighing machine
11	NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Any Contract (AMC/MC/ad-hoc) to be declared by the manufacturer
11.2	**Recommendations or warnings**	Any Contract (AMC/MC/ad-hoc) to be declared by the manufacturer

3. Electronic Adult Weighing Scale (Platform Type):

1. Capacity: 160 kg
2. Accuracy: 100 g
3. Platter Size: 350 mm x 300 mm (Tolerance +/- 10%)
4. The scale should be made up of heavy duty. Cast iron structure Platform with powder coated Frames.
5. The Electronic Adult Weighing Scale should incorporate following features for user-friendly Convenience.
6. Display: LED / LCD: 5 digits with min. height 14 mm.
7. TARE facility with zero function.
8. HOLD function to lock the weight.
9. MEMORY function, to keep the last weight in memory.
10. The Scale should have inbuilt rechargeable battery backup for minimum of 8 hrs.
11. Should operate on mains 220-240Vac, 50 Hz single phase.
12. The Scale should be as per BIS specifications. The scale should have ISI mark.

4. Height Measuring Scale (Stadiometer)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
HEIGHT MEASURING SCALE (STADIOMETER)		
		
Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Patient-height measure
GMDN code(s)		CT2049
GMDN definition		A device designed to measure the height of a patient. It can be, e.g., a wall-mounted graduated scale or a freestanding vertical graduated rod with an adjustable cross-piece that is placed on the top of the patient's head. It may provide analogue or digital readings.
GENERAL		
1	USE	
1.1	**Clinical purpose**	To measure the height of an individual
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	1. Stand should be made of metal 2. Measuring range should be 75cm to 200cm 3. Least Count should be 0.5 cm 4. Should be simple and manual in use.
2.2	**User's interface**	Manual

2.3	**Software and/or standard of communication(where ever required)**	*NA*
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	Measuring range should be 75cm to 200cm
3.2	**Weight (lbs., kg)**	NA
3.3	**Configuration**	NA
3.4	**Noise (in dBA)**	NA
3.5	**Heat dissipation**	NA
3.6	**Mobility, portability**	Portable and fixed (as per requirement)
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	NA
4.2	**Battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories (mandatory, standard, optional)**	NA
5.2	**Spare parts (main ones)**	NA
5.3	**Consumables / reagents (open, closed system)**	NA
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust ...)**	NA
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	**Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international**	ISI mark
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-off**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	Na

9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	Three years
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	NA
10.2	**Other accompanying documents**	NA
10.3	**Recommendations for maintenance**	NA
11	NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	Contact details of manufacturer, supplier and local service agent to be provided
11.2	**Recommendations or warnings**	NA

5. MUAC tape:

MUAC, Child 11.5 Red/PAC-50

Cut-off points

Red: 0 –11.5 cm

Yellow: 11.5 cm-12.5 cm

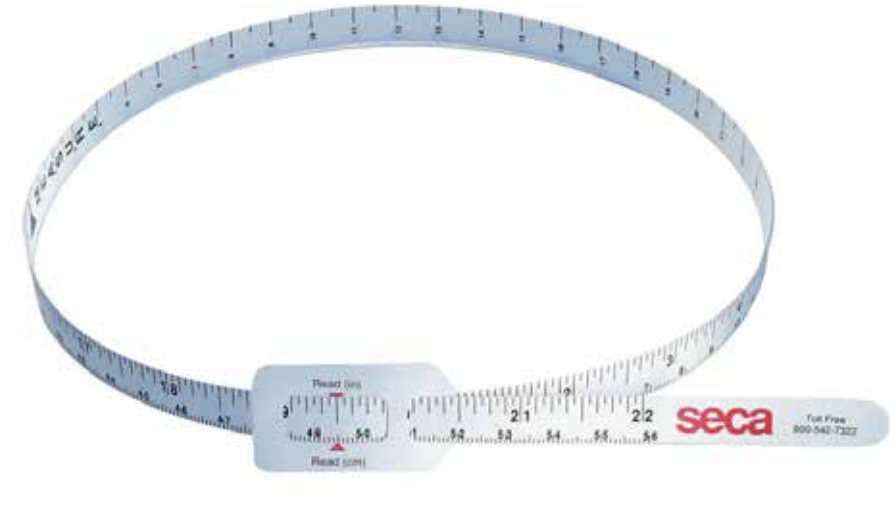
Green: from 12.5 cm

6. Head circumference tape-Non stretchable TEFLON synthetic material

Infant Head Circumference Tape

H C Tape: Ultra soft Non stretchable washable Head circumference measuring Tape

- Measuring Range : 5-50 cm / 2 - 20 Inch
- Graduations :1 mm
- Quantity /Box - 3 numbers/Box
- Box Dimension - 120 X 120 X 50 mm



AREA 3: NURSING /NUTRITION

AREA IN SQ.FT	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
10'X10'	1. Chair 2. Table 3. Toys 4. Cupboard	2. Air-conditioner	One Nurse
Cost of equipment: Rs. 20, 000/-			

AREA 4: SENSORY INTEGRATION AREA

Area in sq.ft.	Required staff
Total area: 480 sq. ft. **Unit 1-** a) 12'X20' (240 sq. ft.). **Unit 2-** b) 20'x12" =240 sq. ft.	1. Occupational Therapist/Physiotherapist 2. Psychologist

Some design concept

Sensory Integration Equipment

S.NO	EQUIPMENT	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
	Pinspot and Mirror Ball Bundle	1	Y	Y
	Mirror Ball Motor	1	Y	Y
	LED Mirror Ball	1	Y	Y
	Fire ball –mounted on the roof	1	Y	Y
	Sound Activated Light	1	Y	Y
	LED Bubble Tube	1	Y	Y
	OPTIC fibers	1	Y	Y
	Blue LED Lights	1	Y	Y
	Blue LED light chain -150 bulb	1	Y	Y
	Bubble Tube	1	Y	Y
	Rotating Drum	1	Y	Y
	Chime Frame and Beater	1	Y	Y
	Mirror Chime bout	1	Y	Y

S.NO	EQUIPMENT	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
	Swings: 1. Bolster swing 2. Platform swing 3. Tyre tube swing 4. Rope ladder swing	1 EACH	Y	Y
	Rhythmic Rocker	1	Y	Y
	Balance boards	1	Y	Y
	Ball Pool	1	Y	Y
	Tunnel	1	Y	Y
	Bean bags including white ones	1	Y	Y
	Real size animal toys	1	Y	Y

1. PINSPOT AND MIRROR BALL BUNDLE

TECHNICAL SPECIFICATIONS		
Name	**Pinspot and Mirror Ball Bundle**	
Version no.	2	
Date:	JUNE 2014	
Pin-spot and Mirror Ball Bundle/Visual: Shine the pin-spot onto the mirror ball to create hundreds of mirrored reflections around the room. Operates on mains voltage. 20cm ball and 15 cm chain is to be provided 		
1	Clinical purpose	Shine the pin-spot onto the mirror ball to create hundreds of mirrored reflections around the room.
2	Technical characteristics	- Mains powered motor to spin mirror balls or other light hanging items; - Fixed 2 RPM rotational speed; - Designed to use power from a lighting circuit; - Load limit of 4kg at mirror ball motor; - Shaft with pre-drilled hole for mirror ball connection; - Should operate on 220VAC/50Hz; - Should be provided with 20cm ball and 15cm chain with safety ring to prevent detachment of the rotating ball; - Pinspot should have 4 different color wheel;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years

TECHNICAL SPECIFICATIONS		
5	Documentation	- User, technical and maintenance manuals to be supplied along with machine diagrams; - Contact details of manufacturer, supplier and local service agent to be provided

2. MIRROR BALL MOTOR

TECHNICAL SPECIFICATIONS		
Name	**Mirror Ball Motor**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	This ceiling-mounting box contains a motor that will rotate mirror ball at a stately 2 RPM. Fitted with 1m (approx.) mains lead and plug.
2	Technical characteristics	- Mains powered motor to spin mirror balls or other light hanging items; - Fixed 2 RPM rotational speed; - Designed to use power from a lighting circuit; - Load limit of 4kg; - Shaft with pre-drilled hole for mirror ball connection; - Should operate at 220VAC/50Hz;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years
5	Documentation	- User, technical and maintenance manuals to be supplied along with machine diagrams; - Contact details of manufacturer, supplier and local service agent to be provided;

3. LED MIRROR BALL

TECHNICAL SPECIFICATIONS		
Name	**LED Mirror Ball**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	LED Mirror Ball features a 6inches diameter ball covered with crack-resistant mirror tiles, a battery/mains-operated rotating motor with a silver chain, and multi-colored LED lights mounted in the motor.
2	Technical characteristics	- 6inches diameter disco mirror ball; - Rotating motor with LED lights; - Attached silver chain and ring; - On/off switch and sound activation;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years
5	Documentation	- User, technical and maintenance manuals to be supplied along with machine diagrams; - Contact details of manufacturer, supplier and local service agent to be provided;

4. FIRE BALL -MOUNTED ON THE ROOF

TECHNICAL SPECIFICATIONS		
Name	**Fire ball -mounted on the roof**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	This classic light effect fires narrow beams of light around the room as it rotates.
2	Technical characteristics	- Should have wide coverage; - Perfect for ceiling or desk mounting; - Should have 100,000 hours LED life span (approx.); - Should operate at 220VAC/50Hz; - Should have min 4 revolutions per minute; - Should have max. weight: 2kg;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years
5	Documentation	- User, technical and maintenance manuals to be supplied along with machine diagrams; - Contact details of manufacturer, supplier and local service agent to be provided;

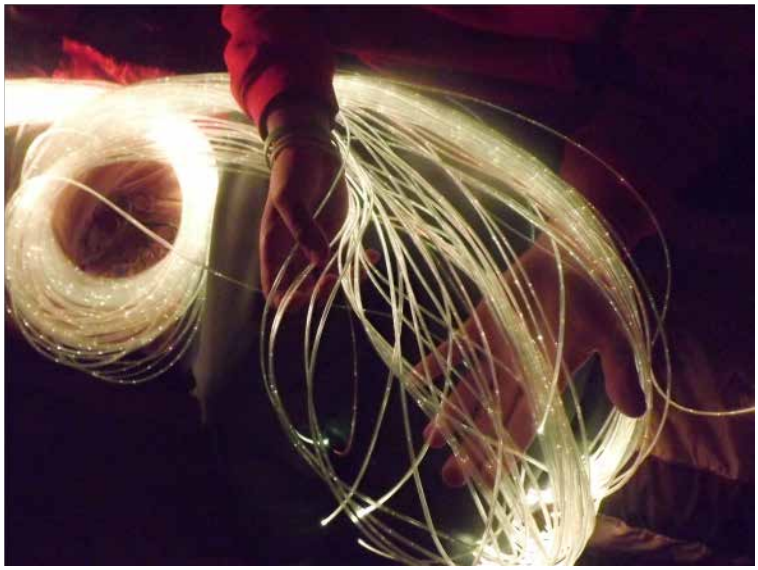
5. SOUND ACTIVATED LIGHT

TECHNICAL SPECIFICATIONS		
Name	**Sound Activated Light**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	This classic light effect multicolor light around the room.
2	Technical characteristics	- Should have sound activation system inbuilt; - Fully Automatic LED Compact Border; - Cycle Light for Indoor Use; - Lightweight; - Adjusting speed and sound sensitivity; - Should have low power consumption; - Should operate at 220VAC/50Hz; - Should have 100,000 hours LED life span (approx.);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years
5	Documentation	- User, technical and maintenance manuals to be supplied along with machine diagrams; - Contact details of manufacturer, supplier and local service agent to be provided;

6. LED BUBBLE TUBE

TECHNICAL SPECIFICATIONS		
Name	**LED Bubble Tube**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	This light change in tube while touching around the light.
2	Technical characteristics	- Adjusting speed and sound sensitivity; - Should have low power consumption; - Should operate at 220VAC/50Hz; - Tubes should made of thick acrylic plastic, not glass; - The LED light of Bubble tube should slowly change color whilst small bubbles rise continuously; - Should have min. 10,000 hours LED life span (approx.); - Minimum Dimensions: 75mm diameter x 500mm height; - Bubble tube with a vibrator and Led light which changes colors with mirror on two sides; - Should have low power consumption; - Should operate at 220VAC/50Hz;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	3 Years
5	Documentation	-Technical manual to be provided

7. OPTIC FIBERS

TECHNICAL SPECIFICATIONS		
Name	**OPTIC fibers**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Fiber optics with transparent light.
2	Technical characteristics	Should have flexible fiber optic with PVC covered; - Cable does not get hot (there is no current or heat through cable); - Should have ability of changing colors with remote control; - Perfect for sensory rooms, schools, hospitals, care homes; - 30 x PVC covered side glow fiber (triple fiber) optic 3.2 mm; - Should have low power consumption; - Should operate at 220VAC/50Hz; - Should have min. 10,000 hours LED life span (approx.);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	3 Years
5	Documentation	-Technical manual to be provided

8. Blue LED Lights

TECHNICAL SPECIFICATIONS		
Name	**Blue LED Lights**	
Version no.	2	
Date:	JUNE 2014	
1	Clinical purpose	To provide blue light in room.
2	Technical characteristics	- Should have blue LED light - Bulb type: replaceable blue LED - Should have sensory technology - Should have low power consumption; - Should operate at 220VAC/50Hz; - Should have min. 10,000 hours LED life span (approx.);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	3 Years
5	Documentation	-Technical manual to be provided

9. BLUE LED LIGHT CHAIN

TECHNICAL SPECIFICATIONS		
Name	**Blue LED light chain**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Chain of light, which provide blue color light.
2	Technical characteristics	- Should have 150 bulb blue LED light chain; - Bulb type: replaceable blue LED; - Should have low power consumption; - Should operate at 220VAC/50Hz; - Should have min. 10,000 hours LED life span (approx.);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	3 Years
5	Documentation	-Technical manual to be provided

10. BUBBLE TUBE

TECHNICAL SPECIFICATIONS		
Name	**Bubble Tube**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Color Changing LED with lamp in water tube, floor standing lamp light
2	Technical characteristics	- Bubble tube lamp with silver base - Color changing LED lighting; - Supplied with 6 multi colored ; - Integrated controller for variable bubble stream; - Creates a calming, relaxing atmosphere - Ideal for homes, schools, sensory rooms, workplaces... and more; - Height : 900 mm (35.4 Inches); - Should have min. 10,000 hours LED life span (approx.);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	3 Years
5	Documentation	- Technical manual to be provided

11. ROTATING DRUM

TECHNICAL SPECIFICATIONS		
Name	**Rotating Drum**	
Version no.	2	
Date:	JUNE 2014	

Rotating Drum: A large drum containing brightly coloured balls and bells. Dimension: 300mm L x 230mm D.

1	Clinical purpose	A large wooden slater drum containing brightly colored balls and bells.
2	Technical characteristics	- Should have a wooden base to keep it stable; - Should have a wooden slatted drum; - Should have colored balls (min. of 10); - Should have integral bells;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

12. CHIME FRAME AND BEATER

TECHNICAL SPECIFICATIONS	
Name	**Chime Frame and Beater**
Version no.	2
Date:	JUNE 2014

Chime Frame and Beater: Six colourful wooden chimes, suspended within a strong wooden frame. The beater is attached to the frame to prevent loss. Dimensions: 370mm L x 270mm H.

1	Clinical purpose	Six colorful wooden chimes, suspended within a strong wooden frame
2	Technical characteristics	- Six colorful wooden chimes, suspended within a strong frame; - Complete with Beater attached; - Should have 370mmL x 270mmH in sizes;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

13. MIRROR CHIME BOUT

TECHNICAL SPECIFICATIONS		
Name	**Mirror Chime bout**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Mirror Chime bout found in Child Development Centers, Nurseries and Special Schools worldwide.
2	Technical characteristics	- Should have a wooden stand with six extending arms each holding mirror/colorful strips and chime bells, which provide a stunning visual and auditory effect; - Should have acrylic strips of mirror Perspex faced and buffed edge, which respond to the slightest touch, making this a very visual toy; - Should have feature of mountable on a freestanding base. - Height :approx.24cm, Base diameter: approx. 20cm;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

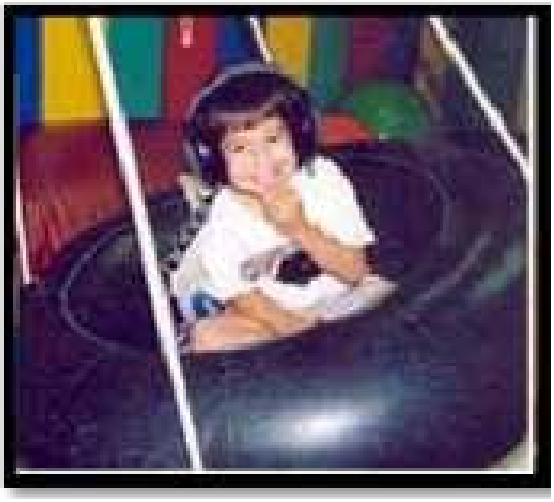
14. BOLSTER SWING

TECHNICAL SPECIFICATIONS		
Name	**Bolster swing**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Bolster swings are a must for sensory integration therapy as they encourage righting reactions, adjustments to linear acceleration and motor planning.
2	Technical characteristics	- Should have vinyl-covered base on either side by simply flipping the bolster over; - Should have one side is high-density foam padding; the other side is padded with low-density foam; - Should have min. 4 feet in length and max. 1 feet in diameter; - Should have max load 180Kgs;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided.

15. PLATFORM SWING

TECHNICAL SPECIFICATIONS		
Name	**Platform swing**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Platform swings are a must for sensory integration therapy as they encourage righting reactions, adjustments to linear acceleration and motor planning.
2	Technical characteristics	- Should have vinyl-covered base; - Should have one side is high-density foam padding; the other side is padded with low-density foam; - Should have min. 3 feet in length and max. 2 feet in width; - Should have max load 180Kgs; - Ball bearing technology shoud be removed as there is no such requirement of rotary motion.
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided

16. TYRE TUBE SWING

TECHNICAL SPECIFICATIONS		
Name	**Tyre tube swing**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Tyre tube swings are a must for sensory integration therapy as they encourage righting reactions, adjustments to linear acceleration and motor planning.
2	Technical characteristics	- Should have dual axis hanging feature; - Should provide inflating pump with measuring gauge. The air nozzle shoud be on the outer side of the tube for saftery from injury - Should have max load 180Kgs; - Should have heavy duty hanger with ball beari ng to support up to 60 min continuous swing;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

TECHNICAL SPECIFICATIONS		
5	Documentation	-Technical manual to be provided

17. ROPE LADDER SWING

TECHNICAL SPECIFICATIONS		
Name	**Rope ladder swing**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Little acrobats can train their balance strength and power
2	Technical characteristics	- Should have a wooden bar that can be used as a seat or gymnastic bar - Should have sturdy synthetic rings which give a strong hold to little hands while exercising and the synthetic rope can securely be affixed with the metal rings. - Should have max 200cm in length - Should have min. load capacity 60 kg - Should have heavy duty hanger with ball bearing to support up to 60 min continuous swing; - Age 3+
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided

18. RHYTHMIC ROCKER

TECHNICAL SPECIFICATIONS		
Name	**Rhythmic Rocker**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Rhythmic rocking is a must for sensory integration therapy as they encourage righting reactions, adjustments to linear acceleration and motor planning.
2	Technical characteristics	- Should have rocking feature; - Should have easy grip handles; - Should have non-slip footsteps; - Should have soft huggable body; - Should have min. load capacity 60 kg;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided

19. BALANCE BOARDS

TECHNICAL SPECIFICATIONS		
Name	**Balance boards**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Balancing board featuring an unprecedented range of motion and variety of difficulties holds. It helps students in exploring entire 360 pendulum-like range of motion as they build balance, confidence, control levels and begin their solo attempts
2	Technical characteristics	- Should have unbreakable board with 1/2 Dia sphere at the tip of its pedestal that support free floats; - Should have height adjustment feature ; - Should have non-slip footsteps; - Should have main. load capacity 60 kg; - The top shoud have detachable texture Rug covering.
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided

20. BALL POOL

TECHNICAL SPECIFICATIONS		
Name	**Ball Pool**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Provide multi-sensory tactile stimulation as preschoolers balance, adjust, and move through them.
2	Technical characteristics	- Should have vinyl-covered base; - Should have one side is high-density foam padding; the other side is padded with low-density foam; - Should have inner measurement min. 5 feet in length and 5 feet in width; - Should have min. 750 multicolor soft plastic material balls; - Should have 4 in. thick foam walls 2 feet. height
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	- Technical manual to be provided

21. TUNNEL

TECHNICAL SPECIFICATIONS		
Name	**Tunnel**	
Version no.	2	
Date:	JUNE 2014	
 		
1	Clinical purpose	Stimulate the imagination for creative playtime.
2	Technical characteristics	- Should have durable polyester fabric in bright colors; - Should have one side is high-density foam padding; the other side is padded with low-density foam; - Should be min. 8 feet in length and 1.5 feet diameter which provides space for easy crawl through fun; - Play Tunnel can attach to other Play hut play structures creating additional play pattern options; - Should have light weight and portable; - Should have 4 in. thick foam walls in circular pattern;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year
5	Documentation	-Technical manual to be provided

22. BEAN BAGS

TECHNICAL SPECIFICATIONS		
Name	**Bean bags**	
Version no.	2	
Date:	JUNE 2014	
 		
1	Clinical purpose	For seating purpose
2	Technical characteristics	- Should be filled with fire retardant polystyrene beads; - Should have durable material in bright colors; - Should have measurements: 60cm x 60cm x 60cm, Bean Refill volume: 2.5 cubic feet; - Should be light weight and portable;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

23. REAL SIZE ANIMAL TOYS

TECHNICAL SPECIFICATIONS		
Name	**Real size animal toys**	
Version no.	2	
Date:	JUNE 2014	
 		
1	Clinical purpose	Playing purpose;
2	Technical characteristics	- Should have ultra-soft multicolor fur for realistic feeling - Should available in different choice of animals toys - Should have light weight and portable - Should be washable under washing machine
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
4	Warranty	1 Year

SENSORY INTEGRATION ROOM
Optional Requirement

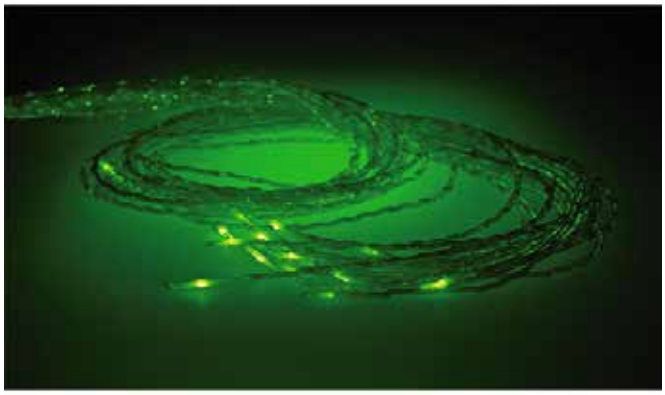
S. N	Tool	Description and Specification
1	Bean Bag	
		various sizes
2	Soft play walls	
		100mm deep wall cushions which can be tailor-made to suit any room. a) Covered in easy-to-clean flame retardant cape vinyl. b) With wall fixing brackets. c) Sizes - High 1220mm Width x 2000mm Height. d) Colour 2 white and two red
3	Soft mattresses for floor	
		a) 100mm deep floor cushions which can be tailor made to suit any room. b) Covered in easy-to-clean flame retardant vinyl. c) Sizes - Medium : 1220mmW X 1800mmL X 90mmD(Thickness) d) Soft mattresses for floor: 20 required for 500 sq. ft. room i.e. 25X 20 ft.

S. N	Tool	Description and Specification
4	Auditory addition to the Multi-Sensory Room.	
		**a)** When the coloured hands are pressed one is rewarded with musical sounds or effect noises. **b)** Music Creation comprises a Soft--play wall pad with eight built-in hand switches, a control box with 64 different sounds and an amplifier and speaker. PC with the optional Compact Flashcard Software. **c)** 64 different sounds can be added. **d)** Requires 240v power supply.
5	Nursery set : Boat shaped	
		a) Surrounded by foam walls it provides a safe environment to explore. b) Designed to encourage gross motor skills, exploration and discovery. c) Playground is constructed of soft feel, easy-to-clean material and includes a space tube to crawl through, a balance beam, steps and a slope to negotiate. d) A mirrored floor, vibration seat and low comfortable seating adds to the fun. e) This area can be moved easily and reconstructed. Size: 3400mm x 1400mm x 610mm. 11 ft. X 5 Ft.

S. N	Tool	Description and Specification
6	Nursery set : Platform slide	
		**a)** This interchangeable set comprises of a Soft play Platform Slide and Soft play Steps. **b)** Ideal for any nursery corner. Slide size: 600mmW x 1200mmD x 600mmH. Steps size: 600mm square x 600mmH.
7	Soft-play Mirror Corner set	
		**a)** Consists of two 1200mm x 600mm acrylic wall mirrors and a heavy-duty vinyl floor mat. **b)** Provides children with a unique visual perception experience. *Cerise/Blue and Green/Blue **c)** Ideal to brighten any corner Size: 1200mmW x 1200mmL.
White room Absence of colour is known for its calming effect. The design of the white room is unique creating a space for hyperactive children to relax and evaporate the stresses. They have 4 components soft play walls (3 inches thick), soft play floors (4"thick foam floor cushions), soft play curbs (8"wide into 8" height) and white floor mats. They should fit into the corner of any room (6 ft. length x 6 ft. width and 4 ft. height) and with soft play curbs of 8" ht. and 8" wide which act as retaining walls.		
8	Soft play kerbs	
		Soft play kerbs white or offwhite in colour floor mat with walls and retaining kerbs of size 200mm width x 1500 mm length a) White floor mat : 4 no- 6ft x 5 ft = b) White floor walls : 2 side walls of 6ft or 2000 mm(width) X 5 ft or 1524mm (Height): 100mm deep wall cushions , Covered in easy-to-clean flame retardant cape vinyl ,with wall fixing brackets c) White retaining kerbs : 6 inches height x 12 ft width and 6 inches height X 10 ft and 8 inchess thickness d) Ideal Soft play blocks which act as retaining kerbs. Size: 200mmW x 150mmH x required length.

S. N	Tool	Description and Specification
9	Interactive Ballpool	
		**a)** The Ballpool comes complete with switches and 75mm clear balls. **b)** The pool is fitted with four coloured switches located at the top of each wall, these control the colour of the light shining through the clear balls. Press the red switch and the balls turn red **c)** Use in a darkened room. **d)** Operates on 240v transformed to 12v. Size: Medium 1450mmW x 1450mmD x 660mm
10	The Standard Bubble Tube	
		a) the bubble tube provides a gentle colour change through the column of effervescent water. b) The bubbles inside vibrates once the tube id touched. Size:1meter Operates on 240v transformed to 12v

S. N	Tool	Description and Specification
11	Multi-Sensory Den	
	 	The room includes the following equipment: - 1 x Multi-Sensory Den - 2500mm square when fully erect, can be lowered to 2070mm height by adjusting legs. - 1 x Set of Fitted Soft play Floor Pads - 1 x Interactive Battery Bubble Tube - 1 x Effects Projector - 1 x Wheel Rotator and Effect Wheel - 1 x 3m Fibre Optic Side glow and Light source - 1 x Pin spot and Colour Wheel - 1 x 8" Mirror Ball - 4 x Slim line Switches - 2 x Switched Extension Power Leads - 1 x Set of Soft play Carrier Bags - 1 x Wheeled Sensory Equipment Box - 1 x Set of Instructions All the equipment comes with carrier bags and a wheeled sensory box.
12	Fibre Optic shower frame	
		a) Gives a stunning shimmering shower effect to stand or sit in. b) Must have 200 strand x 3m Fibre Optic Side glow, c) Fan cooled Light source and Shower Frame. d) Must Operate on 240v transformed to 12v. Size: 500mm square. Available as Shower Frame only

S. N	Tool	Description and Specification
13	Bamboo fibre optic slide glow :	
		Combining both visual and tactile stimulation the Bamboo Fibre Optic Side glow not only provides all the features of a standard Fibre Optic Side glow but also provides an added tactile experience as each individual strand is shaped like bamboo. Requires a Light source. Safe to handle. Sizes - 20 strand x 1m or 15 strand x 2m
14	UV Jumbo Fibre Optic Side glow	
		UV Jumbo Fibre Optic Sideglow has all the features of the Jumbo Fibre Optic Sideglow with the added benefit of glowing furiously when used in conjuction with a UV light for added visual stimulation. Requires a Lightsource. Size:15 Strand x 2m x 8mm thick.
15	Sensory deluxe room Mini sensory room	
	a) *Contains one 60" interactive bubble tube and 5 way switch, b) * 2 x acrylic corner mirror, c) 1x 40 " square soft play bubble tube plinth, d) 2 X white soft play wall pads and brackets e) 1x set of white soft play floor mats f) 1 x 118"fibre optics slide glow , Light source and curtain kits g) 1x mirage effects projector h) 1x wheel rotator	i) 3x effect wheels j) One projector tent k) One pin spot and colour wheel l) 1 X 12" mirror ball m) One aromatherapy starter kit n) One aromatherapy diffuser o) 4 sensory audio CDs p) 1 bubble tube

S. N	Tool	Description and Specification
16	Sensory integration room	
		

AREA 5: PEDIATRIC EXAMINATION ROOM

Infrastructure

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
280 sq. ft.	1. Examination Table 2. 4 Chairs 3. Curtain 4. Medical Equipment to be used by doctors: 5. Stethoscope (Pediatric) a. Sphygmomanometer with Pediatric cuff with 3 different sizes (Infant, Child and Adult) Reusable b. ECG machine with pediatric chest leads c. Ophthalmoscope d. Torch e. Knee Hammer f. X-Ray viewer g. Developmental kit for various ages	1. Air-conditioner 2. Ultrasound cum ECHO machine	1. Pediatrician 2. Medical Officer
Cost of equipment: 2,00,000/- approx.			
Some design concepts - Low height white table with pediatric chair			

Equipment

1. STETHOSCOPE (PEDIATRIC)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
STETHOSCOPE		
		
Version no. :		1.0
Date:		05/08/2013
Done by : (name / institution)		HCT/ NHSRC
NAME AND CODING		
GMDN name		Stethoscopes
GMDN code(s)		CT1930
GMDN definition		A mechanical listening device designed for listening to sounds from the heart, lungs, and/or gastrointestinal tract. It typically comprises a membrane at the listening head connected by a split "Y" tube to the headgear with ear olives that are placed into the user's ears. Mechanical stethoscopes are typically found in two variants 1) a general-purpose stethoscope used for clinical/ward activities; or 2) a reinforced stethoscope used by cardiologists.
GENERAL		
1	USE	
1.1	**Clinical purpose**	listening to sounds from the heart, lungs, and/or gastrointestinal tract
1.2	**Used by clinical department/ward**	All
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	**Technical characteristics (specific to this type of device)**	Stethoscope of pediatric size, chromium plated metal binaural, V rubber tube in one piece. Rotating piper fitting for both flip functions.
2.2	**Settings**	NA
2.3	**User's interface**	Manual
2.4	**Software and/or standard of communication(where ever required)**	NA
3	PHYSICAL CHARACTERISTICS	
3.1	**Dimensions (metric)**	Diaphragm approx.: 20 mm
3.2	**Weight (lbs., kg)**	NA
3.3	**Configuration**	NA

3.4	**Noise (in dBA)**	NA
3.5	**heat dissipation**	NA
3.6	**Mobility, portability**	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power Requirements**	NA
4.2	**Battery operated**	NA
4.3	**Tolerance (to variations, shutdowns)**	NA
4.4	**Protection**	NA
4.5	**Power consumption**	NA
4.6	**Other energy supplies**	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories& Spares; Consumables / reagents (open, closed system)'**	1 x spare set of earpiece, 1 x spare diaphragm,
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	**Atmosphere / Ambiance (air conditioning, humidity, dust)**	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	NA
7	STANDARDS AND SAFETY	
7.1	**Certifications**	by ISO 9001 certified manufacturer
8	TRAINING AND INSTALLATION	
8.1	**Pre-installation requirements: nature, values, quality, tolerance**	NA
8.2	**Requirements for sign-off**	NA
8.3	**Training of staff (medical, paramedical, technicians)**	NA
9	WARRANTY AND MAINTENANCE	
9.1	**Warranty**	1 year
9.2	**Maintenance tasks**	NA
9.3	**Service contract clauses, including prices**	NA
10	DOCUMENTATION	
10.1	**Operating manuals, service manuals, other manuals**	NA
10.3	**Recommendations for maintenance**	NA
11	NOTES	
11.1	**Service Support Contact details (Hierarchy Wise; including a toll free/landline number)**	NA
11.2	**Recommendations or warnings**	NA

2. SPHYGMOMANOMETER WITH REUSABLE PEDIATRIC CUFF OF 3 DIFFERENT SIZES (INFANT, CHILD AND ADULT)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
SPHYGMOMANOMETER		
	**Blood pressure cuff (arm) Single tube** **Note cuff Sizes** 	
Version no. :		1.0
Date:		05/08/2013
Done by : (name / institution)		HCT/ NHSRC
NAME AND CODING		
GMDN name	Sphygmomanometers	
GMDN code(s)	CT1677	
GMDN definition	A device designed to measure blood pressure consisting of an inflatable cuff that fits around a limb (arm or thigh), an inflation bulb for controlling the air pressure within the cuff, an aneroid manometer, and tubing. The aneroid manometer consists of a metal bellows, which expands as the pressure in the cuff increases, and a mechanical amplifier that transmits this expansion through a lever to an indicator needle, which rotates around a circular, calibrated scale. The manometer may be mounted to a wall, placed on a table, or hand held (portable); blood pressure measurement is taken in conjunction with a stethoscope.	
GENERAL		
1	USE	
1.1	Clinical purpose	To measure noninvasive blood pressure
1.2	Used by clinical department/ward	All
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	Scale 0-300 mm hg. Air release at closed lap with maximum 4mmHg/Minute. Manual setting of deflation possible up to 2/3mm Hg/sec. From 260mmHg. To 15mm Hg in a maximum deflation time of 10 seconds. Gauge's background in white color. Graduated scale for ever/ 2mmhg, every 10 units and every 20 units. Nylon straps cuff with pouch, latex bulb with completely chromium plated valve with regulation of vent-hole air by screw valve.
2.2	Settings	The cuff is inflated just to fit in the limb for which an inflation bulb is used to control the air pressure within the cuff.

2.3	User's interface	Manual
2.4	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	The rubber tubes used should have an internal diameter of 3 ± 0.5mm and the external diameter should not be less than 8mm; The dial manometer with minimum diameter of 160 mm
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA), heat dissipation	NA
3.5	Mobility, portability	Yes
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	NA
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	NA
4.6	Other energy supplies	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	adult arm cuffs of size Adult Child(size -9/10), Child(size -8), Infant (size -7)and Neonate(size -6), inflation bulb, tubing
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	NA
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international	ISO 13485
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	1 years
9.2	Maintenance tasks	Maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	NA

10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	NA
10.2	Other accompanying documents	NA
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	NA
11.2	Recommendations or warnings	Any recommendations for best use and supplementary warning for safety should be declared

AREA 6: ECG CUM ECHO ROOM

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
13'6"x15'	1. ECG machine & leads 2. Resting Table 3. Air-conditioner	1. ECHO machine with neo natal and pediatric probe	Pediatrician (will be trained specifically in pediatric cardiology)
Cost of equipment: Rs. /-approx. Cost of training: Rs. 1,00,000/-			

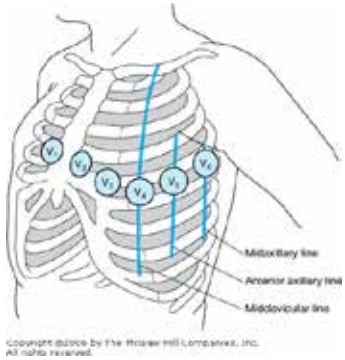
1 ECG MACHINE WITH PEDIATRIC CHEST LEADS:

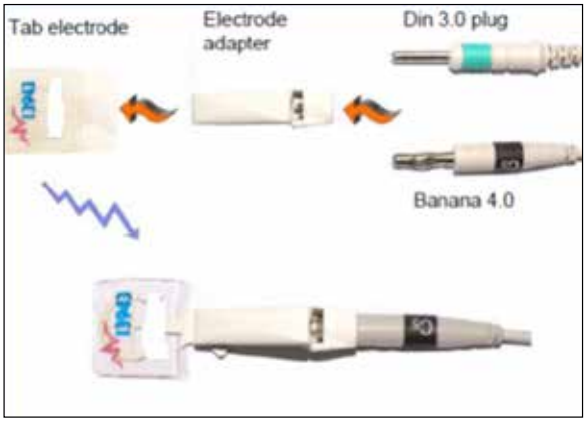
MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)
ECG MACHINE WITH PEDIATRIC CHEST LEADS

Chest leads

Adult: Bulb volume is 5cc. (dia.32mm

Pediatric: Bulb volume is 2cc. (dia.23mm) Ball's Dia: 28mm and cup diameter: 23 mm also compatible with either Plug pin : din 3.0 or Banana :4.0 mm





Version no. :	2	
Date:	JULY 2014.	
Done by : (name / institution)	HCT/NHSRC	
NAME AND CODING		
GMDN name	ECG machine	
GENERAL		
1	USE	
1.1	Clinical purpose	ECG Machine is a primary equipment to record ECG Signal in various configurations.12 channels with interpretation is required for recording and analyzing the waveforms with inbuilt software.
1.2	Used by clinical department/ ward	DEIC, SNCU, NICU & PICU
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Should acquire simultaneous 12 lead ECG for both adult and pediatric patients. 2. Should have Real time Color display of ECG waveforms with signal quality indication for each lead. 3. Should have Artifact, AC, and low and high pass frequency filters. 4. Should have a storage memory of at least 100 ECGs with easy transfer by modem and data card. 5. Should have full screen preview of ECG report for quality assessment checks prior to print. 6. Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and pediatric patients. 7. Should have alphanumeric Keyboard for patient data Entry. (Virtual or hard keys). 8. Should have High resolution (200 dpix500dpi on 2550mm/sec speed) maintenance free digital array A4 size printer. 9. Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead. 10. Should have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge. 11. Should be able to be connected to HIS /LAN/Wireless LAN 12. Should display ECG on LCD/TFT Display of 640x480 pixel resolution. 13. USB Support for Storage on external portable memories. 14. Multimode of ECG Storage capability, 150 ECG on Internal Flash Memory. 15. Should have 3 operating mode: Automatic, Manual & Rhythm. 16. Should have Defibrillation Protection.
2.2	User's interface	Manual/automatic
3	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
3.1	Power Requirements	1. Power input to be 220 - 240VAC, 50-60Hz fitted with Indian plug i.e. TYPE D/M

4	ACCESSORIES, SPARE PARTS, CONSUMABLES	
4.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. ECG Machine 12 Leads with Interpretation 2. Patient Cable 3. Chest Electrodes Adult (set of six) -02 sets. 4. Chest Electrodes Pediatric (set of six) -02 sets 5. Limb clamp Electrodes (set of 4) 02 sets of Adult and 02 sets of Pediatrics 6. Tab electrodes for neonates (34/13mm) for 500 patients. 7. ECG electrode adapter (set of 10) 02 sets of pediatrics (Socket fit for 3.0 mm Din plug or 4.0mm banana plug) 8. Thermal Paper A4 Size for 500 patients 9. Supplied with suitable Trolley; which made powder coated frame with SS304 grade to f/SS.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
5	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
5.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15 -90% 2. The unit shall be capable of operating continuously in ambient temperature of 10 - 50 deg C and relative humidity of 15 - 90% 3. Shall meet IEC - 60601-1- 2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive.
5.2	User's care, Cleaning, Disinfection & Sterility issues	1. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 2. Sterilization not required.
6	STANDARDS AND SAFETY	
6.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/ or international	1. Should be US FDA and European CE, approved product. 2. Electrical safety conforms to standards for electrical safety IEC – 60601 -1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms. (OR EQUIVALENT BIS Standard)
7	TRAINING AND INSTALLATION	
7.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket;2)Safety and operation check before handover;
7.2	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance;2)Advanced maintenance tasks required shall be documented
8	WARRANTY AND MAINTENANCE	
8.1	Warranty	3 years
8.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
8.3	Service contract clauses, including prices	- All spare parts and consumables should be available with supplier or principals for a period of at least 10 years. - In case of any change of dealership in future the Manufacturer should undertake the responsibility of maintaining the equipment through the next dealer.

9	DOCUMENTATION	
9.1	Operating manuals, service manuals, other manuals	1. User Manual in English 2. Service manual in English 3. List of important spare parts and accessories with their part number and costing 4. Certificate of calibration and inspection. 5. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out 6. List of Equipment available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
9.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
10	NOTES	
10.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/ad-hoc) to be declared by the manufacturer;
10.2	Recommendations or warnings	Any warning signs would be adequately displayed

2. ULTRASOUND CUM ECHO MACHINE FOR PEDIATRIC AND NEONATE

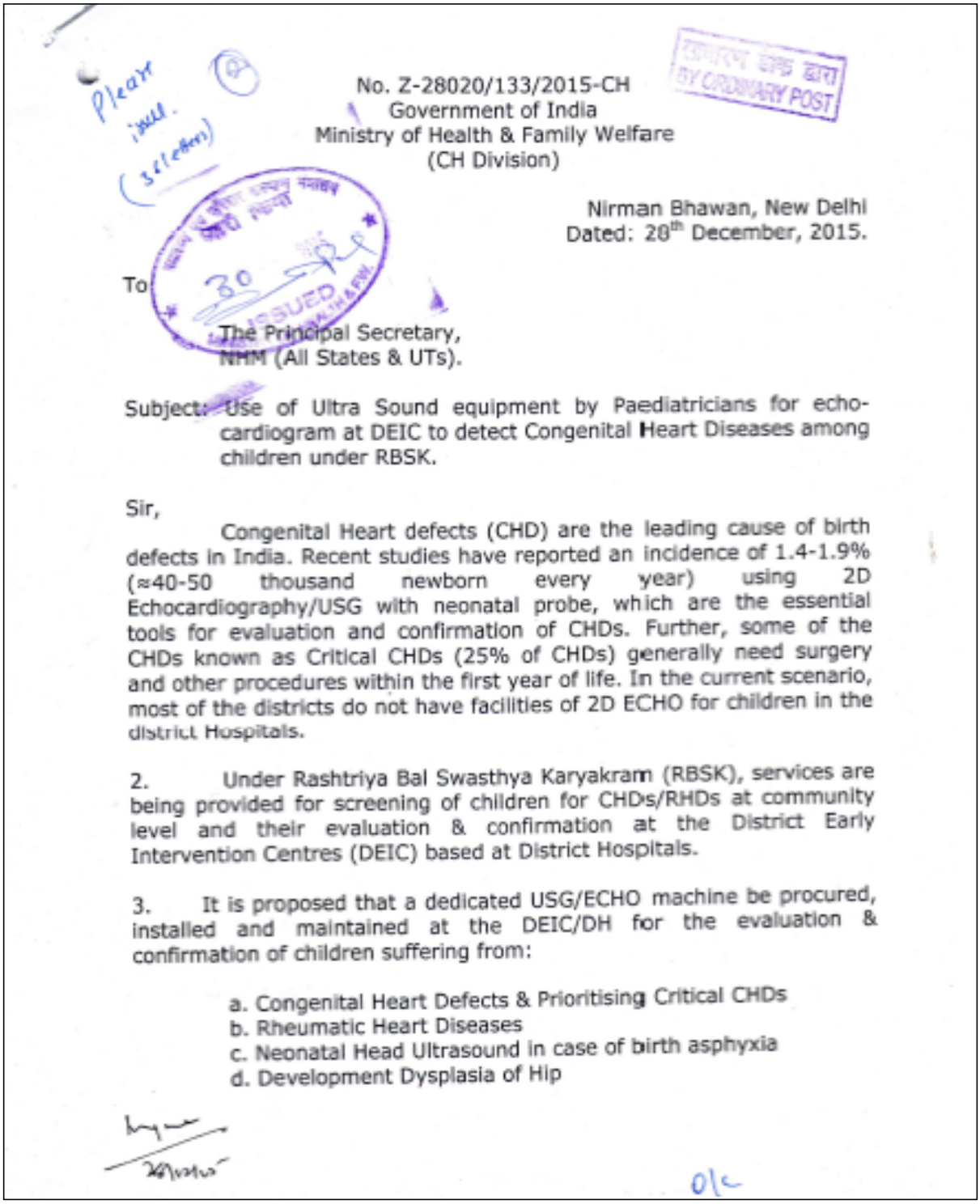
MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
ULTRASOUND CUM ECHO MACHINE		
		
Version no. :	2	
Date:	May 2016	
NAME AND CODING		
GENERAL		
1	USE	
1.1	Clinical purpose	To evaluate the size, thickness and movement of heart structures (chambers, valves, etc.).
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. The system should be a state of the art digital technology system with all advanced imaging features. 2. Capable of doing adult, pediatric and neonatal echocardiography. 3. Should have a high resolution TFT monitor having screen between 12"-15" inches. 4. The system should have the facility for high-resolution 2D, anatomical M Mode (both online and offline), PW, CW, Color flow imaging and tissue Doppler imaging. 5. Should have color compare mode (color mode and normal gray-scale mode simultaneously). 6. The system should have zoom facility. 7. It should be an ultra-portable package, hand carrying machine. Total weight of the machine should not be more than 6.5kg. 8. There should be automatic image optimization. 9. Should have one touch image optimization and automatic real time Doppler tracing. 10. The system should have an easy to use control panel with alphanumeric keyboard, illuminated keys and status display. 11. The system should have facility for gain adjustments using slide pot controls. 12. The system should have at least two ports for adult and pediatric transducers. 13. Data entry should be possible by key board. 14. Should have image management facility with facility for direct storage of images and loops in the hard disk drive and options for review and edit images, loops and reports. 15. The system should have the storage capacity for at-least 50 patients' data with an option of removable storage and transfer image via USB ports. 16. Should have ECG and respiratory phase input on screen. 17. The system should measure all essential parameters like diameter, area, ejection fraction etc. 18. Should have automatic quantification of Doppler parameters to display user selected measurements. 19. Should have full DIACOM support inbuilt, ready for connecting to remote server/ laser camera. 20. Should have a battery backup of at least 1 hour.

2.2	User's interface	Manual/automatic
3	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
3.1	Power Requirements	The machine should come with required in-built electrical stabilizer and should be compatible with standard Indian electrical sockets (i.e. TYPE D/M). Unit should function with 220-240VAC, 50/60 Hz input power supply.
4	ACCESSORIES, SPARE PARTS, CONSUMABLES	
4.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	There should be following transducers with the machine: 1. One high frequency (5.0-12.0MHz) phased array transducer for Neonatal heart and Neonatal Head applications with a small footprint size of 15x12mm. Should have depth of field between 12-15cm and field of view at least 105°. 2. One phased array transducer for use in Pediatric heart with a footprint size of 15x22mm and with a bandwidth of 3-8 MHz should have depth of field between 15-20cm and field of view at least 115°. 3. One tightly curved array transducer for Pediatric abdomen; vascular applications with a footprint size of 10x25mm and with a bandwidth of 3-9 MHz and should have depth of field 30cm and field of view 125-140°. 4. One linear array transducer with a small footprint for musculoskeletal application such as DDH, vascular, small parts, thyroid scrotal etc. It should have a bandwidth of 4.5-12 MHz with a field of view of 40-50 mm and depth of field 8 cm. 5. Z Score package for Pediatrics 6. The machine should be mounted on a stand/ trolley of the same company with wheels.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
5	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
5.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15 -90% 2. The unit shall be capable of operating continuously in ambient temperature of 10 - 50 deg C and relative humidity of 15 - 90% 3. It should have standard electrical safety norms.
5.2	User's care, Cleaning, Disinfection & Sterility issues	1. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 2. Sterilization not required.
6	STANDARDS AND SAFETY	
6.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. The unit should be sturdy, resistant to breakage and damage on fall/ hit against the wall or hard surface. Certification must be attached. 2. Should have all possible software packages for calculations. 3. System should be US FDA and/or European CE approved.
7	TRAINING AND INSTALLATION	
7.1	Pre-installation requirements: nature, values, quality, tolerance	1. The same machine must have been installed in India/Abroad earlier and its satisfactory installation & working certificate in India/Abroad. 2. Safety and operation check before handover;
7.2	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented. 3. Demonstration of the machine is must.
8	WARRANTY AND MAINTENANCE	
8.1	Warranty	2 years of warranty and 5 years of CMC

8.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
8.3	Service contract clauses, including prices	- Certificate from the primary manufacturer for maintaining of the equipment/ machine for at least ten (10) years have to be attached. - All spare parts and consumables should be available with supplier or principals for a period of at least 10 years. - In case of any change of dealership in future the Manufacturer should undertake the responsibility of maintaining the equipment through the next dealer.
9	DOCUMENTATION	
9.1	Operating manuals, service manuals, other manuals	1. User Manual in English 2. Service manual in English 3. List of important spare parts like transducers and accessories with their part number and costing 4. Certificate of calibration and inspection. 5. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out 6. List of Equipment available for routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
9.2	Other accompanying documents	Cost of important accessories like transducers to be quoted separately also.
10	NOTES	
10.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/ad-hoc) to be declared by the manufacturer; The service Centre with easy availability of spare parts and the technical staff should be located near the setup facility.
10.2	Recommendations or warnings	Any warning signs would be adequately displayed

Photo credit : Wadia Hospitals

Document facilitating use of ultra sound equipment by Pediatricians for Echocardiogram at DEIC to detect Congenital Heart Diseases among Children under RBSK.



No. Z-28020/133/2015-CH
Government of India
Ministry of Health & Family Welfare
(CH Division)

Nirman Bhawan, New Delhi
Dated: 28th December, 2015.

To

The Principal Secretary,
NHM (All States & UTs).

Subject: Use of Ultra Sound equipment by Paediatricians for echo-cardiogram at DEIC to detect Congenital Heart Diseases among children under RBSK.

Sir,

Congenital Heart defects (CHD) are the leading cause of birth defects in India. Recent studies have reported an incidence of 1.4-1.9% (≈40-50 thousand newborn every year) using 2D Echocardiography/USG with neonatal probe, which are the essential tools for evaluation and confirmation of CHDs. Further, some of the CHDs known as Critical CHDs (25% of CHDs) generally need surgery and other procedures within the first year of life. In the current scenario, most of the districts do not have facilities of 2D ECHO for children in the district Hospitals.

2. Under Rashtriya Bal Swasthya Karyakram (RBSK), services are being provided for screening of children for CHDs/RHDs at community level and their evaluation & confirmation at the District Early Intervention Centres (DEIC) based at District Hospitals.

3. It is proposed that a dedicated USG/ECHO machine be procured, installed and maintained at the DEIC/DH for the evaluation & confirmation of children suffering from:

a. Congenital Heart Defects & Prioritising Critical CHDs
b. Rheumatic Heart Diseases
c. Neonatal Head Ultrasound in case of birth asphyxia
d. Development Dysplasia of Hip

4. In this regard, it is requested that States may ensure that the concerned District Appropriate Authorities are intimated the details of these ultrasound/ECHO machine with appropriate probes along with the details of trained Paediatricians (with either degree/diploma/DNB) for conducting echocardiography as mandated under PC&PNDT Act, 1994. It may be further ensured that these details are included and updated in the PNDT registration certificates that has to be displayed in the DEIC.

5. Hope you would appreciate that this requirement is in compliance with the provisions of PC&PNDT Act and will help in regulating the use of these ultrasound/echocardiography equipments.

Yours sincerely,

(Manoj Kumar Jha)
Under Secretary to the Govt. of India
Tel.: 011-23061342.

Copy for information to:

1. PPS to JS (RCH)
2. DC (CH)- Incharge
3. Dr. Arun Singh, National Adviser, RBSK

AREA 7: DENTAL ROOM

Infrastructure

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
200 sq. ft.	1. Dental chair 2. Specified dental equipment 3. Dental X-ray 4. Computer	Air-conditioner	1. Dentist 2. Dental Technician
Cost of equipment: Rs.4,00,000/- approx.			
Some Design Concept			

Essentials:

- Space for dental room: 15 Ft by12 Feet (minimum)
- Water supply (for dental chair, basin)
- Electrical connections (For dental chair, autoclave, X-ray unit)
- Wooden cabinets (storage of dental materials)
- Wall painting
- Toy display

DENTAL CARE ROOM DESIGN GUIDELINES

The clinic design to address maximum productivity in combination with healthy working posture; thus following are recommended:

1. Allows the dentist to work in all positions between 9 and 12 o'clock in order to see all surfaces of all teeth.
2. The dental assistant to reach materials etc. easily.
3. Both dentist and assistant to have easy access to hand instruments
4. There should be minimum2 feet space between the work station and the head rest of the chair for movement of the dentist.
5. X-ray unit has to be wall mounted on solid wall and should not be facing window or door.
6. The walls should be painted yellow or light blue with educational drawings/ cartoons to make children comfortable.
7. The floor should be cemented rather than tiled so avoid slipping.

An ideal dental chair should satisfy not only the criteria of the pediatric dentist, but also that of the dental staff, parents, and patients. From the perspective of the parent and patient, the dental chair should be comfortable, stable, clean, and pleasant in appearance. To this, the dentist must include favorable economics with regard to the purchase price, anticipated maintenance, and repair costs of the chair. Furthermore, the form and function of the chair should hasten all steps of patient care before, during, and after treatment; optimize the health of the dental team, and risk management.

Some Design concepts

Items such as air rotor, micro motor, air compressor, vacuum compressor to be separate unit, so that this can be hidden behind when the child enters.

EQUIPMENT AND LOGISTICS FOR DENTISTRY	
1. Pediatric Dental Chair	
2. Wall mounted dental x ray 2a. RVG (Radiovisiography) 2b. Intra Oral Camera	
3. Table top Front Loading Autoclave (electrical)	
4. LED Curing Light source (composite)	
5. Automatic Water Distiller (optional)	
OTHER DENTAL EQUIPMENT :	
6. Forceps set for extraction :	28. Cheek Retractors
7. Restorative Filling and Carving Instruments	29. Mouth Props (Adult + Pedo) with chain
8. Elevators set of 10 (ten) Dental elevators	30. Cement Spatula (plastic and metal)
9. Composite Filling Instruments- Full set	31. Patient drape
10. Hand scaler (complete set)	32. Glass Dappen dish
11. Mouth Mirrors	33. Mortar And pestle
12. Straight Probes	34. Burs assorted for contrangle hand-piece
13. Explorers	35. Composite kit with etchant and bonding agent
14. Dental Tweezers	36. Composite syringes
15. Cheatle forceps	37. Composite finishing and polishing kit
16. Kidney tray	38. Diamond burs-Air rotor hand piece-assorted
17. Matrix Band and retainer (both no. 1& 8)	39. G.P point15-80 assorted set
18. Dental Impression Trays	40. H file set assorted 15-40,45-80 (21 mm)
19. Dental mallet	41. K file set assorted 15-40,45-80 (21 mm)(25 mm)
20. Scissors	42. Mylar strip (8mm,100 strips pack)
21. Needle holder	43. Polishing brush and cup
22. Bone Chisel (mono bevel)	44. Applicator tips for bonding agent
23. Scalpel handle	45. Pit and fissure sealant
24. Drum	46. Green cloth bags for autoclaving instruments
25. Plaster Spatula (Straight and Curved)	47. Dental IOPA X-ray film Pediatric
26. Rubber Bowls	48. Lead apron and thyroid guard
27. Suction tips	

1. PEDIATRIC DENTAL CHAIR

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
PEDIATRIC DENTAL CHAIR		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		NA
GMDN code		NA
GENERAL		
1	USE	
1.1	Clinical purpose	For use of dental examination to do dental procedures in children
1.2	Used by clinical department/ward	Dental Clinic
TECHNICAL SPECIFICATIONS		
2.1	Technical characteristics (specific to this type of device)	**CHAIR UNIT:** 1. Fully motorized ,pneumatically/electrically driven, which gives smooth and non-jerky start and stop; 2. Lowest height range should be between 300-450 mm to improve visibility and access; 3. Chair should have toe movement. While backrest moves down, toe should move up; 4. Chair should have safety brake system while going down for patient exit position; 5. The design should enable the operator to be close to the patient to be close to the patient to provide optimum vision of the operating field and safe control of all component devices; 6. Streamlined cast metal base with provision for good stability; 7. The base and other structure should have a corrosion resistant coating; 8. The backrest should be ultra-thin, flexible, highly comfortable, seamless long life material and should be disinfectable; 9. The chair should be designed to provide good ergonomics for both operator and assistant; 10. Chair should have adjustable ergonomic headrest with adjustment of height and angle; 11. Chair should have adjustable ergonomic hand rest for the convenience of patient's easy mounting and dismounting from the Chair, the Right Hand rest can be swung out by 90 degree;

		12. Should have integrated power supply for hand pieces, electric motor etc.; 13. All the outlet & inlet for the services to the chair should be concealed in the box to be at the foot area of the chair or within the unit, as an infection control measure. 14. Electrically operated, Spittoon attachment, Halogen/LED light, Air Ventury Suction, micromotor, airotor, light cure unit, Scaler, 3 way syringe, X ray viewer, instrument tray, dental operators stool with height adjustment. Oil free, bacteria free, moisture free compressor. 15. Minimum of lifting capacity not less than 200Kg; 16. Single multi-functional foot control for all chair movement &dental light operation to avoid cross - contamination; 17. Should be electrically operated with zero Programming. **DENTIST ELEMENT** 1. Overhead delivery system consisting of a. 3 way syringe b. 4-hole hand piece hose for air turbine, air motor, scaler and light cure (with LED light unit) 2. Module system with brushless micro motor with contra – angle hand piece, one super torque Airotor hand pieces. 3. Should have ultra-sonic scaler with standard tips. 4. Should have infection control system with Non Retraction Valves. 5. Should have air - pressure meter. 6. Should have Instrument tray.

		ASSISTANT ELEMENT • Assistant element should be fitted with three way syringe, high volume wet line suction unit with saliva ejector. • Aerosol suction volume should be 250-300 l/min. **DENTAL OPERATORY UNIT** 1. Control Panel: - Switch for Hand Foot operation - Switch for Forward/Reverse - Switch for Scaler ON/OFF - Speed Indicator Display - Switch for Speed Increase - Switch for Speed Decrease - Control Knob for water spray - Control Knob for scalar spray - Air Filter - Air Regulator - Pressure gauge; 2. Should have control box with water control – Air motor and hand piece (straight and contra angle), air rotor hand piece. One Turbine connection with hand piece; 3. X-Ray viewer: Should provide with high quality brighter illumination with latest technology for maximum working life; 4. Should have minimum 4 hand piece holder positions; 5. Ultrasonic scaler with standard tips: - operating frequency range : 24,000 - 36,000 Hz - Water pressure: Min. 1.0 bar. Max. 5.0 bar. - detachable Autoclavable handpiece - Tips must be screwed in and moderately tightened using the key - Heat generated due to high frequency vibration is cooled by the continuous flow of water and sprayed from the activated tip;
		6. Airotor: - Should have solid Titanium Body which is scratch resistant - Low noise level with virtually no vibration - Ceramic Ball bearing Coupling System - Should have twist type chuck release; - Should have body shape to gain easy access to posterior area - Small Head possible to facilitate posterior area preparations - Effective water spray to cool the entire operating field - Max speed up to 400000 rpm; 7. Micromotor and contra angle handpiece: - Speed range of 300 - 40000 RPM in standard mode with cutting power in the range between 50 - 70 watts, scratch resistant, Titanium Body; - High torque from Low to High Speeds - Forward & Reverse rotation by selection switch - Flexible cord for smooth maneuverability of Micromotor; 8. LED Curing Light source: - Should include one curing light hand-piece - 10mm light guide - Eye shield and three curing discs - Fan-free for silent operation - Multiple-setting light timer with easy, push-button control, offers preset cure times of 5, 10, 15 and 20 seconds, a continuous 120-second mode

		9. Cuspidor (Spittoon): a. Saliva ejector b. Autoclavable High volume evacuator c. Autoclavable syringe d. High quality stain proof vitreous China bowl with adjustable cup fill and bowl e. Clean water bottle system; 10. Operating Light: a. Dental Light should have variable intensities of lux from 5000 to 35,000. It should be LED reflected light or Halogen lamp with antiglare protection shield and maximum degrees of rotation of light arm movements b. Light Head with axial movements - Horizontal, Vertical, Axial and diagonal adjustment c. LED light 5000 K cool light or similar high quality light; 11. Compressor: A suitable Medical grade oil Free Compressor, which should be Noise less, and Minimum of 0.75HP. It should have: - Air moisture filter - Epoxy coating to prevent rusting - Pressure gauge and auto cutoff switch - Tank should have a capacity of minimum 35 liters - Auto head air release valve / drain valve - The provision for drainage of water from the base tank of compressor - Safety release valve - Aluminum cover to be provided for compressor;
		12. X-ray Viewer: - Light source should be LED and have brightness >400 - Should have a maximum viewing area 300mm width x 150mm height - Should have dental x-ray film holder - Should have power ON/OFF button - Should have adjustable illumination control knob/button;
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	Should have two preset & two user-selectable programs.
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	Items such as air rotor, micro motor, air compressor, vacuum compressor to be separate unit, so that this can be hidden behind when the child enters.
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Handheld device
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC (specially designed for Indian condition),50Hz
4.2	Battery operated	Yes

4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Should be provided with Doctor's stool (with up & down movement facility) & with adjustable backrest tilt. The range of up and down movement should be at least 4-6 inches. **Doctor's stool** 1. Cast-metal/alloy base with five tile castors; 2. Two way adjustable lumbar support; 3. Integral Gas cylinder for height adjustment; 4. Height range between 400 - 700 mm; **Assistant's stool** 1. Cast-metal/alloy base with five tile castors; 2. Height adjustable torso support with height adjustable foot ring; 3. Integral Gas cylinder for height adjustment; 4. Height range between 500 - 800 mm;
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 2. Sterilization for all handpiece.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type);Local and/or international	Should be CE (EU)/FDA (US) approved. All the hand pieces should have guarantee of minimum one year and from original manufacturer.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13845 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years (including all handpiece)

9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

2. Wall mounted dental X ray

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
WALL MOUNTED DENTAL X-RAY		
		
Version no. :		2
Date:		July 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Dental X-ray systems and associated devices
GMDN code		CT691
GENERAL		
1	USE	
1.1	Clinical purpose	Used for x-ray of teeth.
1.2	Used by clinical department/ ward	Used for intraoral x-ray of teeth
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Wall mounted, compact, digital, AERB type approved unit; 2. Intra oral X-ray unit should be based on DC current, tube voltage, selection: 60-65-70 kVp, tube current 6mA/ 8 mA, focal spot 0.7 x 0.7 mm, total filtration>2 mm Al, minimum range of exposure time range –0.02 to 3.2 seconds, 3. Manufactured with international Safety standards for radiation leakage, electronic selection of exposure time/radiation according to tooth number. It should be possible to select exposure time manually 4. Should have audible & visual indication of "x-ray on" 5. Should have an option of remote hand held trigger button 6. X-ray tube head should have swing angulations of at least 290º in the vertical plane and 360 º continuous rotations in the horizontal plane. 7. X-ray tube head should have angle indication 8. Should have a counter balanced arm mechanism. Lead Apron and thyroid guard: - Should be AERB approved. - Should be 0.5mm lead equivalent. - Should be hook and loop type (Velcro fitting). - Should be supplied along with thyroid guard.

2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	1. Wall support (12 cm width, 24 cm height, 9 cm depth) 2. 30, 60, and 80 cm extension arms
3.2	Weight (lbs., kg)	Max: 6.5kg
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	NA
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Input voltage- 220-240VAC± 10%, 50-60Hz
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	NA
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. Should be supplied lead apron. 2. Rectangular Collimator Adaptor
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid. IEC 60601-1-3,IEC 60601-1-2,IEC 60601-2-7/28/32,IEC 336/1993
7.2	Local and/or international	Manufacturer / supplier should have ISO 13845 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer

8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets (hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

2a RVG (Radiovisiography)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
RVG (Radiovisiography)		
		
NAME AND CODING		
GMDN name		NA
GMDN code		NA
GENERAL		
1	**USE**	
1.1	Clinical purpose	RVG is used for digital dental x-rays which can be instantly viewed and evaluated with minimal radiation exposure
1.2	Used by clinical	Dental clinic. High resolution RVG based on CCD/CMOS technology with optical fiber.
TECHNICAL SPECIFICATIONS		
2.1	Technical features	1 CCD / Super CMOS technology. 2. Sensor size: a size "zero" sensor, perfect for pediatric applications. It should be comfortable for small mouths and makes positioning easier, thus avoiding retakes. Radiation exposure should be also less than larger sensors. Final decision will be taken at the time of actual demonstration. 3. No. of Pixels minimum10-20 lacs/mm (1-2 million) 4. Pixel size in the range of 17 X 22 micron to 20X20 micron 5. Exposure life should be minimum 4 lakhs. 6. Should provide TWAIN compatible software such as IOC, Scanner, and Digital camera. 7. Sensor cable length should be 3 meters and reinforced for durability & reliability. [Fiber optic & scintillator tech.] 8. Thickness of the sensor should be less than or equal to 5 mm 9. Spatial resolution approx. 15-20 line pairs/mm 10. Gray scale 4096 gray levels (12 bits) 11. Input voltage (from USB interface) 5V 12. The RVG must come with all the accessories one need to optimize your image processing, including a sample pack of disposable hygienic sheaths, positioners and wall mounting holders 13. RVG (with software) should be supplied with adequate and compatible computer system with latest operating system i.e. desktop of latest version Computer with LCD color monitor 20 inch screen, latest processor, DVD-RW, 500 GB HDD. 14 14. Should have positioning devices : a. Bitewing b. Periapical c. Endodontic

3	**PHYSICAL CHARACTERISTICS**	
3.1	Dimensions	a. Sensor size: size "zero" sensor b. External dimensions (Size of Sensor) : 20-23mm X 25- 31 mm c. Pixel size in the range of 17 X 22 micron to 20X20 micron d. No. of Pixels minimum - 10-20 lacs/mm (1-2 million) e. Thickness of the sensor should be less than or equal to 5 mm f. True Spatial resolution approx. 15-20 line pairs/mm
4	**ENERGY SOURCE**	
4.1	Power requirements	a. Power input to be 220-240VAC, 50Hz fitted with Indian plug b. Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz) c. Electrical safety for dental x-ray unit conforms to standards for electrical safety IEC-60601 / IS-13450
5	**ACCESSORIES, SPARE PARTS , CONSUMABLES**	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables	a. The RVG must come with all the accessories one need to optimize your image processing, including a sample pack of disposable hygienic sheaths, positioners and wall mounting holders. b. List of important spare parts and accessories with their part number and costing should be included c. Automatic synchronization : Synchronization link to synchronize X-ray emission with sensor activation.
6	**STANDARDS AND SAFETY**	
6.1	Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type);Local and/or international	Should be FDA(US)/ CE (EU) approved product Manufacturer/ Supplier should have ISO certification for quality standards. All the pieces should have a gurantee of minimum one years and from the original manufacturer Electrical safety for dental x-ray unit and RVG must conform to standards for electrical safety IEC-60601 / IS-13450
7	**TRAINING AND INSTALLATION**	
7.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover 3. User/Technical/Maintenance manuals to be supplied in English. 4. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.
7.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
7.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented 3. The job description of the hospital technician and company service engineer should be clearly spelt out.

8	**WARRANTY AND MAINTENANCE**	
8.1	Warranty	3 years (including all hand piece)
8.2	Maintenance tasks	Maintenance manual detailing Complete maintenance schedule;
8.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
9	**DOCUMENTATION**	
9.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection
9.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
10	**NOTES**	
10.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
10.2	Recommendations or warnings	Any warning signs would be adequately displayed

2b. Oral Dental USB Intraoral Camera

2b. Oral Dental USB Intraoral Camera		
		
NAME AND CODING		
GMDN name		NA
GMDN code		NA
GENERAL		
1	**USE**	
1.1	Clinical purpose	Intraoral camera is a tool a dentist uses to examine the mouth in as detailed a way as possible. The instrument, which may look like an oversized pen, has a camera that takes high-resolution footage or images of a patient's mouth and shows the visuals real-time on a monitor
1.2	Used by clinical	Dental clinic.
TECHNICAL SPECIFICATIONS		
2.1	Technical features	1. Direct USB connectivity 2. Single cord operated 3. Light weight (just 40 -70 gms) 4. Four cool white LED light 5. Taken intra/extra oral images. 6. Taken power from USB cable 7. Detachable coupling with softly lock system. 8. Auto focus with intra/extra oral image 9. Should be synchronised to a Computer with LCD color monitor 20 inch screen 10. RVG software capacity. 11. Split image. 12. Having latest microprocessor technology; means image capture should be function of the camera every image can be freezed directly on Laptop/computer. 13. Having single lens (8.0x5.9mm) focusing adjust intra/extra oral image. 14. Having lightweight chasis for easy to use.

3	**PHYSICAL CHARACTERISTICS**	
3.1	Dimensions	Having lightweight chasis (40-70gm) for easy to use
4	**ENERGY SOURCE**	
4.1	Power requirements	a. Power input to be 220-240VAC, 50Hz fitted with Indian plug for the computor b. Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)
8	**WARRANTY AND MAINTENANCE**	
8.1	Warranty	3 years (including all hand piece)
8.2	Maintenance tasks	Maintenance manual detailing Complete maintenance schedule;
9	**DOCUMENTATION**	
9.1	Operating manuals, service manuals.	Should provide 1 sets(hardcopy) of:- User, technical and maintenance manuals to be supplied along with machine diagrams;
9.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;

3. Table top Front Loading Autoclave (electrical)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
TABLE TOP FRONT LOADING AUTOCLAVE		
		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Sterilizers
GMDN code		CT281
GENERAL		
1	USE	
1.1	Clinical purpose	Table Top Front Loading Steam Sterilizer for sterilization processes in dental department
1.2	Used by clinical department/ward	Dental clinic
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. It should have capacity of 17-22 Liter; 2. It should be microprocessor controlled; 3. It should have separate steam generating chamber; 4. 3 times pre vacuum & 1 time post vacuum with dry cycle; 5. It should have LCD display; 6. Programs: - Emergency 134 degree C /4 min flash cycle - Solid: 134 degree C/ 4min for nude and Hollow 121 degree/ 20 min packed hollow instruments - Hollow: 134 degree C/ 4 min for nude and hollow 121 degree/20 min for packed hollow instruments - Porous: 134 degree C/4 min for porous and 121 degree C/20 min for packed porous instruments. - Vacuum: 5 min vacuum test program; 7. Single door, self-sealing with high-quality silicone gasket;
2.2	User's interface	5 sterilization cycles with option to run wet or Wet & Dry cycles with automatic change over.
2.3	Software and/or standard of communication(where ever required)	1. User selectable Pre-vacuum, Power Failure Memory, Automatically restarts on Power Consumption, (for custom program) 2. Preferably with a computerized control unit ensuring a fully automatic sterilization cycle, control and monitoring of physical parameters and a clear documentation of the sterilization cycle controls the autoclave.

3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	Table top
3.2	Weight (lbs., kg)	Table top
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Table top
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Input voltage- 220V AC +/- 10%, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	+/- 10%
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	Device is certified according to CE (EU) or FDA 510k or equivalent.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13845 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5/15 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer

8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets (hardcopy and soft-copy) of:- 1. User, technical and maintenance manuals to be supplied in English/Hindi language along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Service and operation manuals (original and copy) to be provided; 4. Advanced maintenance tasks documentation; 5. Certificate of calibration and inspection
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Proposal for full service AMC, year 1 to 5, covering a. 4 preventive maintenances per year, b. on-call technical interventions, spare parts and travel
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

4. LED curing light source

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
LED CURING LIGHT SOURCE		
		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		LED Curing Light Source
GMDN code		NA
GENERAL		
1	USE	
1.1	Clinical purpose	Used as a source of light. The process of light curing is defined as the hardening of a liquid form of materials when exposed to light. light-emitting diodes (LED) that provide light in the blue-visible spectrum initiates chemical polymerization reaction that turns the liquid into a solid. The resulting 'hardened' solids have long-life resiliency, color, and adhesion.
1.2	Used by clinical department/ward	Dental clinics
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. SMPS Adapter to prevent current surge from 110VAC-240 VAC. 2. Ergonomically and Aesthetically designed for easy handling and efficiency. 3. Working time in each mode - Peak -10 seconds - Gradual 15 seconds - Fluctuation 20 seconds 4. Buzzer sound for every 10secs 5. 2 way slide switch for working in main 230VAC and battery 6. Well-balanced weight of the handpiece is 250 g–which is significantly lower in weight compared to G-Light and L.E. Demetron II. 7. Unique, ergonomic V-shape allows a comfortable grip from various angles to accommodate different techniques and indications. 8. Innovative design eliminates need for noisy fan and includes a switch-off option for beep signals for completely silent operation. 9. Smooth, vent-free stainless steel exterior allows fast disinfection between patients. 10. Large buttons with touch response. 11. Eye shield rotates 360° to accommodate different techniques and indications; it also serves as a flat surface rest.

2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	Charger: Length 170 mm (6.69 in), Width 95 mm (3.74 in), Height 50 mm (1.96 in) Handpiece: Diameter 28 mm (1.10 in), Length 270 mm (10.63 in)
3.2	Weight (lbs., kg)	Charger: 660g , Handpiece:250 g (incl. light guide)
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Handheld device
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Input voltage- 220VAC ± 10%, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	15W
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	NA
	BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS	
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	Should have CE (EU) or FDA (US)
7.2	Local and/or international	Manufacturer / supplier should have ISO 13845certificate for quality standard.

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

5. Automatic Water Distiller (Optional)

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
AUTOMATIC WATER DISTILLER		
		
Version no. :		2
Date:		JULY 2014,
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		NA
GMDN code		NA
GENERAL		
1	USE	
1.1	Clinical purpose	To get distilled water to use in dental chair for proper care of the equipments. WATER DISTILLERS are ideal for producing clean, healthy water for many applications related to health, as well as maintaining products which use water. Used for dental products, vaporizers, humidifiers, and many more.
1.2	Used by clinical department/ward	Dental clinics

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Should easily connect directly to the tap water source using a 1/4" line for on-demand distilling and reduces 99% total dissolved solids; 2. Should be a fully automatic model and compact design. Automatically stops when distilled water storage tank is full, and starts distilling automatically when the distilled water level drops; 3. Should feature an efficient, quiet running, and long-lasting cooling mechanism; 4. Should have water level sensors to control water level inside boil chamber and collection water tank; 5. Should have a Raw water inlet control valve; 6. Should use an electronic circuit board to control the flow from water inlet, boiling process, and control of water level in distilled water storing tank; 7. Should have a residue discharge valve for easy discharge of residue and cleaning of boiling chamber; 8. Production rate of water distiller should range from 3gal/day to 12 gal/day; 9. Water Distiller Baffle Distance - When water boiled it is first converted to wet steam and then to dry steam through water distillation; 10. Water Distiller Construction - The best construction material is stainless steel; 11. Water Distiller Storage Containment - 90% of contaminants removed from tap water after distillation; 12. Should compatible with all type of dental chairs;
2.2	User's interface	Manual/automatic
2.3	Software and/or standard of communication (where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	NA
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging unit: Input voltage-220-240VAC ± 10%, 50/60 Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. Charcoal pre-filter (minimum 6 Qty) 2. Water Supply Line 3. Installation kit

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type); Local and/or international	Instrument should be CE (EU) marked or USFDA or EN ISO approved;
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket (Type D); 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years (Including filters replacement during warranty period)
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets (hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

6. Forceps set for extraction (Adult and Pediatric)

TECHNICAL SPECIFICATIONS		
Name	**Forceps set for extraction (Adult and Pediatric)**	
Version	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For tooth extraction
2	Technical characteristics	- Forceps should have precise, anatomically-designed beaks for a sure, effective grip; - Forceps should have optimum Rockwell hardness for optimum tensile strength; - Thick non-slip handle with minimum 10mm length; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified; - Extraction Forceps (Adult): Lower anterior Lower molar Lower premolar Upper anterior Upper molar (Left) Upper molar (right) Upper premolar Upper root forceps anterior Upper root forceps posterior Upper cow horn forceps Lower cow horn forceps; - For Pediatric: Lower anterior Lower molar Upper anterior Upper molar (Left) Upper molar (right)
3	User's care, Cleaning, Disinfection & Sterility issues	All instruments should be Autoclavable
4	Warranty	Forceps should have maximum (lifetime) warranty against defects in material and workmanship

7. Restorative Filling and Carving Instruments Set

TECHNICAL SPECIFICATIONS		
Name	**Restorative Filling and Carving Instruments Set**	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Restorative Filling and Carving of teeth
2	Technical characteristics	- The instrument shall be free from burrs, pits, cracks and other surface defects; - Handle should have minimum 10mm length; - Should not cause corrosion or felting; - All instruments should be Autoclavable; - Made of medical grade stainless steel; - Plastic filling instrument – reverse double and medium size; - Burnisher – ball – 1.3 mm -2.1mm tip diameter; - Spoon Excavator – large tip diameter – 2.0mm-2.5mm; - Spoon Excavator – small tip diameter – 1.2mm-1.5mm; - ouble ended Hollenbeck carver; - Double ended Condenser – Marquette – tip diameter – 1.00mm-1.4mm; - Placement Instrument (flat and ball end); - Cement Carrier - double ended 1.5mm-2mm; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning and sterilization of all surfaces, with no unreachable fluid traps.
4	Warranty	2 Years and a replacement guarantee in case of breakage

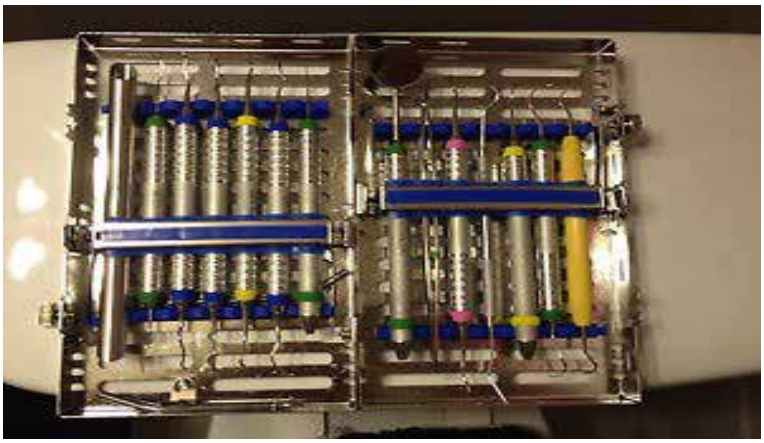
8. Dental Elevators

TECHNICAL SPECIFICATIONS		
Name	Dental Elevators	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To Loosen tooth prior to extraction
2	Technical characteristics	- Should be crafted from Immunity Steel and heat treated to Provide optimal sharpness and durability. The set should include the following: 1. Seldin 2. Apexo (Pair) 3. Cryer (Pair) 4. Cryer Mini (Pair) 5. Coupland Gouge 6. Warwick- James (Straight) 7. Warwick- James (Left and Right) 8. Cogswell 9. Serrated 10. Straight - Thick non-slip handle with minimum 10mm length; - Instrument should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	All instruments should be Autoclavable
4	Warranty	Forceps should have maximum (lifetime) warranty against defects in material and workmanship

9. Composite Filling Instruments-Full Set of instruments

TECHNICAL SPECIFICATIONS		
Name	Composite Filling Instruments-Full Set of instruments	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For both anterior and Posterior Restoration.
2	Technical characteristics	- Products should include a wide range of spatulas ideally tailored for the purpose; - Polished, corrosion-resistant stainless steel tips prevent the adhesion of filling material so the treating professional can place it exactly where it is needed; - Should not cause corrosion or felting of the filling material; - Handle should have minimum 10mm length - All instruments should be Autoclavable; - Made of medical grade stainless steel; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning and sterilization of all surfaces, with no unreachable fluid traps.
4	Warranty	2 Years and a replacement guarantee in case of breakage

10. Hand scaler (complete set)

TECHNICAL SPECIFICATIONS		
Name	Hand scaler (complete set)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Used for the removal of calculus (and plaque) in the anterior and posterior regions of jaws.
2	Technical characteristics	- Suitable for removal of calculus up to a pocket depth of 3 mm; - Extra light and "handy" ensures a more fatigue-free working; - Thick non-slip handle with minimum 10mm length; - Proprietary heat treated and cryogenic processed stainless steel alloy working tips are super-durable; - Made of medical grade stainless steel; - All instruments should be Autoclavable; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning and sterilization of all surfaces, with no unreachable fluid traps.
4	Warranty	2 Years and a replacement guarantee in case of breakage

11. Mouth Mirrors

TECHNICAL SPECIFICATIONS		
Name	Mouth Mirrors	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For allowing indirect vision by the dentist, reflecting light onto desired surfaces, and retraction of soft tissues.
2	Technical characteristics	- Reusable mouth mirror, common mirror; - Mirror should be detachable from the mirror handle and diameter 24mm; - Thick non-slip handle with minimum 10mm length; - Extra light and "handy" ensures a more fatigue-free working; - Medical Grade Stainless steel; - Instrument should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

12. Straight Probes

TECHNICAL SPECIFICATIONS		
Name	Straight Probes	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For exploring Carious teeth
2	Technical characteristics	- Extra light and "handy" ensures a more fatigue-free working; - Should have a firm grip; - Thick non-slip handle with minimum 10mm length; - Made of medical grade stainless steel; - Instrument should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 years and replacement guarantee in case of breakage;

13. Explorers

TECHNICAL SPECIFICATIONS		
Name		Explorers
Version no.		3
Date:		JUNE 2014
		
1	Clinical purpose	For exploring Carious teeth
2	Technical characteristics	- Explorers 12mm length and Shepherd's hook; - Should be double ended; - Extra light and "handy" ensures a more fatigue-free working; - Thick non-slip handle and firm grip; - Made of medical grade stainless steel; - Instrument should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 years and replacement guarantee in case of breakage;

14. Dental Tweezers

TECHNICAL SPECIFICATIONS		
Name	Dental Tweezers	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For picking up small objects like cotton rolls
2	Technical characteristics	- Type: Angled; - Should be non-locking; - Should have a firm grip; - Length: range between 15cm and 18cm; - Material: Medical Grade Stainless steel; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 years and a replacement guarantee in case of breakage;

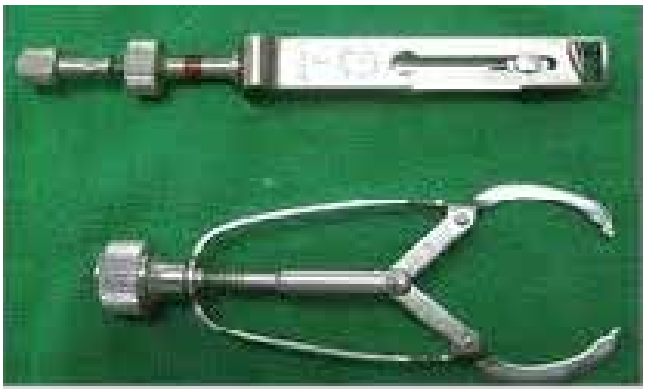
15. Cheatle forceps

TECHNICAL SPECIFICATIONS		
Name	Cheatle forceps	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To take sterile instrument, for placing or removing items
2	Technical characteristics	- Should be reusable; - Medical Grade Stainless steel; - Should be Handy; - Light weight and Convenient to use; - Should be 10" length; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

16. Kidney tray

TECHNICAL SPECIFICATIONS		
Name	Kidney tray	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	A kidney dish is a shallow basin with a kidney-shaped footprint and sloping walls (hence its alternate name) used in medical and surgical wards to receive soiled dressings and other medical waste.
2	Technical characteristics	- Should be reusable and Autoclavable; - Should be medical grade stainless steel; - Size should be 8" length - Rust free, Light weight and Convenient to use; - Instruments should be CE (Europe)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

17. Matrix Band and retainer (both no. 1 & 8)

TECHNICAL SPECIFICATIONS		
Name	Matrix Band and retainer (both no. 1& 8)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To secure the ends of a matrix band around a tooth during filling
2	Technical characteristics	- Retainer should be No1 & 8; - Retainer should be reusable; - All matrix band should be non-contoured; - Matrix band compatible with retainer no 1 should be inserted easily. - Matrix band compatible with retainer no 8 should be inserted easily. - Matrix band should be sufficiently rigid to retain the contour, should not adhere or react with restorative material, should resist the condensation pressure, and should be easy to remove. - Both retainer and matrix band should be made of Medical Grade Stainless steel. - Light weight and Convenient to use. - Retainer and matrix band should be CE(EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Retainer should be Autoclavable
4	Warranty	3 years and a replacement guarantee in case of breakage;

18. Dental Impression Trays

TECHNICAL SPECIFICATIONS		
Name	Dental Impression Trays	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To hold the impression material as it sets and supports the set impression.
2	Technical characteristics	- Both perforated - Perforated full denture set should have 8 impression trays (1 set of upper impression tray-U0,U1,U2 & U3 and 1 set lower impression tray-L0, L1, L2 & L3); - Medical Grade Stainless steel; - Should be Handy and convenient to use; - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 years and a replacement guarantee in case of breakage;

19. Dental mallet

TECHNICAL SPECIFICATIONS		
Name	Dental mallet	
Version no.	3	
Date:	JUNE 2014	
		
1	Technical characteristics	- Handle length should be minimum 10mm; - Head diameter should have maximum 22mm; - Thick non-slip handles; - Made of medical grade stainless steel;
2	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
3	Warranty	3 years and a replacement guarantee in case of breakage;

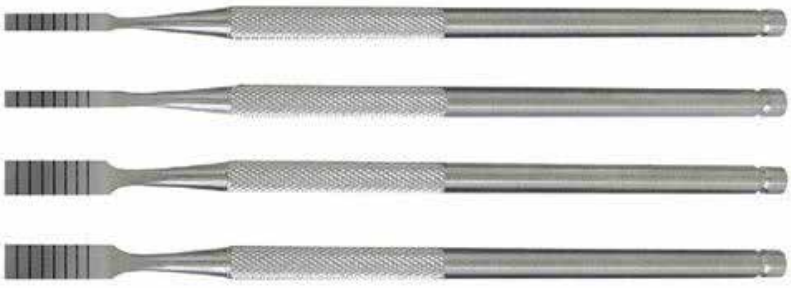
20. Scissors

TECHNICAL SPECIFICATIONS		
Name	Scissors	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For suture cutting
2	Technical characteristics	- Should be reusable; - Should be corrosion rust free; - Thick non-slip handles; - Should be 5”-6” size straight; - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

21. Needle holder

TECHNICAL SPECIFICATIONS		
Name	Needle holder	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To hold a suturing needle for closing wounds during suturing and surgical procedures.
2	Technical characteristics	- Should be reusable; - Thick non-slip handles; - Should be corrosion resistant rust free; - Made of medical grade stainless steel; - Should have 6"- 8" size; - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

22. Bone Chisel (mono bevel)

TECHNICAL SPECIFICATIONS		
Name	Bone Chisel (mono bevel)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To shave bone during extraction/surgery
2	Technical characteristics	- Should have 4mm blade and 16mm straight length of instrument. - Should be reusable; - Thick non-slip handles and corrosion resistant rust free; - Made of medical grade stainless steel; - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

23. Scalpel handle

TECHNICAL SPECIFICATIONS		
Name	Scalpel handle	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To receive surgical blades during surgeries
2	Technical characteristics	- Bard Parker style with metric rule (No 03), finely balanced, pen-like scalpel handle that easily rotates and maneuvers in difficult to reach areas with fingertip control. - Metal, sterilizable handle for replaceable blades; - Thick non-slip handles and corrosion resistant rust free; - Made of medical grade stainless steel. - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

24. Drum

TECHNICAL SPECIFICATIONS		
Name	Drum	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Dental, Medical Gauze And Sterilizing purpose
2	Technical characteristics	- Should be reusable; - Thick non-slip handles; - Made of medical grade stainless steel - Should have 2 different type (including perforated) minimum 6inches height and 9inches diameter; - Locking facility should available; - Should be CE (EU)/ISO certified or FDA (US) certified;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

25. Plaster Spatula (Straight and Curved)

TECHNICAL SPECIFICATIONS		
Name	Plaster Spatula (Straight and Curved)	
Version no.	3	
Date:	JUNE 2014	
 		
1	Clinical purpose	For mixing dental plaster/ stone /alginate etc.
2	Technical characteristics	- Should be straight and curved on the edge (1Each); - Should have stainless steel blade with wooden handle; - Blade should be rounded on the both the end;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	1 Years

26. Rubber Bowls

TECHNICAL SPECIFICATIONS		
Name	Rubber Bowls	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	For mixing dental plaster/ stone /alginate etc.
2	Technical characteristics	- Rubber made, easy to clean; - Should have minimum 2 different sizes (Small and medium);
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	1 Years

27. Suction tips

TECHNICAL SPECIFICATIONS		
Name	Suction tips	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Suck out saliva/ water during examination and dental procedures
2	Technical characteristics	- Should be detachable; - Should be Stainless Steel and 2 Numbers;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	1 Years

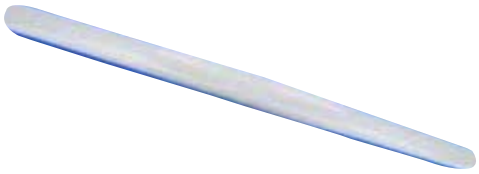
28. Cheek Retractors

TECHNICAL SPECIFICATIONS		
Name	**Cheek Retractors**	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Retracts the lips and cheeks for optimal buccal and gingival access, maximum visibility and patient comfort;
2	Technical characteristics	- Suitable for use in diagnostic, preventive and therapeutic dental application; - Should be reusable and latex free material; - Should have both one adult and one pediatric sizes; - Should be self-retaining; - Material should be flexible, which make patients very comfortable; - Cheek retractor made of durable clear plastic for increased visibility;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	1 Years

29. Mouth Props (Adult + Pedo) with chain

TECHNICAL SPECIFICATIONS		
Name	Mouth Props (Adult + Pedo) with chain	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	To keep mouths open wide and steady during a procedure
2	Technical characteristics	- Small Child Latex-Free; - Adult Latex-Free; - Should be reusable plastic material; - Should have both adult and pediatric sizes; - Should be without sharp edges;
3	User's care, Cleaning, Disinfection & Sterility issues	Sterilizable and cleanable using alcohol and other chemical reagents.
4	Warranty	1 Years

30. Cement Spatula (plastic and metal)

TECHNICAL SPECIFICATIONS		
Name	**Cement Spatula (plastic and metal)**	
Version no.	3	
Date:	JUNE 2014	
 		
1	Clinical purpose	For mixing, cements and pastes
2	Technical characteristics	- Plastic made spatula – 1 No; - Double-ended stainless steel made spatula with length 44 mm – 1 no; - Should be handy, light weight and convenient to use; - Should be flat blade from one side, arch headed on another; - Handle length should be minimum 10mm;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	1 Years

31. Patient drape

TECHNICAL SPECIFICATIONS		
Name	**Patient drape**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	To prevent body of the patient against contact from caustic liquids, splashing water, flying debris during treatment
2	Technical characteristics	- Should made of reusable plastic material;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.

32. Glass Dappen dish

TECHNICAL SPECIFICATIONS		
Name	Glass Dappen dish	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For mixing dental medicaments or fillings
2	Technical characteristics	- Should be made of glass; - Should be reusable;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.

33. Mortar and pestle

TECHNICAL SPECIFICATIONS		
Name	Mortar And pestle	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For making silver filling by mixing powder and liquid
2	Technical characteristics	- Should be reusable; - Thick non-slip mortar surface and pestle handle; - Should be made of glass;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.

34. Burs assorted for contrangle hand-piece

TECHNICAL SPECIFICATIONS		
Name	**Burs assorted for contrangle hand-piece**	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Used for cavity making
2	Technical characteristics	- Burs assorted for contrangle hand-piece(round, Straight, inverted cone); - Round diameter – 014; - Straight diameter – 009; - Inverted cone diameter – 012; - Made of medical grade material (tungsten or ceramic); - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	User's care, Cleaning, Disinfection & Sterility issues	Sterilizable and cleanable using alcohol and other chemical reagents
4	Warranty	1 Years

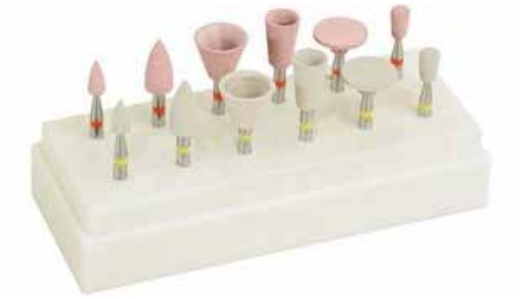
35. Composite kit with etchant and bonding agent

TECHNICAL SPECIFICATIONS		
Name	**Composite kit with etchant and bonding agent**	
Version no.	3	
Date:	JUNE 2014	
 		
1	Clinical purpose	Etchant - Etch and prepare the tooth before filling Bonding agent - Bond the filling material to the tooth
2	Technical characteristics	- 37% phosphoric acid gel form; - Syringe with disposable tips to prevent cross contamination; - Dentin bonding agent;

36. Composite syringes

TECHNICAL SPECIFICATIONS		
Name	**Composite syringes**	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Used for composite restorations
2	Technical characteristics	- Restorative is a visible light-activated Nano hybrid composite designed for use in both anterior and posterior restorations; - Should available in min. 8 shades, two of which should be opaque; - All shades should be radio opaque and fluorescent; - Should available individual syringes package; - Should have minimum 3g weight - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	Atmosphere / Ambiance (air conditioning, humidity, dust)	- Storage conditions as applicable;
4	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning and sterilization of all surfaces.
5	Warranty	1 Years

37. Composite finishing and polishing kit

TECHNICAL SPECIFICATIONS		
Name	Composite finishing and polishing kit	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Polishing composite fillings
2	Technical characteristics	Composite polishing kit for low speed handpiece: - Composite Polishing Set - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	User's care, Cleaning, Disinfection & Sterility issues	Unit could be cleaned using alcohol based cleaning agents.
4	Warranty	1 Years

38. Diamond burs-Air rotor hand piece-assorted

TECHNICAL SPECIFICATIONS		
Name	Diamond burs-Air rotor hand piece-assorted	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Used for cavity cutting
2	Technical characteristics	- Should have straight (size-009), inverted cone(size-012), round(size-010), tapered fissure(Round ended with size-0.9mm); - Made of medical grade steel material; - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

39. G.P point15-80 assorted set

TECHNICAL SPECIFICATIONS		
Name	G.P point15-80 assorted set	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	filling root canal during RCT
2	Technical characteristics	- Should have 15-80-no assorted; - All G.P. point assorted should be color coded; - Should have compact storage box for each assorted set; - Should have certification: CE (EU)/FDA (USA);

40. H file set assorted 15-40,45-80 (21 mm)

TECHNICAL SPECIFICATIONS		
Name	H file set assorted 15-40,45-80 (21 mm)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	cleaning and shaping the canals during Root Canal treatment
2	Technical characteristics	- Should have 15-40, 45-80 (21 mm)sizes and color coded; - Ground from Stainless steel wire; - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

41. K file set assorted 15-40,45-80 (21 mm) (25 mm)

TECHNICAL SPECIFICATIONS		
Name	K file set assorted 15-40,45-80 (21 mm)(25 mm)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Cleaning and shaping the canals during Root Canal treatment
2	Technical characteristics	- Should have 15-40, 45-80 (21 mm) (25mm) sizes and color coded; - Ground from Stainless steel wire;; - Should have certification: CE (EU)/FDA (USA); - Should have compact storage box;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable
4	Warranty	3 Years

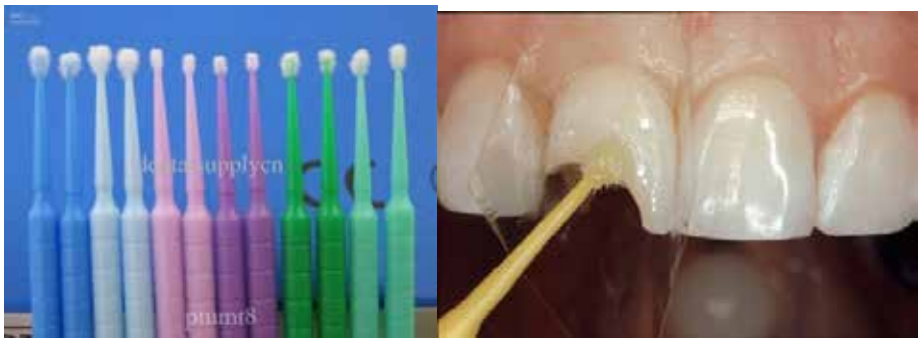
42. Mylar strip (8mm,100 strips pack)

TECHNICAL SPECIFICATIONS		
Name	Mylar strip (8mm,100 strips pack)	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Composite restorations
2	Technical characteristics	- Should have 8mm width and 0.05mm thick with transparent polyester;

43. Polishing brush and cup

TECHNICAL SPECIFICATIONS		
Name	Polishing brush and cup	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Polishing of teeth after cleaning/ before pit and fissure sealant
2	Technical characteristics	- Should have dental multiple use polishing cups and polishing brush; - Latch type prophy brush - Material: Nylon, bristle - Shape: Flat - Latch type prophy cup - Material: Nylon - Shape: Flat, webbed - Should be CE (Europe)/ISO certified or FDA (US) certified - Should have 1Qty. polishing brush and 1Qty. cup;
3	User's care, Cleaning, Disinfection & Sterility issues	Should be Autoclavable.

44. Applicator tips for bonding agent

TECHNICAL SPECIFICATIONS		
Name	Applicator tips for bonding agent	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	applying bonding agent to the tooth before composite filling
2	Technical characteristics	- Should made of plastic with bendable tip - Consist of non-linking, non-absorbent fibers arrange spherical shape; - Package of 100pcs/pack; - Size – small/medium; - Should be CE (Europe)/ISO certified or FDA (US) certified
3	User's care, Cleaning, Disinfection & Sterility issues	- Should be disposable

45. Pit and fissure sealant

TECHNICAL SPECIFICATIONS		
Name	Pit and fissure sealant	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Sealing the pits and fissures in teeth to prevent caries
2	Technical characteristics	- Should have a compact box for storage of sealant material; - Low viscosity to flow easily into pits and fissures light-cured; - Bonds to enamel; - Should be available in syringes with disposable tip; - Should have Low polymerization shrinkage

46. Green cloth bags for autoclaving instruments

TECHNICAL SPECIFICATIONS		
Name	Green cloth bags for autoclaving instruments	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Wrap the instrument for Autoclavable
2	Technical characteristics	- Should available in 4 different (6 x 9 inches, 12 x 18 inches, 24 x 36 inches and 40 x 40 inches) rectangular sizes cloths in green color; - Should be Autoclavable; - Should be constructed of hospital grade drape;

47. Dental IOPA X-ray film Pediatric

TECHNICAL SPECIFICATIONS		
Name	Dental IOPA X-ray film Pediatric	
Version no.	3	
Date:	JUNE 2014	
		
1	Clinical purpose	Taking x-ray of teeth in Pedo patients
2	Technical characteristics	- Should have protected cover on X-ray film(Super poly soft); - Should be E Speed in size 0: 22x35 mm (child size);

48. Lead apron and thyroid guard

TECHNICAL SPECIFICATIONS		
Name	Lead apron and thyroid guard	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	To protect from x-ray radiation
2	Technical characteristics	- Should be AERB approved. - Should be 0.5mm lead equivalent. - Should be hook and loop type (Velcro fitting). - Should be supplied along with thyroid guard.
3	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	- Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
4	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning of all surfaces.
5	Warranty	3 Years

AREA 8: SPEECH AND LANGUAGE ASSESSMENT

Area 8 –Speech and Language Assessment

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
10'x11'	Receptive-Expressive Emergent Language Test—Third Edition (REEL-3) for 0-3 years LPT: Linguistic profile test for 3-9 years	Air-conditioner Dr. Speech (software)	Speech-language Pathologists and Audiologist
Cost of equipment: Rs.3,50,000/- approx.			

1. Receptive-Expressive Emergent Language Test—Third Edition (REEL-3)

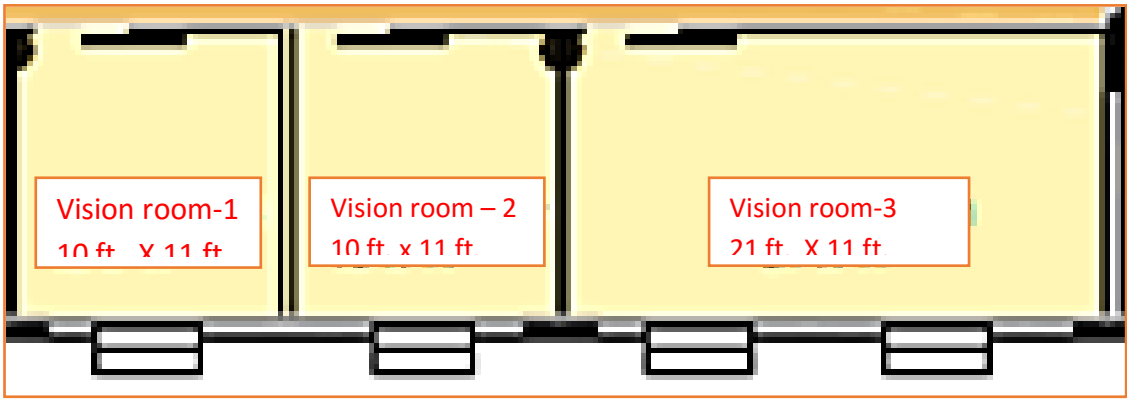
TECHNICAL SPECIFICATIONS	
Name	Receptive-Expressive Emergent Language Test
Used for	language problems
Age Range	Youngsters up to 3 years of age
Other characteristics	The REEL-3 uses the parental observation of the child behavior or guardians to identify major language problems in youngsters up to 3 years of age. It consists of two core subtests--Receptive Language and Expressive Language

2. Linguistic Profile Test (LPT)

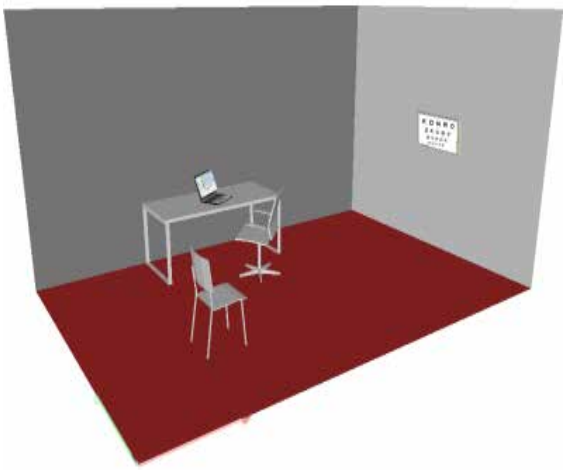
TECHNICAL SPECIFICATIONS	
Name	Linguistic Profile Test (LPT)
Used for	Assessment and rehabilitation of language related problems
Age range	6+ years to 10+
Clinical purpose	For evaluation as well as a basis for rehabilitation and linguistic retraining of the communicatively disabled children. Meant for school going children from Grade 1 to Grade V age range from 6+ years to 10+; - useful in identifying children with language disorders at particular linguistic levels and also as a baseline for speech-language therapy.

AREA 9: VISION ASSESSMENT: 3 ROOMS

Area 9 – Vision Assessment Room: 3 rooms



All the rooms must have dark colored curtains to cut of light and make it dark. The wall must be painted grey color and the floor dark red.

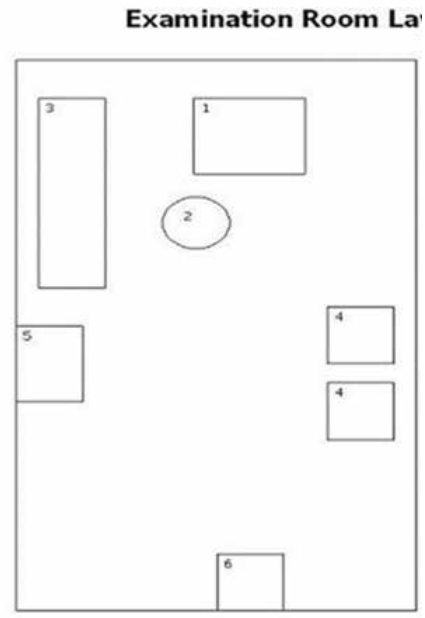


Vision Rooms three rooms :

1) One 21 ft. X 11 ft.

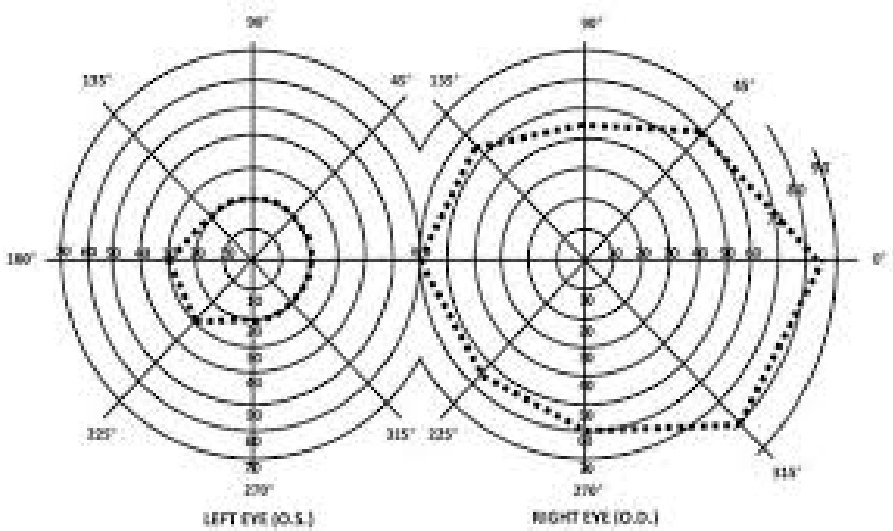
2) Second 10 ft. x 11 ft.

3) Stimulation room 10ft. X 11ft.

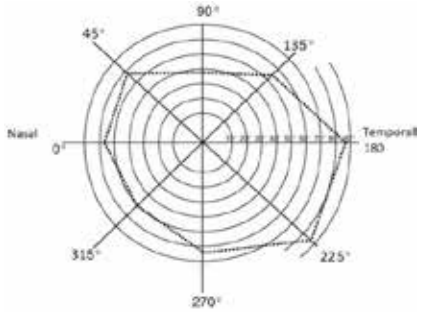


Vision room should have gray color walls and furniture also of gray color.

On the back wall of the chair and on its both side a large Perimetry chart can be fixed to the wall behind at an height just above the height of the eyes of the child when he/she sits on the chair



Enlarged Perimetry chart behind the chair on the walls



Perimetry charts on the two sides of chair on wall

Equipment		Required staff
Essential	**Desirable**	
1a. Ophthalmic Refraction Chair Unit 1b. Infant and toddler VEP or Visual Evoked Potential Testing equipment 1c. Lea Grating Paddle 1d. Torch-penlight 2. LEA Symbols Playing Cards 3. LEA Symbols Near Vision Card (16 inches/40 centimeters 4. LEA Symbols 13-Line Translucent Distance Chart (10 feet/3 meters) 5. Lea Symbol Low Contrast 10M Flip chart 6. LEA 3-D Puzzle	1. Retinal cam or any other Camera to take photographs of the fundus of the new-born 2. Canon Power shot TX1 digital camera (Optional) 3. Hand held slit lamp 4. RETINAL CAMERA 5. Infant and toddler VEP or Visual Evoked Potential Testing equipment 6. Canon Power shot TX1 digital camera	Optometrist Ophthalmologist

Equipment		Required staff
Essential	**Desirable**	
7. Hiding Heidi low contrast Face test 8. Heidi Expressions Test Game 9. Spectacle Occluder 10. Occluder Glasses 11. AAPOS Vision Screening Kit 12. LEA SYMBOLS® Chart for Vision Rehabilitation 13. Leo learns by doing- DVD for interaction with a vision impaired child 14. WHAT and HOW Does This Child See? Instructional CD 15. COVD Pediatric Kit – 400444 16. Lea Fixation Stick 5 cm 17. Canon Power shot TX1 digital camera (Optional) 18. Log mar Charts 19. Snellen's Chart 20. Direct Ophthalmoscope 21. Streak Retinoscope 22. Hand Held slit lamp 23. Trial lens set 24. Trial frame 25. Vision Testing Drums with all tests: test including tests-dots, pictures, and 'c' or 'e' chart, spot light for retinoscopy, colour test, duochrome test. Near and distant vision drum 26. Illuminated near vision test drum 27. Random Dot Butterfly stereopsis test with intermediate-sized Polarized glasses Other VISION EQUIPMENTS for ROP 28. Binocular Indirect ophthalmoscope with a 20, 28 or 30 D lens 29. Eye speculum (Alfonso infant wire speculum) 30. Scleral depressor (wire Vectis) 31. ROP speculum 32. Laser console plus laser indirect ophthalmoscope with protective glass 33. RETINAL CAMERA (Optional)		

Children use all their senses to learn. Children's play with puzzles, crayons, balls, and blocks can improve important visual skills. These skills contribute to a child's school readiness. An uncorrected vision problem can be a barrier to this readiness. Timely vision screening (coupled with an eye examination when indicated) is an important step toward early detection of any possible vision problems. Early detection can also lead to effective intervention and restore proper vision.

Vision Health: Engaging Families

One of the best ways to promote children's vision health is by developing a screening mechanism and implementing it and also involves the families particularly the mother regarding the importance of vision in the world of a child and the need of a timely screening

Vision Tips

I. Children are at higher risk of vision problems if there is a family history of Amblyopia, strabismus, or early and serious eye disease since childhood? (Provide resources to help families learn more about healthy eyes and the importance of early detection of vision problems).

II. Explain the mother that it isn't always possible to tell if children have a vision problem just by looking at their eyes? Or that young child seldom complains when they can't see well?

Person performing the screen: Vision screening is also performed by general pediatricians or Medical officers and also optometrist. To assess vision in children from birth to 3 years of age, it is recommended to observe the Childs's ability to fix and follow objects. For children ages 6 months to 3 years elective photo screening and auto refraction by pediatricians is recommended

Types of Screening: There are two types of evidence-based screening:

A. Optotype-based screening for recognition visual acuity :

Optotype-based screening uses letters, numbers, or figures to assess visual acuity. Visual acuity is the ability to identify black symbols on a white background using specific sizes at a prescribed distance. The child is asked to identify the symbol or letter, either by naming it or playing a matching game. Visual acuity screening is done separately for each eye. This means one eye is occluded (covered) at a time. The occlusion should be either specially constructed glasses with one side opaque or 2-inch wide hypoallergenic surgical tape. Holding a tissue, hand, paper cup, spoon, or paddle over a child's eye is not acceptable because it is not reliable. Even a momentary glimpse from the "covered" eye can negate the accuracy of the vision screening being done for the opposite eye. Preferred optotypes should be standardized and validated before use. Visual acuity is routinely tested at distance (10 feet to 20 feet or 3 meters to 6 meters) and at near distance of 40 centimeters). LEA Symbols, a set of four symbol optotypes developed for use with young children, are useful because each optotype blurs similarly as the child is presented with smaller symbols, increasing the reliability that individual symbols will be identified. High-contrast charts with black optotypes on a white background should be used for standard visual acuity testing. To reduce errors, the environment should be quiet. Younger children may benefit from a pretest on optotypes presented at near, either at the start of testing or in a separate session. Before monocular testing, the examiner should ensure that the child is able to perform the test reliably. Allowing children to match optotypes on the chart to those found on a hand-held card will enhance performance, especially in young, shy, or cognitively impaired children. Visual acuity testing of children with special needs can provide quantitative information about visual impairment and reduce concerns of parents/caregivers about the child's vision. A shorter testing distance can also facilitate testing in younger children. However this requires practice, patience and time

B. **Instrument-based screening for refractive errors**

i. **Photoscreener:** Photo screening is another form of objective vision screening for children using automated technology. It uses a camera to take binocular images of a child's **undilated eyes** by looking at the configuration of the crescents of light returning after a flash (red reflex). The devices can estimate refractive error; look for other amblyopia risk factors such as visually significant ptosis, strabismus, and media opacity; and determine which children are at risk for amblyopia (lazy eye). Photo screening has advantages to more traditional eye chart acuity screening, and is particularly useful on younger (age 3-5), preverbal children (under age 3) and non-verbal children. Photo screening usually takes less than a minute to obtain the necessary images on a child. The only cooperation required is for the child to briefly look at the camera. These images can be analyzed by a human interpreter at a reading center, or by software incorporated into the equipment to evaluate the alignment of the eye and estimate refractive error. If significant refractive error or a misalignment seems to be present, it can indicate amblyopia risk factors. If amblyopia risk factors are felt to be present, a referral should be made for the child to be seen by a pediatric ophthalmologist

for a cycloplegic examination. Unlike optotype screening methods, instrument-based screening does not provide a measurement of visual acuity. Rather, these instruments evaluate the structure of the eye for the presence of refractive error, eye misalignment, and ocular opacities. Compared to visual acuity screening, instrument-based screening requires very little help from the child. This is especially useful with children who are unable or unwilling to cooperate with optotype-based screening. The evidence for instrument-based screening as a useful tool is growing internationally. Currently available photoscreener include: iScreen, MTI, PlusoptiX, Spot and Visiscreen. The MTI photoscreener, iScreen, and Visiscreen use a *visible light flash*, whereas plusoptiX and Spot utilize infrared light, which is not visible to the child.

ii. **Auto-refractor:** An auto refractor or automated refractor is a computer-controlled machine used during an eye examination to provide an objective measurement of a Child's refractive error and prescription for glasses. This is achieved by measuring how light is changed as it enters a person's eye. The majority of auto-refractors calculate the vision correction a patient needs (refraction) by using sensors that detect the reflections from a cone of infrared light. These reflections are used to determine the size and shape of a ring in the retina at the back of the eye. By measuring this zone, the auto-refractor can determine when a patient's eye properly focuses an image. The instrument changes its magnification until the image comes into focus. The process is repeated in at least three meridians of the eye and the auto refractor calculates the refraction of the eye, sphere, cylinder and axis.

Most of these tests are conducted monocular and therefore do not screen for strabismus. These devices are used on undilated eyes and will give the user an estimation of the child's refractive error. On the basis of the predetermined referral criteria, the device or examiner can quickly determine whether the child passed the screening or should be referred for further evaluation by a pediatric ophthalmology for a cycloplegic refraction and comprehensive examination. The advantage to auto refractive screening is that it can be carried out not only on verbal children but also on preverbal and nonverbal children as well. It is also much faster than acuity screening. Currently available auto-refractors used for pediatric vision screening globally include: **Retinomax,** and the **Sure Sight.**

iii. **Objective vision screening utilizing visually evoked potential/response:** Pediatric VEP Vision Testing System is a child-friendly, non-invasive medical device used to test for visual deficits in children 6 months of age and older. The test does not require dilation or sedation, and is a painless, safe test. After positioning three sensory pads on the child's head, an operator starts the test. The child watches a computer monitor with fun animations and music, and every few seconds; a screen appears with black and white lines. This uses Visual Evoked Potential technology (VEP), which recognizes and processes the child's neurological responses to the lines. By measuring the electrical signals from the eye to the brain, to test child's entire visual pathway. Currently only one device available which estimates visual acuity, or the difference in visual acuity between 2 eyes utilizing a sweep visually evoked potential. The machine analyzes the results and gives the user a pass/refer result.

Screening infants and young children under the age of two years by using Retinoscopy, Refraction charts is difficult as they cannot readily comprehend instructions or articulate visual acuity information, have difficulties with alignment and poor control of accommodation and finally cycloplegic drugs used for screening can cause irritation and unsettle most young children, yet screening for vision is important during this period.
Auto- refractive screener is an instrument, using noninvasive technique to screen infants, preverbal children, or children with difficulties (non-verbal children) without dilating their eyes with minimal cooperation for estimating child's refractive error and evaluating amblyopia risk factors. Most of these tests are conducted monocularly and therefore do not screen for strabismus. Auto refractor *screening is another form of objective vision screening for children.*
Auto- refractive screener is an instrument, using noninvasive technique to screen infants, preverbal children, or children with difficulties (non-verbal children) without dilating their eyes with minimal cooperation for estimating child's refractive error and evaluating amblyopia risk factors. Most of these tests are conducted monocularly and therefore do not screen for strabismus.Auto refractor screening is another form of objective vision screening for children.

A. Vision Equipment

SN	VALIDATED CONFIRMATORY / DIAGNOSTIC TOOL	AGE GROUP	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
	Ophthalmic Refraction Chair Unit	0 to 18 years	2	Y	1
	Infant and toddler VEP or Visual Evoked Potential Testing equipment	6 months to 6 years	1	Y	N
	Pencil torch with yellow light	0-18 years	3	y	y
1.	Lea Grating Paddles	0-3 years	1	Y	Y
2.	LEA Symbols Playing Cards	3-18 years	1	Y	Y
3.	LEA Symbols Near Vision Card (16 inches/40 centimeters)	3-5 years	1	Y	Y
4.	LEA Symbols 13-Line Translucent Distance Chart (10 feet/3 meters)	3-5 years	1	Y	Y
5.	Lea Symbol Low Contrast 10M Flip chart	3-18 years	1	Y	Y
6.	LEA 3-D Puzzle	0-3 years	1	Y	Y
7.	Hiding Heidi Low Contrast Face Test	2- 3 years	1	Y	Y
8.	Heidi Expressions Test Game	2-3 years	1	Y	Y
9.	Spectacle Occluder	3-6 years	1	Y	Y
10.	Occluder Glasses	3-6 years	1	Y	Y
11.	AAPOS Vision Screening Kit		1	Y	Y
12	LEA SYMBOLS® Chart for Vision Rehabilitation	3- 6 years	1	Y	Y
13.	Leo learns by doing- DVD for interaction with a vision impaired child		1	Y	OPTIONAL
14.	WHAT and HOW Does This Child See? Instructional CD		1	Y	OPTIONAL
15.	COVD Pediatric Kit – 400444		1	Y	Y
16.	Lea Fixation Stick	0-3 years	1	Y	Y
17.	Canon Power shot TX1 digital camera (Optional)	All	1	Y	Y
18.	Log mar Charts	4-18 years	1	Y	Y
19.	Snellen's Chart	6-18 years	1	Y	Y
20.	Direct Ophthalmoscope	All	1	Y	Y
21.	Streak Retinoscope	6 months to 18 years	1	Y	Y
22.	Hand Held slit lamp	All	1	Y	Y
23.	Trial Lens Set Lenses containing : a) Spherical + (+0.12D to +20D) Spherical – (-0.12D to -20D), Cylinder + (+0.12D to +6D) Cylinder – (-0.12D to -6D) Prisms (1 to 12) With ACCESSORIES Slit, Red, Green, Pin hole Occluder		1	Y	Y
24.	Trial Frame	3- 18 years	1	Y	Y

SN	VALIDATED CONFIRMATORY / DIAGNOSTIC TOOL	AGE GROUP	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
25.	Vision Testing Drums with all tests: test including tests- dots, English, any regional language, numbers or pictures, 'c' or 'e' chart, spot light for retinoscopy, colour test, duochrome test. Near and distant vision drum	3- 18 years	1	Y	Y
26.	Illuminated near vision test drum with four test – English, Hindi, any regional language, 'c' and 'e' test	3- 18 years	1	Y	Y
27.	Random Dot Butterfly stereopsis test with intermediate-sized Polarized glasses		1	Y	Y
C2. Other VISION EQUIPMENTS for ROP					
28.	Binocular Indirect Ophthalmoscope with a 20, 28 or 30 D lens	For preterm children	1	Y	Y
29.	Eye speculum (Alfonso infant wire speculum)	0-3 years	4	Y	Y
30.	Scleral depressor (wire Vectis)		4	Y	Y
31.	ROP speculum		4	Y	Y
32.	Laser console plus laser indirect ophthalmoscope with protective glass		1	Y	Y
33.	Retina Camera (Optional)		1	OPTIONAL	OPTIONAL
	Medicine: Phenylephrine 2.5%. Tropicamide 0.5% Cyclopentolate 0.2%/1% Ciplox Eye drops 0.3% Proparacaine Hydrochloride 0.5 %	All		Y	Y
	Medicine: Phenylephrine 2.5%. Tropicamide 0.5% Cyclopentolate 0.2%/1% Ciplox Eye drops 0.3% Proparacaine Hydrochloride 0.5 %	All		Y	Y

1. Infant and Toddler VEP - Visual Evoked Potential Testing equipment.

TECHNICAL SPECIFICATIONS		
Name		Infant and toddler VEP or Visual Evoked Potential Testing equipment
Version no.		1
Date:		JUNE 2014
		These specially designed equipments is non invasive , does not require any pupil dilatation, parent and child friendly , no verbal response required , can tests children 6 months of age and older and helps in objective, functional assessment of the entire pathway and provides Yes/No results for further testing 
1	Clinical purpose	Test offers you objective, functional information about the entire visual pathway using age-appropriate animations and music, with no verbal response required. Child-friendly Tests children 6 months of age and older up to 5 years Intuitive, "Yes/No" results for further vision testing needs Visual Evoked Potential Vision Testing (VEP) Since VEP testing provides important diagnostic information regarding the functional integrity of the entire visual system, it may be useful for the detection and monitoring of many types of visual abnormalities. It is often used to help doctors diagnose neuro-visual disorders in children such as such as optic neuritis, amblyopia, and visual asymmetries caused by refractive errors.

2	Technical characteristics	○ Non Invasive , automated data collection, enhancement and display ○ No sedation , No dilatation ○ Pattern VEP ○ Can be used in children beyond 6 months up to 5 years ○ Three sensory pads or electrodes for positioning on scalp ○ Should include a computer monitor and should be child friendly either in form of intermittent fun animations or music to attract the attention of the child towards monitor, ○ **Pattern VEP** appears with black and white gratings standard with 5 pixel or better resolution preferably with different contrasts ○ Should give thermal print out results in the form of Yes/No ○ Sensitivity and specificity to detect amblyopia should be more than 90% ○ Time taken to do both tests should be not more than 15 minute ○ The device must have a **sweep stimulus with the sweep time of at least 300 ms** ○ Luminance > 100 candels per square meter ○ Calibrated luminance and color ○ An automatic fault detection feature must be incorporated which eliminates recordings contaminated by excessive noise or artifacts. ○ Should have a small camera with recording facility to permit the technician to know when the child was not looking at the monitor.

Description– Good Lite (Single vendor):

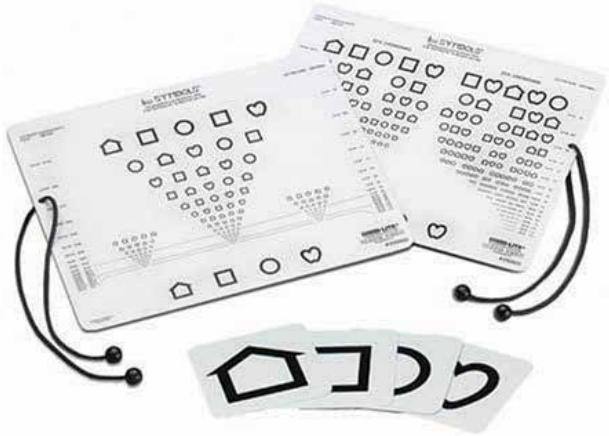
2. Lea Grating paddles : Lea Grating paddles- (Product Id-253300; Vendor- Good Lite)

TECHNICAL SPECIFICATIONS		
Name	**LEA GRATINGS paddle**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For preferential looking test situations with infants or children and adults with disabilities to determine detection acuity among normal children from birth to 3 years and also among older children suffering from cognitive problems or disabilities.
2	Technical characteristics	- Grating levels printed on each handle should be: 0.25, 0.5, 1.0, 2.0, 4.0 and 8.0 c/cm (cycles per centimeter of surface); - Should include instructions and storage case. 4 paddles 8" (20 cm) in diameter; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof surface with plastic/wooden handle;

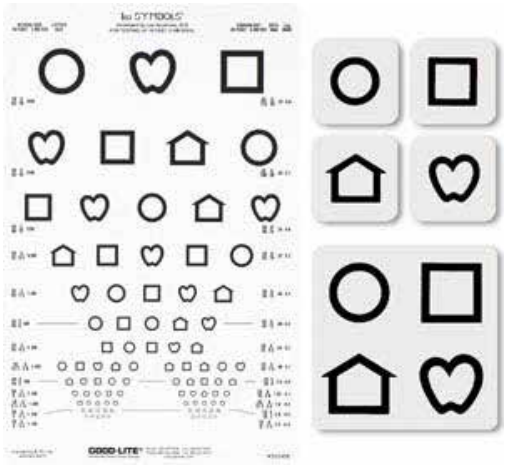
3. Lea Near single symbol Playing cards- (Product Id-252500; Vendor- Good Lite)

TECHNICAL SPECIFICATIONS		
Name	**Near Vision test with Lea symbol (Lea playing card set)**	
Version no.	2	
Date:	JUNE 2014	
		
	These specially designed playing cards make it easy to measure near visual acuity in young children, while teaching concepts of similar/ different, /small, bigger/smaller. The 4 packs contain 16 cards each with symbols of varying sizes: 16M and 10M, 6.3M and 4M, 2.5M and 1.6M, and 1M and 0.63M. Includes training cards and instructions. The paper cards measure 1.6" x 2.75" (4 cm x 7 cm). Serial Number 252500	
1	Clinical purpose	For measuring the visual acuity of very young children. It is used in examination of older children with brain damage to reveal the difference between visual acuity values measured with the Playing Cards and with single optotypes, line test and tightly crowded optotypes. It functions also as regular teaching material when a child is learning the concepts of similar/different, big/small, and bigger/smaller.
2	Technical characteristics	- The 4 packs should contain 16 cards each with symbols of varying sizes: 16M and 10M, 6.3M and 4M, 2.5M and 1.6M, and 1M and 0.63M; - Should include training cards and instructions. - The paper cards measurement should be 1.6" x 2.75" (4 cm x 7 cm); - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

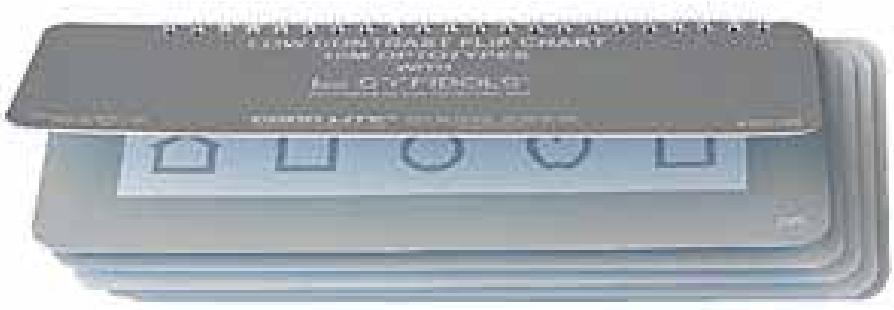
4. LEA Symbols Near Vision Card (16 inches/40 centimeters) - (Product Id-250800; Vendor- Good Lite)

TECHNICAL SPECIFICATIONS		
Name	**LEA Symbols Near Vision Card (16 inches/40 centimeters)**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Lea symbol chart fulfils the criteria to be a good vision screening chart for pre-school children i.e. less than 6 years (3to 5 years) age group for **assessing a child's functional vision at near distances.** The chart contains very familiar 4 symbols like circle, square, house and apple. This test measures near visual acuity with proportionally spaced (log MAR) lines on the front and lines with 25% and 50% spacing on the back. The tighter spacing often reveals difficulties in seeing tightly spaced details, which should be known when a child is learning to read. Response key printed on test card. The more crowded test with 50% and 25% spacing between the optotypes is a sensitive test to detect the **increased crowding phenomenon**. 50% spacing means that the space between the optotypes is one half of the width of the optotypes. *Older children may be tested using the reverse side of the near vision card where the same symbols are spaced more closely, as if reading in words or sentences. The testing procedure is the same as for binocular testing on the front of the card. The close spacing of the symbols on this test makes it a sensitive test* ***for the detection of mild amblyopia.***
2	Technical characteristics	- All optotypes should be of similar legibility; - Each line should have optotypes size ranging from 20/400 to 20/10 (6/120 to 6/3) equivalent, - Proportional spacing between the optotypes on one side - More tightly-spaced symbols on the opposite side with 25% and 50% spacing ; - Should have 16 inches/40 centimeters -Lea Near Vision Chart; - Should have measuring cord for measuring 16 inches or 40 cm - Student response or training card; - Conditioning Flash cards; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material; - Card size should measure at least 8" x 10" (20.3 cm x 25.4 cm)

5. LEA Symbols 13-Line Translucent Distance Chart (10 feet/3 meters) (Product Id-252400; Vendor- Good Lite)

TECHNICAL SPECIFICATIONS		
Name	**LEA Symbols 13-Line Translucent Distance Chart (10 feet/3 meters) & Conditioning Flash cards**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Lea symbol chart fulfills the criteria to be a good vision screening chart for pre-school children i.e. less than 6 years (3to 5 years) age group. The chart contains very familiar 4 symbols like circle, square, house and apple.
2	Technical characteristics	- All optotypes should be of similar legibility; - Each line should have 5 letters (at visual acuity better than 20/100); - Line sizes range from 20/125 to 20/8 (6/38 to 6/2.4) - Proportional spacing between the optotypes; - Should have 0.1 Log MAR decrements in optotype size; - Should have 10 feet Lea Vision Chart; - Student response card; - Conditioning Flash cards; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

6. Lea Symbol Low Contrast 10M Flip chart- (Product Id-251100; Vendor- Good Lite)

TECHNICAL SPECIFICATIONS		
Name	**LEA Symbols Low Contrast 10M Flip chart**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Contrast Sensitivity testing especially low and intermediate contrast levels is important in Communication and orientation in space for a child. This detects and reveals changes in visual functioning that were not detected with the high contrast. Measurement of contrast sensitivity should be a part of routine examinations because vision at high contrast may miss the actual functioning vision of a child especially when the surrounding contrast is low or intermediate. Test to easily measure, record, and detect changes in the transfer of visual information when the change only affects visual acuity at low contrast levels. Test for quick measurement of low contrast visual acuity at 25%, 10%, 5%, 2.5%, and 1.25% contrast by measuring the distance Where the symbols are best seen.
2	Technical characteristics	- Each Page should have 5 symbols - Each page should have symbols of one sizes but different contrast ranging from 25%, 10%, 5%, 2.5%, and 1.25% contrast - Proportional spacing between the optotypes; - Should have decrements in contrast but optotype size remaining the same ; - Response card; - Training cards - Recording forms - Instructions ; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

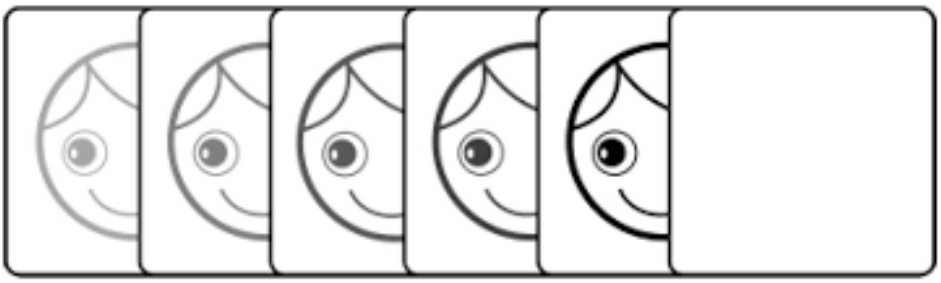
7. LEA 3-D Puzzle:

The LEA 3-D Puzzle is designed for training and assessing typically developing toddlers and other young children. The puzzle also serves as an assessment tool for individuals with brain damage or for older children and adults with low cognitive abilities. It Includes instructions and the booklet: Assessing Vision Development through Pictures and Shapes. Tray is 6.75" x 6.75" (17.2 cm x 17.2 cm). The 4 symbol puzzle pieces are 2" x 2" (5.1 cm x 5.1 cm) each.

TECHNICAL SPECIFICATIONS		
Name	**Lea Puzzle**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	The LEA 3-D Puzzle is designed for supporting the development of the concept of "same", first with colors, then with black & white concrete forms that are prerequisites for the measurement of recognition acuity with the LEA Symbols tests at an early age. During the play you can also observe eye-hand coordination and awareness of directions, concept of "same" which are often problems for children with brain damage, even mild brain damage or among normal children from birth to 3 years.
2	Technical characteristics	- The 4 symbol puzzle pieces are approximately 2" x 2" (5.1 cm x 5.1 cm) each. Tray is 6.75" x 6.75" (17.2 cm x 17.2 cm); - Package should have tray, puzzle pieces including the booklet for assessing Vision Development Through Picture and Shapes and instructions; - Should be made water proof material;

8. Hiding Heidi Low Contrast Face Test, serial no. : 253500; Double Sided

Visual communication is the most important communication method during the first year of life. The ability to detect objects of low contrast is an important component of the visual system. For example, facial expressions are mediated by faint shadows and changes in the contours of the mouth and eyes. Determining the levels of contrast that an infant can detect helps provide baseline data for evaluating future changes. For example, deviations from usual behavior may indicate disorders that leave vision at high-contrast levels unaffected. Hiding Heidi Low Contrast Face Test is available in 2 different versions: **Double Sided:** Four cards printed on both sides in the following contrast levels: black, 25%, 10%, 5%, 2.5%, and 1.25%. Cards are 9" x 9" (23 cm x 23 cm). Includes instructions.

TECHNICAL SPECIFICATIONS		
Name		**Hiding Heidi Low Contrast Face Test.**
Version no.		2
Date:		JUNE 2014
		
1	Clinical purpose	For assessment of vision for communication, by using low contrast picture of face in children who are unable to respond verbally or by pointing.
2	Technical characteristics	- Low Contrast Face Test-Should have multiple testing cards with variable contrast between 0-100% contrast; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

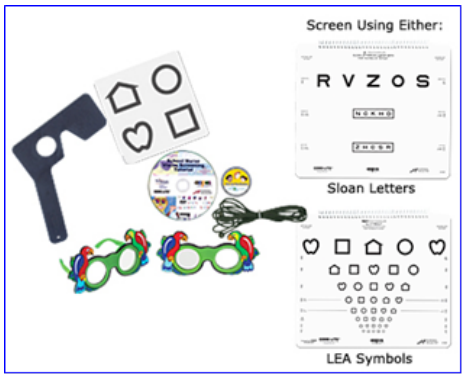
9. Heidi Expressions Test Game serial no. 254505

Heidi Expressions Test Game: Some children with brain damage-related vision loss may achieve near normal results in routine vision tests (large visual field and normal or near normal visual acuity), but cannot interpret facial expressions or recognize people's faces. The Heidi Expressions test game improves early evaluation of vision for communication. 18 cards per set. Cards are 4" x 4" (10.16 cm x 10.16 cm). Product Number: 254505

TECHNICAL SPECIFICATIONS		
Name	**Hiding Heidi Low Contrast Face Test.**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Perceiving expressions is also a specific visual function. We can assess a child's ability to perceive basic facial expressions and the emotional states related to them by playing with the Heidi Expressions Game that consists of pairs of cards with six basic expressions. Of each expression there are two cards that are exactly alike and a third where Heidi has a bow. If a child does not see the difference in the expressions (s) he/she may pick as the similar ones the cards where Heidi has the bow. In that case we accept the choice as correct because of the bow but ask the child to look whether the two faces are alike: "Is Heidi glad or sad in both pictures? "When matching the pictures of Heidi without the bow the child may not find the pair even among only a few cards. If the child does not seem to understand what we mean with expressions, a thorough study of expressions is needed.
		Many children have Cerebral Palsy, which may be so mild that it has not required special treatment. If the child's difficulties are not known and understood, his/her behavior may cause misunderstandings and needless negative experiences in social interactions. Therefore, testing of a child's ability to see differences among different facial expressions is an important part of functional visual assessment. Vision impaired children have two different kinds of problems in learning to recognize faces and to interpret: a) they do not see expressions well enough to interpret them (=pathway problem) or b) they have brain damage in the area of face recognition and, therefore, do not recognize differences in people's faces and may also have difficulties in interpreting expressions (= cognitive visual problem). These children are unable to gather information related to faces from the visual information entering the brain because the normal Top-Down demand for face information does not exist. They are unaware of faces. These children should be diagnosed early so that we can use other functions to support their development in communication. The Heidi Expressions Test Game should be included in the assessment of early visual processing whenever a child has symptoms of face blindness.
2	Technical characteristics	- Should have cards with various expressions - Cards should be adequate for each expression to help in matching and the size should be at least 4" x 4" (10.16 cm x - 10.16 cm). - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

9. Spectacle Occluder Item # 52327	 *Features a multiple pinhole flipper and an angled handle to keep hand away from mouth during use. Made of impact resistant plastic, it can be sterilized with any non-solvent based germicide* Spectacle Occluder
10. Occluder Glasses Item # 52851	 These occluding glasses have flip-up sunflowers to permit occlusion of each eye. Supports 55mm to 65 mm PD and recommended for children 3 years to 5 years old.

11. AAPOS Vision Screening Kit item no. # 120

TECHNICAL SPECIFICATIONS		
Name	AAPOS Vision Screening Kit	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	The AAPOS Vision Screening Kit is a basic comprehensive screening kit for screening the vision of individuals beginning at age 3.

TECHNICAL SPECIFICATIONS		
2	Technical characteristics	Should have: - Spiral-bound multisided, distance visual acuity eye charts that can be hung on a wall or held in the hands. - Separate for children who know their letters - Separate for children who do not yet know their letters. - Screening is conducted at 10 feet. - Full-Chart Threshold and Single Critical Line formats: - Adhesive Stickers, Roll of 100. - Black hand-held flip paddle Occluder for children. - Children's Fun Frames Occluder Glasses who will not tolerate patches. - 10-foot cord for measuring screening distance between chart and child's or adult's eyes. - Translucent Response Panel for matching. - Instructions printed on one of the eye chart cards.

12. LEA SYMBOLS® Chart for Vision Rehabilitation item no. 258000

Technical specifications LEA SYMBOLS® Chart for Vision Rehabilitation item no. 258000		
		
1	Clinical purpose	This test is designed for testing children and adults with severe visual impairment at a distance of one meter.
2	Technical characteristics	- Should have optotypes for acuity tests : - The largest symbols of 50M in size, corresponding to 1m/50M = to 1/50 or decimal visual acuity 0.02, equivalent values 20/1000, 6/300. - The smallest symbols are 1M in size corresponding to 1m/1M = to 1/1 or decimal visual acuity 1.00, equivalent values 20/20, 6/6. - Can be folded and used at a distance of 40 inches/1 meter testing distance

13. Leo Learns by doing- DVD for interaction with a vision impaired child (790000)

Leo Learns by Doing

The Leo Learns by Doing DVD is a helpful tool for anyone who interacts with a vision impaired child. Parents, caregivers, relatives, teachers, doctors, and any other person who would like to contribute to the connections with a vision impaired child will find this information valuable. This video tells a story about a vision impaired child named Leo, and his parents, who visit with his vision teacher. The vision teacher shares step-by-step techniques with Leo's parents to help Leo develop and strengthen his non visual senses and skills.

Caring for and providing optimistic feedback to a vision impaired infant or child can be challenging. A vision impaired child will need to interact with their surrounding environment differently than a fully sighted child. Techniques are available to help build and refine the non-visual senses and skills in a child with vision impairment as they start to develop from infancy to early toddler years. Early intervention is imperative to successful development and growing in a vision impaired child.

Product Number:

Price Qty.1

790000 $25.00

14. WHAT and HOW Does This Child See? Instructional CD

	WHAT and HOW Does This Child See? Instructional CD "WHAT and HOW Does this Child See?" is a question that is asked each day by many professionals in early intervention and education about children with disabilities. This book attempts to help you structure your questions so that you can look for answers together with other members of your team. This book is a collection of questions and answers from lectures presented by Lea Hyvärinen, MD, PhD, FAAP, and Namita Jacob, PhD, in a number of countries. It is written for teachers and members of early intervention and rehabilitation teams of children with disabilities, but it also provides valuable information to ophthalmologists, optometrists, neurologists, pediatricians, psychologists, and research workers in early intervention and special education. This CD only contains book text and additional material and resources, including videos.

15. COVD Pediatric Kit –400444 SKU number

Specifications	
	
Clinical use	The COVD Peds Kit contains everything you need to conduct vision exams with young pediatric patients in your practice. Included in the Kit is a LEA Symbols Pocket Near Card with both proportionally spaced lines in logarithmic progression on one side, and isolated rectangles around the symbols on the other side. You can also quickly and easily screen near vision with the LEA Symbols Runge Pocket Card. The Runge Pocket Card with LEA Symbols features optotypes in descending order ranging from 20/500 to 20/16.If you have difficulty occluding a child's eye for monocular visual acuity testing, then the pair of Frosted Fun Frame Occluder Glasses will make vision testing fun and easy, for both you and your pediatric patient. Also included in the kit are 3 great tools to capture a child's attention: 2 Zoo finger puppets, and 1 Mini Spinning Fixation Globe. These fixation targets will hold your pediatric patients' attention to help you achieve the best exam results possible
Technical	The COVD Kit Contains: 1 Small Heidi Fixation Target 1 Good-Lite Fixation Cube with LEA Symbols 1 Good-Lite Fixation Cube with LEA 1 Symbols & Pictures 1 Mini Spinning Fixation Globe 1 Zoo Finger Puppets 1 Frosted Fun Frame Occluder Glasses Set 1 LEA Symbols Near Vision Card 1 LEA Symbols Translucent Response Panel

16. Lea Fixation stick

TECHNICAL SPECIFICATIONS		
Name	**Lea Fixation Stick**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	Lea fixation stick has grating on the other side a 5 cm face or symbol that infants at 3 months typically fix and follow. Pediatric fixation sticks provide a series of detailed accommodation-stimulation targets for the young patient. The targets are calibrated for near. Included is (as examples) a clown face, a dog, a beach ball, etc. Each target is in brilliant color for patient ease.
2	Technical characteristics	- The set should consists of three (3) extremely durable plastic sticks with both sides utilized for targets; - Single sticks can be used for performing various tests: unilateral (cover/uncover) test at near, alternating cover test at near, pursuit testing, near point of convergence (NPC), motilities (ductions and versions), vergence facility at near, fixation stability at near in diagnostic positions of gaze, amplitude of accommodation, and accommodative facility; - Dual sticks with different optotypes exposed to the patient can be used for saccade testing;

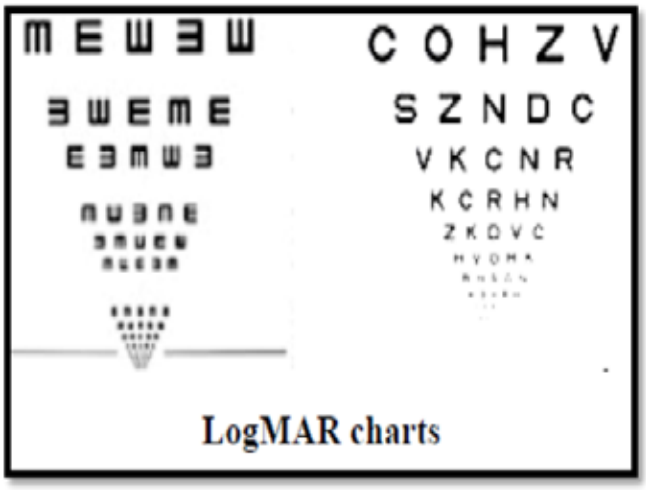
17. Mini Spinning Fixation Globes

Mini Spinning Fixation Globes	o The Mini-Spinner should be only 4 inches (10 cm) tall with a 1 1/2 inch (37 mm) globe where the blue, red and yellow LED's spin. o Light pattern should change as ball spins. o The button must help for the lights to light and the ball to spin. o Should run for a long time on batteries. o Should not make any noise or should have two functions namely Function 1 and Function 2 a. Function 1 (Spinning + Light + Sound)activates the spinning as well as the light and audio b. Function 2 (Spinning + Light)activates the spinning with no sound c. One can activate any of two functions.

18. (Optional) Canon Power shot TX1 digital camera

The Canon Power shot TX1 (CP-TX1) digital camera	*Indian J Ophthalmology. 2013 Oct; 61(10):608-11* *Beyond photography: evaluation of the consumer digital camera to identify strabismus and anisometropia by analyzing the Bruckner's reflex.* - Bani SA, Amitava AK, Sharma R, Danish A. 

19. Log Mar Charts

TECHNICAL SPECIFICATIONS		
Name	**Log Mar Charts**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For pediatric vision testing (visual acuity) in children above 3 years
2	Technical characteristics	- The Log MAR charts should maintain a consistent ratio between optotypes and spacing's, no matter what angular sub tense of the optotype is; - Should have minimum 30inch. X 10inch. (Length X Width) size; - Each acuity value should have the same number of optotypes and the interaction of adjacent contours is consistent; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

20. Snellen's Chart

TECHNICAL SPECIFICATIONS		
Name	**Snellen's chart**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For testing visual acuity in adults
2	Technical characteristics	- Should have 20/20 Vision Activity – Eye Chart; - Should have minimum 30inches X 10inches (Length X Width) size; - The chart should consists of rows of individual black characters printed on a white background; - The first row should be a single large letter, with letters becoming more numerous and successively smaller with each additional row; - Should be made of HDPE [high density polyethylene] or any other non-tear water proof material;

21. Direct Ophthalmoscope

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
DIRECT OPHTHALMOSCOPE		
		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Ophthalmoscope
GMDN code		CT 1184
GENERAL		
1	USE	
1.1	Clinical purpose	Direct ophthalmoscope is a hand-held and battery powered device containing illumination and viewing optics to examine the cornea, aqueous, lens, vitreous, and the retina of the eye.
1.2	Used by clinical department/ward	NICU & PICU
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Should be battery operated 2. Should have halogen light source 3. Should have red-free filters 4. Should have small and large spot sizes, fixation targets, slit aperture 5. Should have hemi-spot and cobalt blue filter 6. Should have wheel control with lens powers ranging from +20D to -35D in single diopter steps up to 10D and 5D steps above that. 7. Should have illuminated lens dial 8. Should have rubber brow rest 9. Should have dust free optics and a spherical optical system 10. Should be supplied with a carrying case. 11. Should have a sturdy large battery handles with rheostat adjustment. 12. Should be supplied with 1 spare bulb.

2.2	User's interface	Manual
2.3	Software and/ or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	Max: 50mm x 50mm x 250mm
3.2	Weight (lbs., kg)	Max: 150 g (excluding battery)
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Handheld device
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240V AC, 50Hz
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. Replacement bulb/illumination source -10 Nos. 2. Rechargeable cell battery - 6 Numbers (in case disposable dry cell battery - 72Nos)
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	1. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 2. Sterilization not required.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	Scanning laser ophthalmoscopes using Class 1 laser are exempt from this requirement: Electrical Safety: IEC 60601-1 Optical radiation hazards with ophthalmoscopes: ISO 10942 or ISO 15004
7.2	Local and/or international	Manufacturer / supplier should have ISO certificate for quality standard.

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of: 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/ad-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

22. Streak Retinoscope

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
STREAK RETINOSCOPE		
		
Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Retinoscope, battery-powered
GMDN code(s)		CT1512
GMDN definition		A battery-powered, hand-held, ophthalmic instrument that is used to measure the refractive errors of the eye through the projection of a beam of light into the eye, and the observation of the movement of the illuminated area on the retinal surface and of the refraction of the emergent rays. The batteries may be of the rechargeable type, and are housed within the handle of the instrument. Also known as a skiascope and the method as sciascopy
GENERAL		
1	USE	
1.1	Clinical purpose	Measure the refractive errors of the eye
1.2	Used by clinical department/ ward	Ophthalmology
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Working distance of 50cm and a+2.0D sphere 2. Lamp: 3.5/4V Xenon or 2.5V Halogen; 0.9A 3. Should allow one-hand operation for streak focus and 360º streak rotation. 4. Should have crossed-linear polarizing filter 5. Should have an external focusing sleeve which is easy to grip and manipulate 6. Should be interchangeable to plane mirror and concave mirror mode by sleeve movement 7. Should use halogen/Xenon streak lamp 8. Should have 100% dust proof housing and multi-coated optics. 9. Should have detachable brow rest for spectacle wearer
2.2	User's interface	Scope

2.3	Software and/or standard of communication(where ever required)	in built
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	230 mm length approx. (but not limited to)
3.2	Weight (lbs., kg)	150 gm approx. (but not limited to)
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Rechargeable Battery only
4.2	Battery operated	Rechargeable battery which can be directly plugged in AC
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	As per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Bulb – 5 in number., Bulb holder, Bulb cover and carrying case
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 certified manufacturer IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 ISO 14971 : 2007 ISO 12865 - Ophthalmic instruments - Retinoscope ISO 15004 - Ophthalmic instruments - General requirements and test methods IEC 6060-1-2 US FDA approved or CE certified product

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	Three years
9.2	Maintenance tasks	Maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

23. Hand held slit lamp

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
HAND HELD SLIT LAMP		
		
Version no. :		1
Date:		18/05/2016
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Portable Slit Lamp
GMDN definition		A battery-powered, hand-held, lamp bio microscope is intended for use in eye examination of the anterior eye segment, from the cornea epithelium to the Posterior capsule. It is used to aid in the diagnosis of diseases or trauma which affects the structural properties of the anterior Eye segment.
Intended use / purpose of instrument		The Slit Lamp is an instrument consisting of a light source That can be focused to shine a thin sheet (slit) of light into the eye. It is used in conjunction with a bio microscope. The lamp facilitates an examination of the anterior segment, or frontal structures and posterior segment, of the human eye, which includes the eyelid, sclera, conjunctiva, iris, natural crystalline lens, and cornea. The binocular Slit Lamp examination provides stereoscopic magnified view of the eye structures in detail, enabling anatomical diagnoses to be made for a variety of eye conditions.
GENERAL		
1	USE	
1.1	Clinical purpose	Examination of anterior and posterior segment of eye.
1.2	Used by clinical department/ward	Ophthalmology

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Bio microscope	**Type** -Binocular Hand held Bio microscope Slit Lamp **Optics**- Converging binoculars at 13˚ **Magnification**- 10x and 16x, lever change **Objective lens working distance @ 10x**- 100mm **Objective lens working distance @ 16x**- 80mm **Field of view @ 10x**- 16mm **Field of view @ 16x**- 10.5mm **PD range**- 50mm to 72mm **Eyepiece dioptric adjustment range**- +/- 7 Diopters **Size: Hand held device**- 238 x 116 x 210 mm **Docking station**- 205 x 138 x 40 mm **Weight: Hand held device**- ~900g **Docking station**- 300g
2.2	Slit and filter system	**Slit type** Rotating Slit wheel selection Slit Lamp **Slit length** 12mm **Slit widths** 0.15mm, 0.5mm, 0.8mm and 1.6mm slits, 12mm circle and a 1mm square **Filters** Red free, Blue, Neutral density 0.8 and Clear **IR protection** Inbuilt IR cut filter **Slit angle** +/- 60˚ **Illumination control** Continuously variable from low to full brightness
2.3	Software and/ or standard of communication (where ever required)	*in built*
3	Description	
Portable Slit Lamp comprises a rechargeable handheld portable illuminated bio microscope system and a desk mounted base charger unit that is powered from a low voltage (12V) power supply. The hand held unit incorporates a lithium ion rechargeable battery powering the illumination system. The illumination system and fixation targets are activated using a double click trigger located on the front of the grip/handle. To increase or reduce the light intensity there is a rheostat located below the eyepieces on the rear of the grip /handle. The 10 x and 16 x magnifications optical system is controlled using a flip lever located under the adjustable eyepieces.		
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Rechargeable Battery only
4.2	Battery operated	Rechargeable battery which can be directly plugged in AC
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	As per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Aluminum Carry Case Test Bar Power Supply 2x Rubber Eye Caps
	Consumables	Slit Lamp 6V 15W Bulb

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary); Performance and safety standards (specific to the device type);Local and/ or international	Should be built in conformity with Electrical Safety (Medical) BS EN 60601-1:2006 Electromagnetic compatibility EN 60601-1-2:2007 Ophthalmic instruments - Fundamental requirements and test methods ISO 15004-1:2006 Ophthalmic instruments - Optical radiation hazard ISO 15004-2:2007.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	Three years
9.2	Maintenance tasks	Maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

24. Trial lens set

TECHNICAL SPECIFICATIONS		
Name	**Pediatric Trail Lens Set**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For testing vision
2	Technical characteristics	**Sphere lens in Pairs (+/-) (160 count)**— diopters as follows: 0.25, 0.50, 0.75,1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50, 2.75, 3.00, 3.25, 3.50, 3.75, 4.00, 4.25,4.50, 4.75, 5.00, 5.25, 5.50, 5.75, 6.00, 6.50, 7.00, 7.50, 8.00, 8.50, 9.00, 9.50,10.00, 11.00, 12.00, 13.00, 14.00, 15.00, 16.00, 18.00, 20.00 **Cylinder lens in Pairs (+/-) (80 count)**— diopters as follows: 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50, 2.75, 3.00, 3.25, 3.50, 3.75, 4.00, 4.50, 5.00, 5.50, and 6.00. **Prism lenses (12 counts): Pairs:** 0.50. Singles: 1.00, 2.00, 3.00, 4.00, 5.00,6.00, 7.00, 8.00, 9.00, 10.00 **Auxiliary Lenses (16 count):** 0.25 and 0.50 (+/-) Jackson Cross Cylinder, Singles: Red Lens, Green Lens, Occluder, 1.00 mm Slit, Polariscope, Frosted. Pairs: Maddox, Plano, Cross, Pinhole. **Lenses with a diameter of 28mm to fit into the Trial Frame**

25. Children's Trial frame

TECHNICAL SPECIFICATIONS		
Name	**Pediatric Trail Frame**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For testing vision
2	Technical characteristics	Easily changeable cylinder axis , Fully adjustable temple length and nose rest ; Wide range of I.P.D adjustments from 50mm to 78mm; 20mm reduced aperture; Accommodates up to 4 pieces, 48mm trial lenses and permits smooth and easy manipulation of bridge and I.P.D; Smooth axis adjustment; Polarizing filters with height adjustment for distance and near examination ; Vertex distance scale

26. Vision testing drum

TECHNICAL SPECIFICATIONS		
Name	**Vision testing drum**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For testing distance vision
2	Technical characteristics	Should be Design to suit all refraction rooms and easily mountable on refraction unit and wall • Compact & light weight • Remote control with Cord • Pleasing color to match all interiors • Include color deficiency test • The regular sequence of charts should have - English - Hindi - Regional Language - C Chart Dot Chart All charts are available up to 6/4 vision (over correction)
3	Technical Specifications	• Power Supply (Main): A/C 230V, 50 Hz, Two or Three Pin Plug, 5A • Battery-Cell: 9V battery-cell for cord-less remote • No battery-cell required for corded remote • Size of Unit: H: 135 mm, W: 340 mm, L: 325 mm • Size of Unit with Packing: H: 180 mm, W: 400 mm, L: 450 mm • Weight of Unit: 9.00 K.G. (Kilograms) • Weight of Unit with Packing: 9.50 K.G. (Kilograms) • Packing: Unit should be supplied with high grade thermocol box plus cardboard box

27. Illuminated Near Vision Test Drum

TECHNICAL SPECIFICATIONS		
Name	**Illuminated Near Vision Test Drum**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	For testing near vision
2	Technical characteristics	Illuminated near vision test drum with four tests - English, Hindi, any regional language, 'c' and 'e' test

28. Random Dot Butterfly stereopsis test with intermediate-sized Polarized glasses

TECHNICAL SPECIFICATIONS		
Name	**Random Dot Butterfly stereopsis test with intermediate-sized Polarized glasses**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	To rapidly access Amblyopia and Strabismus using gross through fine stereopsis
2	Technical characteristics	Tests for 4800 to 20 sec of arc • No Monocular Clues • Includes both Adult and Pediatric Polarized glasses • CE Marked **Features** • intermediate-sized Polarized glasses • Tests for 4800 to 20 sec of arc • No monocular clues • Butterfly with LEA – English instructions.

RETINOPATHY OF PREMATURITY (ROP) Instruments-

29. Binocular Indirect Ophthalmoscope with a 20, 28 or 30 D lens

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
BINOCULAR INDIRECT OPHTHALMOSCOPE		
		
Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Ophthalmoscope
GMDN code(s)		CT1184
GMDN definition		NA
GENERAL		
1	USE	
1.1	Clinical purpose	To observe health of the retina and the vitreous humor
1.2	Used by clinical department/ ward	Ophthalmology
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	I. Should Have all pupil feature II. Should have Brilliant halogen illumination which is easily adjustable III. Should have Stereo optical system IV. Should have Cobalt Blue and Green Filters to filter IR and UV rays V. Should be compact and light weight VI. Should have simple controls for adjusting the headband VII. Inter-papillary distance adjustable from 50-75mm VIII. Should include various hand held lenses but must have (20D) and (28D or 30D) aspheric biconvex lens. ix. wide angle diffuser
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	NA

3	PHYSICAL CHARACTERISTICS		
3.1	Dimensions (metric)	NA	
3.2	Weight (lbs., kg)	light enough to be hand held	
3.3	Configuration	NA	
3.4	Noise (in dBA)	NA	
3.5	Heat dissipation	NA	
3.6	Mobility, portability	Portable	
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	Power Requirements	220V; 50 Hz	
4.2	Battery operated	12 to 16 hours of backup with 6V, 5W output (lithium ion)	
4.3	Tolerance (to variations, shutdowns)	NA	
4.4	Protection	NA	
4.5	Power consumption	as applicable	
4.6	Other energy supplies	NA	
5	ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	Accessories (mandatory, standard, optional), Spare parts (main ones), Consumables / reagents (open, closed system)		Batteries, filters, lamp,
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS			
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS		
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.	
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.	
7	STANDARDS AND SAFETY		
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 Manufacturer; IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 IISO 14971 : 2007 ISO 10943:2011 Indirect Ophthalmoscope ISO 15004 Ophthalmic Instruments- General requirements and test methods US FDA approved or CE certified product	

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	NA
8.2	Requirements for sign-off	NA
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	Three year
9.2	Maintenance tasks	NA
9.3	Service contract clauses, including prices	NA
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Required
10.2	Other accompanying documents	NA
10.3	Recommendations for maintenance	NA
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Should provide complete contact details of sales and service departments.
11.2	Recommendations or warnings	NA

30. Eye speculum (Alfonso infant wire speculum)

TECHNICAL SPECIFICATIONS		
Name	**Eye Speculum (Infant wire speculum)**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	To keep the eyes open during any operation; light wire instrument.
2	Technical characteristics	- Should have a size of 7/8" (infant size); - Should have 5.0mm closed wire blades; - Should have 27.0mm blade spread, nasal approach;
3	User's care, Cleaning, Disinfection & Sterility issues	Sterilizable and cleanable using alcohol and other chemical reagents
4	Warranty	3 Years

31. Scleral depressor (wire vectis)

TECHNICAL SPECIFICATIONS		
Name	**Scleral depressor (wire vectis)**	
Version no.	2	
Date:	JUNE 2014	
		
1	Clinical purpose	A loop of wire attached to a stack used to extract cataract affected lenses. Specially designed for providing effective safety for eyes.
2	Technical characteristics	- Made of medical grade stainless steel; - The instrument shall be free from burrs, pits, cracks and other surface defects; - The edges shall be even and rounded; - The soldering of the shank to the handle shall be neat and sound; - The working ends shall be polished bright and passivated; - Handle should have minimum 10mm length;
3	User's care, Cleaning, Disinfection & Sterility issues	Sterilizable and cleanable using alcohol and other chemical reagents
4	Warranty	3 Years

32. ROP speculum

- (Neonates Size)
- Used for ROP Screening
- High quality stainless steel
- Handle adapted good grip
- Traumatic tip with rounded edges

33. Laser console plus laser indirect ophthalmoscope with protective glass

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
LASER CONSOLE PLUS LASER INDIRECT OPHTHALMOSCOPE WITH PROTECTIVE GLASS		
		
Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Ophthalmoscope
GMDN code(s)		CT1184
GMDN definition		As in GMDN (http://www.gmdnagency.com)
GENERAL		
1	USE	
1.1	Clinical purpose	To observe health of the retina and the vitreous humor
1.2	Used by clinical department/ ward	Ophthalmology

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	i. Wave Length: Diode laser 532nm (maximum) ii. Adjustable laser power: 50 to 2500m W iii. Aiming beam through LIO- red diode, aiming beam focus and adjustment knob: Adjustable delivered out of Laser Indirect Ophthalmoscope iv. Diameter of laser spot: 50 to 500 micro meters v. Should have digital control and continuous wave vi. Filters: Cobalt blue, Red Free and yellow vii. Lamp: Good illumination bulb and at least 10 extra LIO bulb viii. At least one extra optic fiber cable set ix. Capable of Exposure times: 0.01-5.00 seconds Automation repeat within: 0. 1-1.0 seconds intervals x. Should include various hand held lenses but must have (20D) and (28D or 30D) aspheric biconvex lens.
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	750 gm maximum
3.3	Configuration	NA
3.4	Noise (in dBA)	<60dBA
3.5	Heat dissipation	Air cooled system
3.6	Mobility, portability	Yes
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220 Vac, 50 Hz, <3A, 50/60Hz Single phase or 110 Vac, <6A, 50/60 Hz Single phase
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	as per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional), Spare parts (main ones), Consumables / reagents (open, closed system)	Optic fiber cable, bulbs, 500VA CVT, one extra set of goggles for eye protection of the Assistant 810 nm Protective glasses, 20 D/ 28 D lens with a clear aperture of 51mm and 45 degree retinal field of view, optional Retcam and optional camera (if one is going for Retinal camera).
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust)	Capable of being stored continuously in ambient temperature of 0 to 50C^0 and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.

7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 Manufacturer; IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 ISO 14971 : 2007 ISO 10943:2011 Indirect Ophthalmoscope ISO 15004 Ophthalmic Instruments- General requirements and test methods IEC 60825 for Lasers for laser products IEC 60601-2-22 IEC 6060-1-2 US FDA approved or European CE certified product
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	three years
9.2	Maintenance tasks	maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Other accompanying documents	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

34. Retinal/ Fundus Camera for neonatal screening

TECHNICAL SPECIFICATION

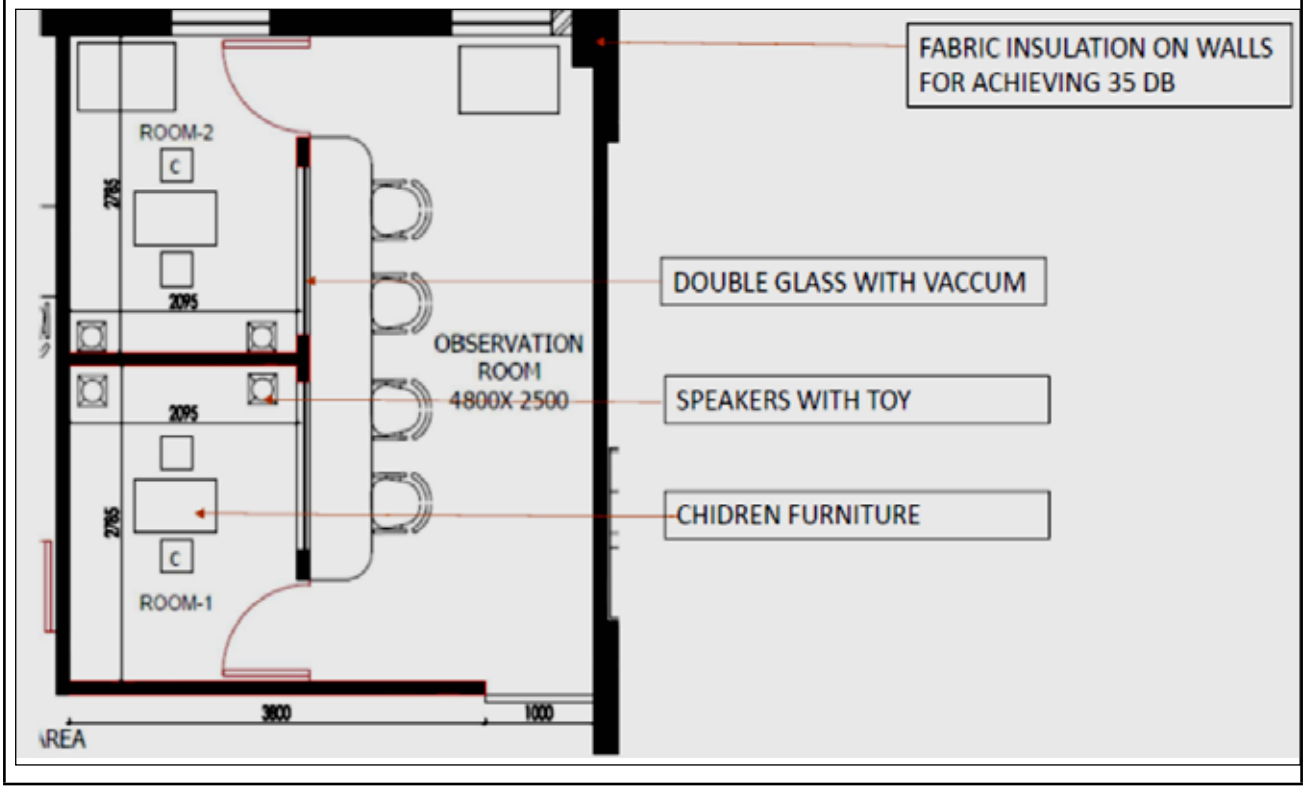
Image Resolution	High image resolution both vertical and horizontal of 2K and above with True color for three RGB colors to diagnose any stage ROP in preterm
Minimum Pupil Diameter	Can visualize fundus even in non-dilated pupils
Field of view	At least 120 degree from the centre of the eye
Image storage and comparison	Should enable image comparison over time for managing disease progression.
Tip size :	Small tip useful for even preterm
Weight :	Light weight and must be portable
Application	Multipurpose wide-angle application
Image use connectivity	Tele-Medicine and networking capabilities, with appropriate Software for both still images and video images thus allowing timely transmission of for remote review, across networks and the internet.
Operating environment within the limits :	Temperature from 5 to 35 degree
	Relative humidity from 10-95% non condensing
	Atmospheric pressure : 70-106 kPa

AREA 10: HEARING ASSESSMENT

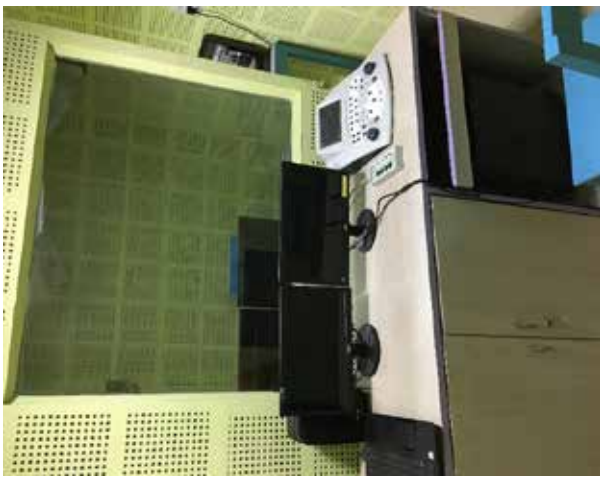
Area 10– Hearing Assessment

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
9'x 17'	OAE screener ABR screener Audiometer Portable Tympanometry Instrument BERA with ASSR with both insert phone and head phone Paediatric Video Otoscope Speech and Voice soft ware	Air conditioner	Hearing and speech pathologist and audiologist
Cost of equipment: Rs. 25,00,000/-approx.			

Sound proof room : 3 in number : 1) Observation room : 4800 X 2500 mm with 2 double one way looking glass with vacuum . 2nd room with 2785 X 2095 mm and 3rd room 2095 X 2785 mm



2 sides of the same observation room with side tables on 2 sides with Radiant warmer. Pediatric cot , OAE, BERA , Tympanometry and 2 big Double glass vacuum as one way looking windows with electrical consoles below it



2nd sound proof room with 2785 X 2095 mm connected to observatory room through one way looking window and a door

3rd sound prof room 2095 X 2785 mm connected to observatory room through one way looking glass window and a door

Speech and sound proof room: some images

Sound proof room with one way looking glass.

Room 1: One way Looking glass to observe the activities in room 2. Room 2 entry is through room 1. Observe the activities of the child in room 2

The thick door with double handles separates the two rooms. Both the rooms are sound proof.

** The larger room is separated by a door from the smaller room. Once the door is closed, one can isolate the testing room and can carry on the tests through observing from the looking window.*

Look through the one way looking glass only.

Speakers are situated to the child's right and left side. The speakers have toys (usually mounted inside boxes) hung below or above, which can be animated by the tester. The child is then "conditioned" to turn his or her head toward the side from which the sound is presented. When the child turns to the correct side, the toy is lit up, providing positive reinforcement that encourages the child to continue participating in the task. Children will instinctively turn toward a novel sound without having to think about the response, which is why this test is effective for children as young as 5 months of age. This method can also be used with small insert earphones, which allow the hearing of each ear to be tested individually. Below is a diagram of the setup for the VRA test.

Hearing loss and Screening

Hearing impairment is the inability of an individual to hear sounds adequately. This may be due to improper development, damage or disease to any part of the hearing mechanism. Hearing is a prerequisite for the development of normal speech & language. A child learns to speak by hearing the speech of others in the family and surroundings.

Deafness is an invisible impairment. Keen observation is necessary in order to identify a deaf child/individual. Deafness at birth or in early childhood has disastrous effects on the child's overall development. These effects vary depending upon the age of onset, nature and degree of hearing impairment.

The level of normal conversational speech is approximately 65dBSPL. Thus, for a person with hearing impairment of 60dBHL or more, verbal communication would be difficult. This level of hearing impairment has been equated as 40% hearing impairment as in Persons with Disability (Full Participation, Equal Opportunity and Protection of Rights) Act, 1995. The definition of hearing disabled as stipulated in the PWD Act, 1995 is a person who has a minimum of 60dBHL of hearing impairment in the better ear in speech conversation frequencies.

Hearing impairment not only affects the child's speech and language development but also impedes the child's social, educational and personality development.

Severity of hearing loss		
DEGREE OF HEARING LOSS	SPEECH UNDERSTANDING	AMPLIFICATION CONSIDERATION
Mild (20-40dBHL)	Difficulty in hearing soft sounds E.g. whisper. For children: Mild language Retardation. For older children: Mild speech problem.	Fitting hearing aid will help those who are acquiring speech & language High range or middle range Recommended
Moderate (40-60dBHL)	Difficulty in hearing normal conversation, especially in background noise Misses most speech sounds at normal conversations	Fitting hearing aid will be of benefit in gaining speech& language Some intervention related to language may be necessary High range or middle range of hearing aid recommended due to the residual hearing
Severe (70-90dBHL)	Speech is inaudible even loud speech at close distance	Hearing aids and intervention are necessary if a child is to learn speech & Language. With amplification given to the residual hearing, all sounds of speech should be audible; however the quality of the child's Voice may be affected. Mid or high range hearing aid may be Recommended.
Profound (90-120dBHL)	Hears no speech or other sounds	Success of hearing aids depends on an individual basis for these children, as the Residual hearing varies. Intervention in regards to speech, vocal quality and lang. are necessary, as for natural speech acquisition is extremely Difficult. May be a candidate for cochlea implant.

Type of hearing loss

1. **Sensorineural hearing loss**: hearing loss due to cochlear (sensory) or 8th nerve (neural) auditory dysfunction.
2. **Conductive hearing loss**: hearing impairment due to interruption of sound transmission through an abnormal middle ear.
3. **Mixed hearing loss**: hearing loss with both conductive (middle ear pathology) and sensory (cochlear or 8th-nerve pathology) components.

Categorization of patients

Patients may be categorized into four groups i.e.:

1. Infants and toddlers (0-2 years old)
2. Preschool age children (3-6 years old)
3. Primary school age children (6 - 12 years old)
4. Secondary school age children (13 – 18 years old)

COMPREHENSIVE AUDIOLOGY ASSESSMENT (PEDIATRIC)

The purpose of the audiology assessment is to assess the possible causes and extent of the hearing problem, estimate ear specific and frequency specific thresholds, and assess the function of the middle ear.

The recommended test battery is divided into four age groups:

- 0-6 months developmental age
- 6-30 months developmental age
- 30 months – 6 years old developmental age
- 6-18 years old

1. (0 to 6 months developmental age)

The required test battery:

a) Birth:

- High Risk Register Criteria
- Observational screening especially startle response
- OAE
- Screening BERA or ABR

b) Birth to 6 months:

- High Risk Register Criteria
- Observational screening especially startle response
- Parental screening questions : age appropriate observation of child behavior
- Otoscopic examination to inspect ear canal and tympanic membrane prior to OAE or ABR
- Oto-acoustic Emissions (OAE)
- Air conducted frequency specific Auditory Brainstem Response (ABR) or Auditory Steady State Response (ASSR) preferably with insert earphone
- Immittance measurement with 660Hz probes frequency.
- Measurement or age appropriate prediction of Real Ear to Coupler Difference (RECD) prior to hearing aid selection.

2. (6 to 30 months developmental age)

The required test battery:

- Case history, including parent/caregiver and/or professional observation of child behavior, antenatal, posts natal, medical history, family and developmental history of the child including language development,
- Otoscopic examination to inspect outer ear condition.
- Visual Reinforcement Audiometry (VRA) using insert phone/TDH headphone and bone conduction to obtain ear specific and frequency specific threshold.

- ABR or ASSR if VRA is not possible.
- Oto-acoustic Emissions (OAE)
- Immittance measurement with 226 Hz probe tone (Tympanometry) and acoustic reflexes where clinically relevant.
- Measurement or age appropriate prediction of RECD prior to hearing aid selection.
- ABR to cross check diagnostic result.

3. (30 months to 6 years old developmental age)

The required test battery:

- Case history, including parent/caregiver and/or professional observation of child behavior, antenatal, posts natal, medical, otologic history, language development, family and developmental history.
- Otoscopic examination to inspect outer ear condition.
- Conditioned play audiometry (CPA) or Pure tone audiometry using insert phone or TDH headphone to get ear specific and frequency specific threshold (masked bone conduction threshold as appropriate).
- ABR if CPA or PTA is not possible.
- OAE measurement.
- Immittance measurement with 226Hz probe tone (Tympanometry and acoustic reflexes where clinically relevant).
- Measurement or age appropriate prediction of RECD prior to hearing aid selection.

4. (6 to 18 years old {school going age})

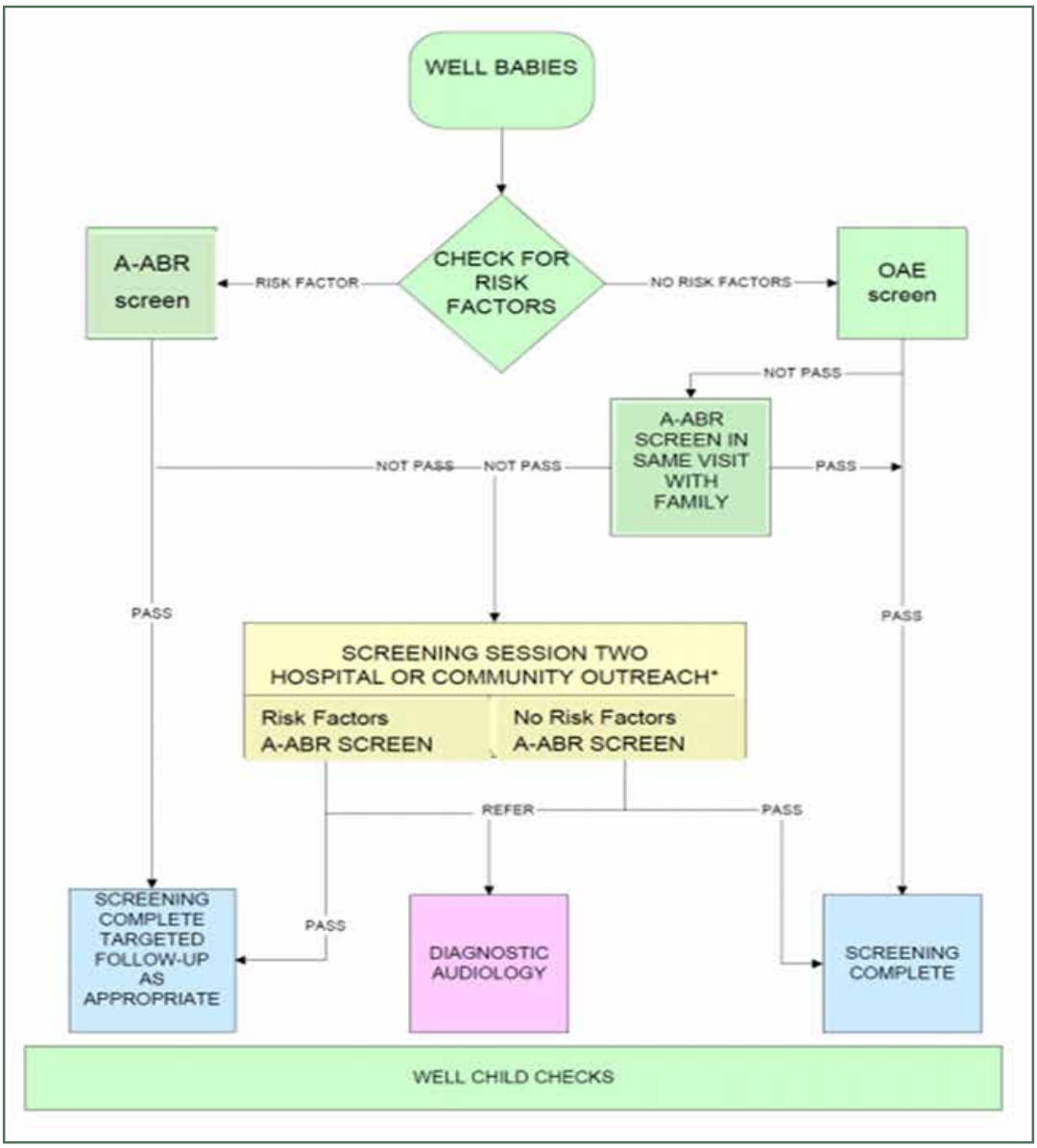
The required test battery:

- Case history, including parent/caregiver/teachers and/or professional observation of child behavior,
- Identifying information purpose of referral, communication history, audiological history, otologic history, school performance and medical history.
- Otoscopic examination to inspect outer ear condition.
- Pure tone audiometry using insert phone or TDH headphone to obtain ear specific and frequency specific threshold (masked) bone conduction threshold as appropriate).
- Immittance measurement with 226Hz probe tone (tympanometry and acoustic reflexes where clinically relevant).
- Uncomfortable listening level (UCL) measurement if possible.
- Speech recognition test.
- Measurement or age appropriate prediction of RECD prior to hearing aid selection.

High Risk Register Criteria (for early screening):		
Some babies maybe identified at birth as being "at risk" for hearing impairments. The following is a list of criteria to indicate infants who might be considered at risk		
	Family history of any blood relative with childhood hearing impairment;	Yes/No
	Rubella or other nonbacterial transplacental infection (e.g. Cytomegalovirus infection, herpes infection, syphilis);	
	Defects of the ear, nose, or throat.: Malformed, low -set or absent pinnae, cleft lip or palate (including sub mucous cleft), any residual abnormality of the otorhinolaryngeal system	
	Birth weight less than 1500 grams; or any child receiving diuretics and aminoglycosides during first month of life	
	Bilirubin level greater than 15 mg/100 ml serum or exchange transfusions;	
	Significant asphyxia associated with acidosis, as determined by attending physician, and proven meningitis	
	Low Apgar Scores (zero to three at five minutes, zero to six at ten minutes)	
	Respiratory distress requiring admission for more than 3 days	
	NICU/SNCU stays greater than five days	
	Physical features associated with syndromes that include progressive hearing loss	
**For high risk newborns Auditory Brainstem Response should be done first as more chance of Auditory neuropathy		

Supplemental Questions

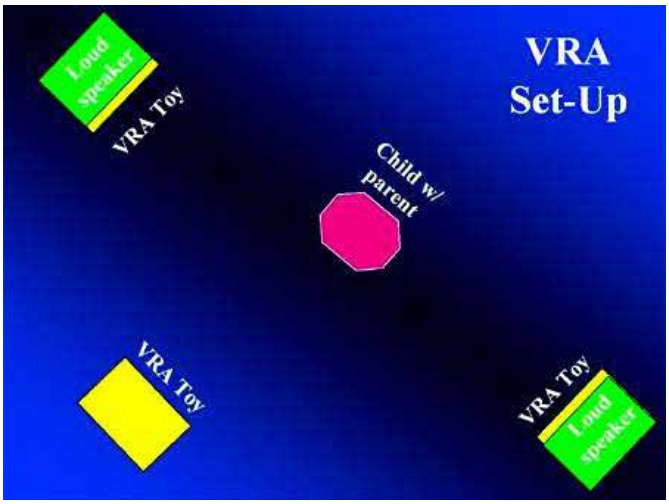
- Did the child receive a Newborn Hearing Screening?
- Does the child presently have a continuous or recurrent ear infection?
- Has the child suffered from any of the following: meningitis, encephalitis, cerebral palsy, mumps, head injury, chemotherapy, or birth defects?
- Was the child in an intensive care nursery after birth?

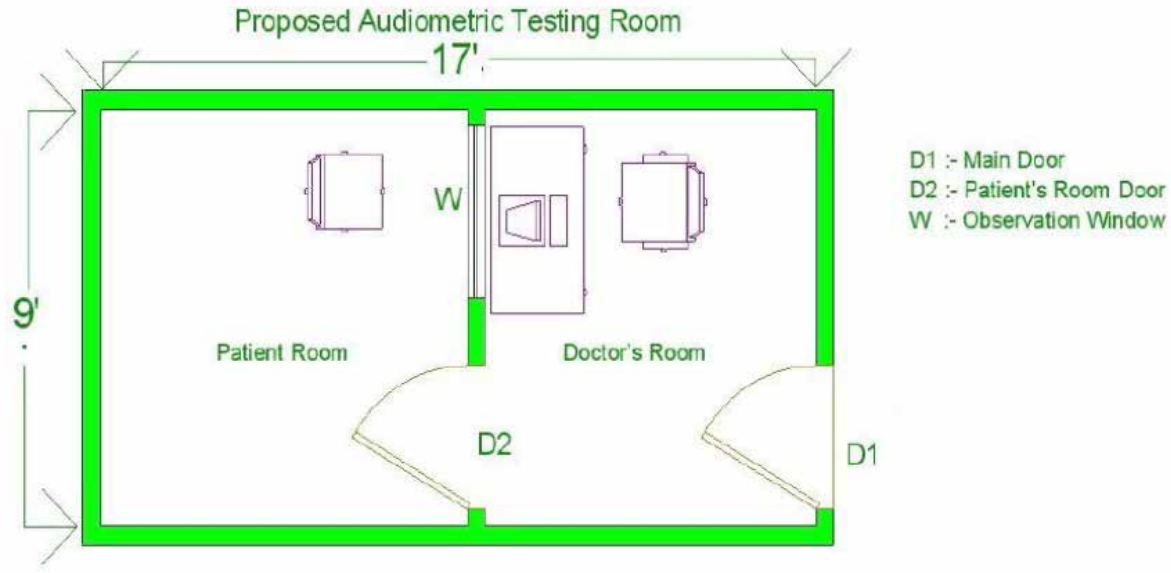

WELL BABIES
CHECK FOR RISK FACTORS
RISK FACTOR
NO RISK FACTORS
A-ABR screen
OAE screen
NOT PASS
A-ABR SCREEN IN SAME VISIT WITH FAMILY
NOT PASS
NOT PASS
PASS
PASS
PASS
SCREENING SESSION TWO
HOSPITAL OR COMMUNITY OUTREACH*
Risk Factors
A-ABR SCREEN
No Risk Factors
A-ABR SCREEN
REFER
PASS
SCREENING COMPLETE TARGETED FOLLOW-UP AS APPROPRIATE
PASS
DIAGNOSTIC AUDIOLOGY
SCREENING COMPLETE
WELL CHILD CHECKS

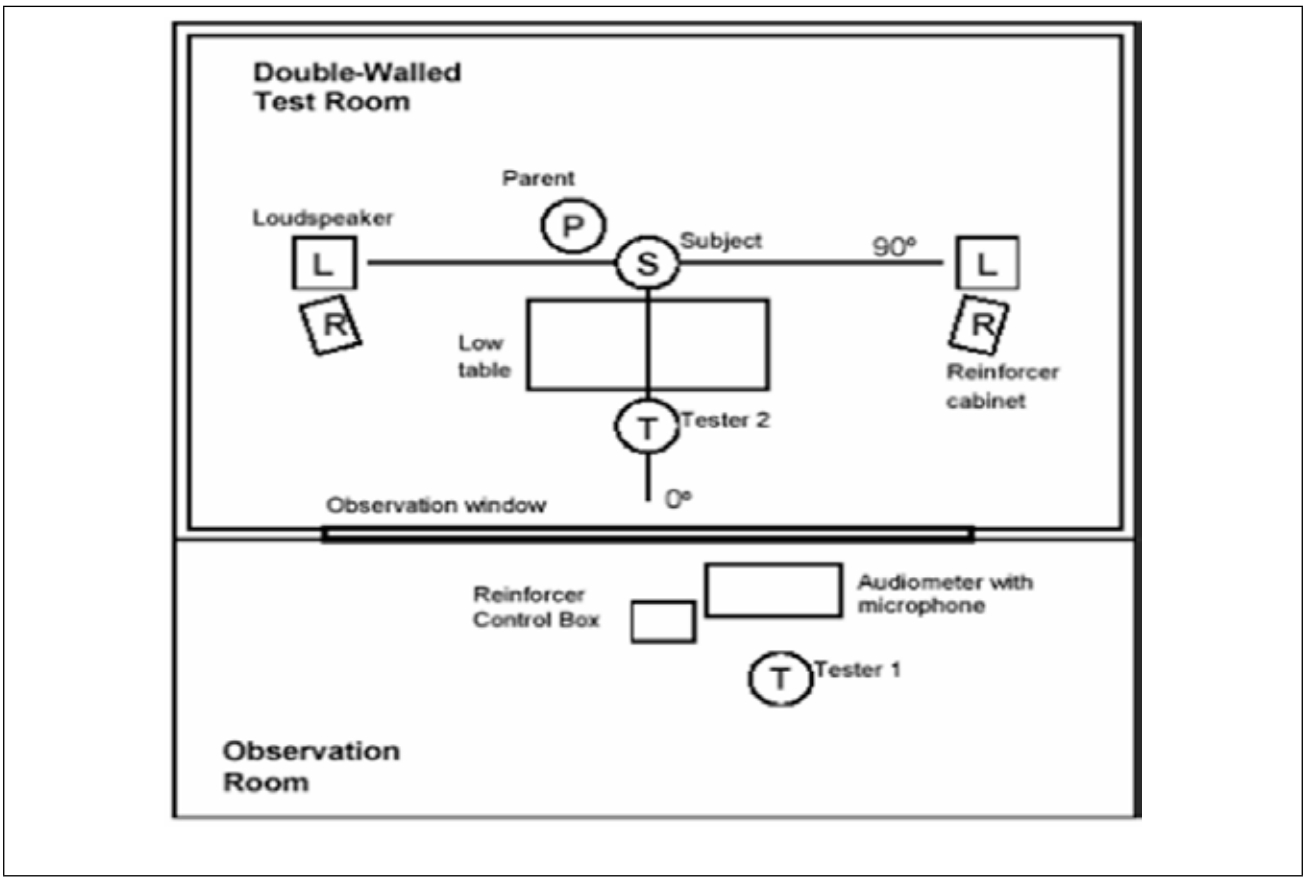
Specification of Audiometry Room: Infrastructure requirement

Partition Wall with acoustical treatment

*The space for hearing testing is to be converted into **two room set up** by constructing partition walls using gypsum sheets suitably placed at the cavity. The walls consist of connecting door and observation window wherever required.*

Sound proof material	**Using room 2 for Visual reinforcement Audiometry VRA**
	 Visual reinforcement Audiometry (VRA) is a test that allows an audiologist to assess hearing in infants and toddlers too young for normal tests. VRA is a behavioral audiometric test obtained in a sound-treated room.





In proposed audiometric room layout, D2 should have 2 doors for better acoustic. For placing speakers and monitor inside the testing room near the observation window, minimum 1.5 feet space i.e. walls should be present on either side of the observation window.

The Partition walls will have 150mm thickness and should be made of brick wall supported by GI framework as per IGL's specifications or equivalent aluminum frame using conventional hardware.

The frame work is to be adequately anchored in the wall/floor.

Acoustic insulation in partition frame work shall be 100mm thick glass wool / rock wool of designed density, tied to the frame forming high frequency absorbers. For band extended treatments air-gaps should be generated. The entire treatment should be finished to receive paint.

Technical specifications:

The American National Standards Institute (ANSI) specifies maximum permissible ambient noise levels (MPANLs) allowed in an audiometric test room to ensure that hearing thresholds obtained down to 0-dB HL will not be elevated due to masking by ambient noise. This Standard specifies that ambient noise in an audiometric test room shall be measured at octave or one-third octave band intervals within the inclusive range from 125 to 8000 Hz and shall not exceed MPANLs in reference to the audiometric condition ears covered using a supra-aural or insert earphone or ears not covered. Further, the MPANLs shall apply when hearing test frequencies are within the inclusive ranges 125 to 8000 Hz, 250 to 8000 Hz, or 500 to 8000 Hz. This Standard specifies that MPANLs should be adjusted appropriately when hearing thresholds for pure tones are measured above and below 0 dB HL **Noise Criteria of the room is below 30 dB (A) with AC in OFF position. Transmission loss is 25 dB (A).** This is measured at 1 kHz Frequency when single frequency source is placed 1m away from outer wall and measured at point of evaluation.

Acoustical corrections and Consultancy: This includes drawing, designing, supervision, execution, testing and commissioning of entire acoustic treatment along with electrical equipment's to be installed in future for communication.

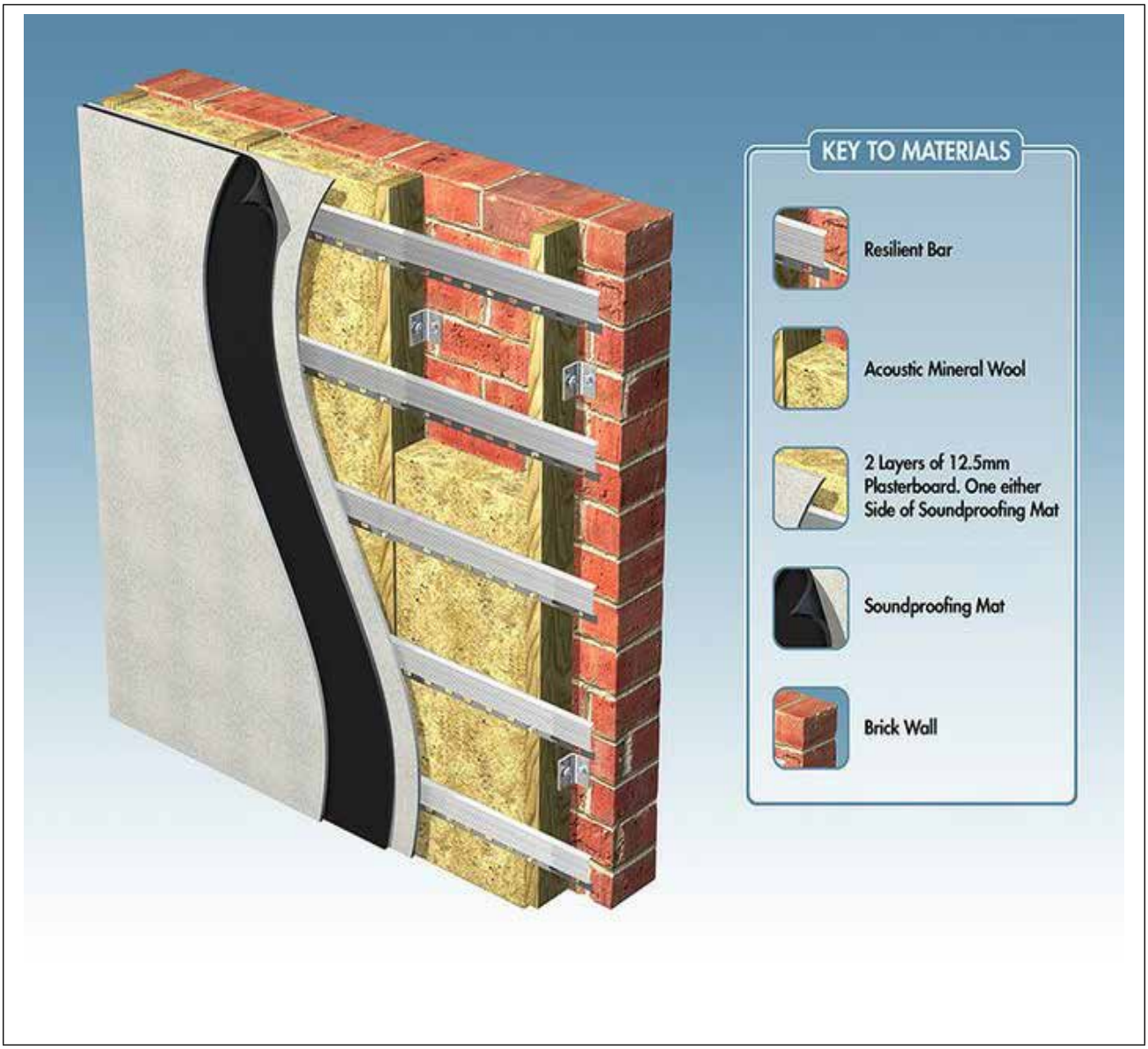
The room constructed should be frequency balanced having various frequency panels for quality speech and high acoustical integrity.

Project should be eco-friendly and non-hazardous.

The intent of the ambient noise level requirements in the standard is to assure that the hearing test is conducted in an environment that will assure valid and accurate test results. This implies that the test environment must be in compliance with the stated background levels every time an audiometric test is performed

Manufacturing firm should have ISO certification.

Wall treatment : Existing supporting walls should be acoustically treated using gypsum based acoustical treatment The treatment shall consist of 75mm thick partition with 12.5mm thick gypsum acoustical aperture board made out of GI framework as per IGL's specifications with glass wool / rock wool material. The frame work should be adequately anchored in the wall/floor. Acoustic insulation in partition frame work shall be 50mm thick glass wool (If this is not covered with gypsum board, then minimum 100 mm thick glass wool should be kept.) / Rock wool of designed density, tied to the frame etc. forming high frequency absorbers. The partition framework shall be covered from all sides with bass traps / low frequency absorbing treatment and entire treatment should be finished to receive paint. Bass Traps: Gypsum wall frame work shall be covered from all sides with bass traps / low frequency absorbing treatment. The entire surface should be painted.


KEY TO MATERIALS
Resilient Bar
Acoustic Mineral Wool
2 Layers of 12.5mm Plasterboard. One either Side of Soundproofing Mat
Soundproofing Mat
Brick Wall

Feedback for key materials

Resilient bar - Material used here needs to be specified preferably Aluminum

Acoustic mineral wool - Thickness minimum of 4 inch & minimum of **32 kg/m3** Density

Plaster board – NRC ¾ inch perforated of plaster board followed by 1 inch foam layer before sound proofing mat

Soundproofing Mat – Thickness & NRC rating is important

Ceiling treatment with Gypsum boards: The treatment would consist of gypsum board false ceiling suspended using GI frame work and 12.5mm thick gypsum Quattra / line board with glass wool / rock wool insulation of designed density. This includes all necessary cutouts for electric fixtures, AC fixtures etc., to get an even smooth surface to receive paint with corner /J beads as required getting straight and truing edges. AC fixture should also be covered with glass wool and also the cooling should not be leaked inside the chamber between gypsum boards. Gypsum boards would be joined and finished so as to have a flush look which includes finishing the tapered and square edges of the gypsum board with joining compound, paper tape and the surfaces shall be prepared and finished to receive paint.

Sound treated Door - 02 doors should be placed for inside rooms (between test room & tester room) and one door for outside (Main entry). The width of the doors should be of minimum 3 feet for all 3 doors should be created using plywood frame. Multiple layers of medium should be created using fiber material, Plywood, Air gaps, etc. The closing mechanism consists of heavy duty door closer provided on the back side of the door. Compression material having more than 30% compression ratio will be provided across the closing edge of the door. Entire good quality hardware shall also be provided for operation. The surface should be covered with industrial laminate.

Acoustically treated window: Appx. 3'x 3'- 1 no. The breathing window consists of **two glass panes (bubble free)** of 8 mm thickness with suitable angles to stave off possibility of resonance and to improve (Tx) transmission loss. Both are fixed using plywood and compression material having minimum of 30% compression ratio. The glasses are placed apart and moisture-absorbing chemicals are provided in between to restore good view for long time.

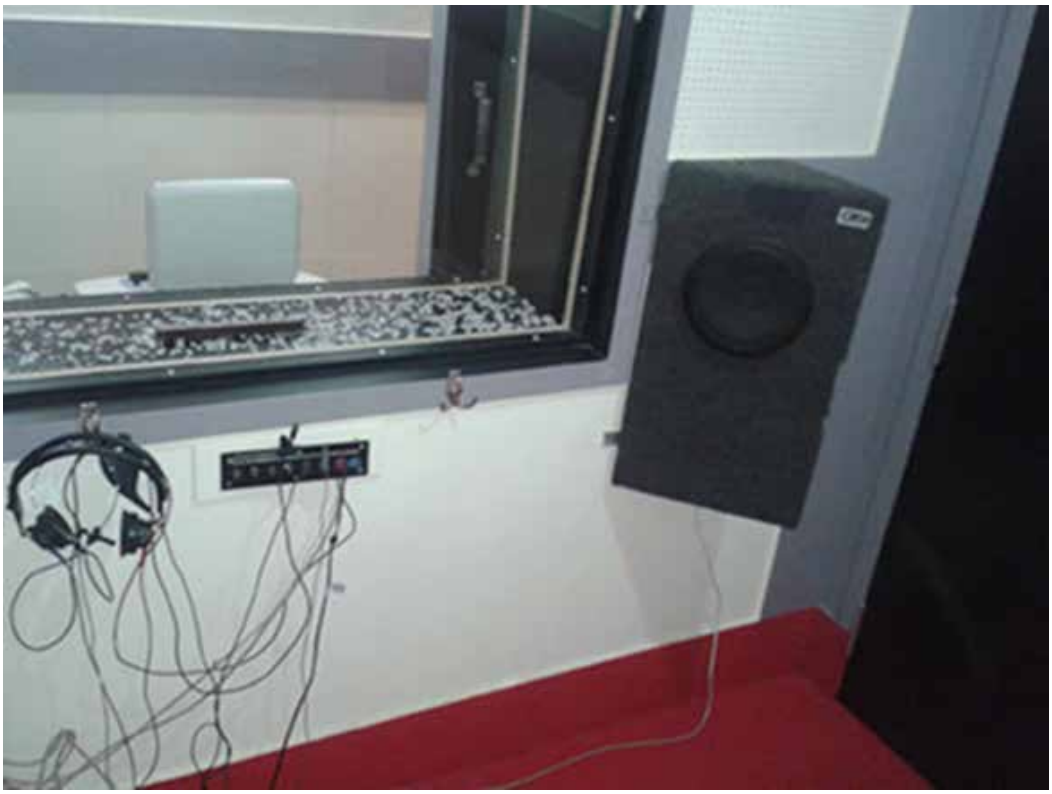
Flooring: Acoustical mat should be provided over the entire surface of the floor and extended 6" along the skirting. 6 inch hollow chamber should be made in the flooring fitted with rubber feeding with suitable air gap for avoiding vibration to the audiometric room. The air gap should be closed tightly using plywood of more than 1 inch and also the supporting plywood should also be more than 1 inch. Above the chamber, sound proofing mat should be fixed. The mat should be pasted using good adhesive material.

Painting: Emulsion paint is not advisable as it increases Reverberation time. Instead of painting, mat finishing is better inside the audiometric rooms. Outside, Paint can be used which should not have any shining type. Avoid using oil paint.

Electrical and Instrument wiring (inside the setup): Electrical work consists of providing four numbers of surface mount LED lights and switch boards as desired. Completely pre-wired jack panel should be provided under window with Minimum 12 jack required (10 mono & 2 stereo jacks), 02 USB, 02 VGA and 02 HDMI female socket for VRA testing).

Power plugs should be given only in parallel walls. Not in adjacent walls i.e. L shaped walls to avoid electrical interference for AEP testing.

Light intensity - 100 Luxes is sufficient for tester room. However, Minimum 250 Luxes is required for testing room.



HEARING EQUIPMENT	
Validated Confirmatory / Diagnostic Tool	Age Group
Screener pediatric Audiometer	
Audiometer (Pure Tone Audiometer)	
Pediatric Video Auroscope (Otoscope)	
Tympanometer/Impedance Audiometer-Table top	
Oto-acoustic emission(OAE) instrument	0-6 years
Automatic ABR screener without disposable electrodes rather with integrated electrodes	0-6 years
Brainstem Evoked Response Audiometer with ASSR and both insert phone and Head Phone with facility for Bone conductor	0-6years
Tuning Fork 1 set-4 tuning fork of 4 different free 128 Hz, 256 Hz, 512 Hz and 1024 Hz	All
Speech and Voice analysis software	All
OPD material:	
LED Head light	
Thudicum's speculum set	
Killian' speculum set	
Laryngeal mirrors set	
Posterior rhinoscopic mirrors	
Aural Speculum all sizes black finish	
Nasal Packing Forceps	
Aural Suction Tips (Micro suction adapter)	
Nasal Suction Tips	
Tuning Forceps 512	
Hartman's Forceps	
Eustachian tube catheter	
Punch biopsy forceps	
Laryngeal biopsy forceps	
BP Handles of various sizes	
Tongue depressor	
Hearing Aids	

1. Screener Pediatric Audiometer

Screener Pediatric Audiometer

Screener Pediatric Audiometer :

- Frequency: 500, 1000, 2000, 3000, 4000 Hz
- Intensity: 0 to 80 dB (10 dB Steps)
- Tone: Warble tone, Narrow band noise and Broad band noise
- Free field & Single Earphone transducer (TDH39 Audiometric Headphone) with cord and cup
- LCD bulbs for distraction of newborns
- Battery operated (AA size). {12v & also can work from 110 or 220vac mains}

Useful for: Behavioral Observation Audiometry Estimating ear specific threshold using single ear headphones in children. PA5 and AP2 *No headphones available for AP2 model

2. PURE TONE AUDIOMETER WITH BONE CONDUCTOR:DIAGNOSTIC

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**	
PURE TONE AUDIOMETRY: DIAGNOSTIC	
	

Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Audiometric/hearing aid tester
GMDN code(s)		CT1512
GMDN definition		An electro acoustic device intended to be used for the evaluation of hearing loss (audiometer function), the evaluation of hearing aids while worn to assure optimal amplification (real-ear measurement), and/or for other hearing aid analysis (functions as the hearing aid analyzer to check its proper function when this is being fitted to the patient). It typically consists of a test box and a control unit that connect to a computer that runs application software to provide results and graphics (which may be stored in a database). The control unit may also be connected to other manufacturer's test boxes, or run as an audiometer or real-ear-measurement instrument without the test box.
GENERAL		
1	USE	
1.1	Clinical purpose	Evaluation of hearing loss
1.2	Used by clinical department/ward	ENT

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Should be Simple and convenient to Operate 2. Portable Diagnostic Instrument : AC, BC, Speech and Free field Audiometer 3. Special tests such as short Increment Sensitivity Index (SISI), tone Decay test and Alternate Binaural Loudness Balance (ABLB)Test 4. Mixing signals and channels can be mixed independently – 2 channels 5. Speech tests from SD-memory card, CD and microphone (live) 6. Direct printout of the results or store report as PDF on USB memory stick 7. Patient database for more than 1000 test results 8. Options include FF speakers, insert phones, PC interface, High Frequency – up to 10 KHz etc. 9. Range of frequencies from 250 HZ to 8000 HZ ,-10 dB (minus 10 dB HL) to 100 dB 10. Increments of 5 dB 11. Frequency deselect ion: The following frequencies can be deselected in the setup: 250, 500, 750, 1500, 2000, 3000, 4000, 6000, 8000Hz. 12. Input : Tone 5 Hz or True sine wave frequency modulation •INPUT: Tone, Speech, Tape, Pulse Tone and warble tone. 13. Output : Either to right and left speakers and also earphones •HEADPHONES: TDH 39/50, DD45 preferable circumaural with ear cushions •BONE: BONE Vibrator: Radio ear B71. 14. Tone .decay test available 15. Narrow band, White noise & Speech noise masking 16. Both Air and bone conduction facility 17. For Free field : should have 2 separate compatible good quality Speakers with inbuilt amplifier 18. Could be operated both on battery and AC with built in voltage regulator 19. Additional headphone and microphone for talk back and talk forward; Patient response switch and VRA response switch. 20. Should have facilities for bone conduction Hearing Threshold Range: -10 to 80 (up to) dB in 5 dB steps 21. Accuracy better than ± 2 dB 22. Harmonic Distortion - less than 3%
2.2	User's interface	Headphone, speaker and printer
2.3	Software and/ or standard of communication(where ever required)	**Type:** Intel Pentium P4 compatible or better; **RAM:** minimum 1GB; Hard disk: Minimal 5 GB free disk space **Interface:** USB 1.1 or 2 **Display:** SVGA-Color Display 800x600 or better Operating system: Windows XP SP 3 Professional Windows 7 32/64bit Professional or Ultimate
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	light weight
3.3	Configuration	Type: Intel Pentium P4 compatible or better; RAM: minimum 1GB; Hard disk: Minimal 5 GB free disk space Interface: USB 1.1 or 2 Display: SVGA-Color Display 800x600 or better Operating system: Windows XP SP 3 Professional Windows 7 32/64bit Professional or Ultimate

3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220-240Vac; 50/60 HZ
4.2	Battery operated	None of the Diagnostic audiometer comes with battery operated. However, additional external UPS can be placed.
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	as per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	headphone, speaker and printer
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 certified manufacturer IEC 60645:2012 general requirements for audiometers IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 ISO 14971 : 2007 IEC 6060-1-2 ISO 8253(1) 1989 Audiometric Test Methods - Part 1: Basic Pure Tone Air and Bone Conduction Audiometry ISO 6189-1983 Acoustics-Pure Tone Air Conduction Threshold Audiometry for Hearing Conservation Purposes IEC 60651 (1979) and IEC 60804 (1985): Sound level meters ISO-1999 (1992): Estimation of Noise-Induced Hearing Loss US FDA or European CE certified product

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	three years
9.2	Maintenance tasks	maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

3. Pediatric Video Auroscope (Otoscope)

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
Pediatric Video Auroscope (Otoscope)		
 This is an indicative picture of Paediatric Video Auroscope		
Version no. :		2.0
NAME AND CODING		
GMDN name		Pediatric video Auroscope or Otoscope
GMDN code(s)		CT 1930
GENERAL		
1		use
1.1	Clinical purpose	A video Otoscope allows the doctor to look into the ear canal to see the ear drum and also capture the image for clinical documentation. Redness or fluid in the eardrum can indicate an ear infection. Some Otoscope (called pneumatic Otoscope) can deliver a small puff of air to the eardrum to see if the eardrum will vibrate (which is normal). An ear examination with a pediatric video Otoscope can also detect a build-up of wax in the ear canal or a rupture or puncture of the eardrum.
1.2	Used by clinical department/ward	ENT/ Audiologist / Pediatrician
2	TECHNICAL	
21	Technical characteristics (specific to this type of device)	1. **Should be Paediatric video Otoscope** which should be a hand held medical device that should include a video camera for capturing a video image of the outer ear canal and/or tympanic membrane. The image should be displayed directly on a built in screen 2 to 3 inches color LCD display with recording facility and pediatric Otoscope Probe and should also have facility for external display via connection to a video out port and compatible soft ware so that images can be stored and retrieved

		2. Magnification of Auroscope a) at least 20 times b) Focus range: 8-70 mm c) Object distance: 1-160 mm d) Light source: 4 adjustable white LED Lens or Halogen bulbs with 5 extra bulbs e) High definition microscopy lens 3. Should provide no reflections and obstructions 4. Should have one camera with camera probe and RCA video cable 5. Paediatric reusable speculum of various sizes 6. Preferably SD card for image storing 7. Should have in built rechargeable battery. Recharge should be possible with Direct mains supply. 8. A clear and sharp image can be acquired and displayed instantly on a built-in screen by pressing a single button and maximum waiting for 3-5 seconds 9. Real Time Interaction: The medical image should be captured and shared simultaneously with patients and storing an electronic medical record where the image can be retrieved.
2.2	Software	Compatible soft ware for storing and displaying in PC
3.	PHYSICAL CHARACTERISTIC	
3.1	Dimensions	Should be light, Portable and Hand held
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Battery operated	2 AA rechargeable batteries with minimum back up of 4 hrs
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
5.	ENVIRONMENTAL AND DEPA RTMENTAL CONSIDERATIONS	
5.1	Atmosphere / Ambiance (air conditioning, humidity, dust)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously inambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.	STANDARDS AND SAFETY	
6.1	Certifications	ISO 9001 and ISO 13485 certified manufacturer
7	WARRANTY AND MAINTENANCE	
7.1	Warranty	1 year

4. Portable Tympanometry / Impedance Audiometer Instrument

MEDICAL DEVICE SPECIFICATION
(Including Information on the following where relevant/appropriate, but not limited to)

Portable Handheld Tympanometry Instrument with Printer for New Born, Infant and Children

Tympanometry

Acoustic reflex threshold (Ipsi & contra)

Eustachian tube test: Reflex decay test.

The primary purpose of impedance Audiometry is to determine the status of the tympanic membrane and middle ear via Tympanometry.

The secondary purpose of this test is to evaluate acoustic reflex pathways, which include cranial nerves (CN) VII and VIII and the auditory brainstem. This test cannot be used to directly assess auditory sensitivity, although results are interpreted in conjunction with other threshold measures.

An acoustic reflex threshold is a middle ear measurement of stapedius muscle response to higher intensity and adequate duration sounds for individual frequencies. Consider the softest sound that elicits a reflex contraction of the stapedius muscle as the acoustic reflex threshold. When the stapedius muscle contracts in response to a loud sound, that contraction changes the middle ear immittance. This change in immittance can be detected as a deflection in the recording.

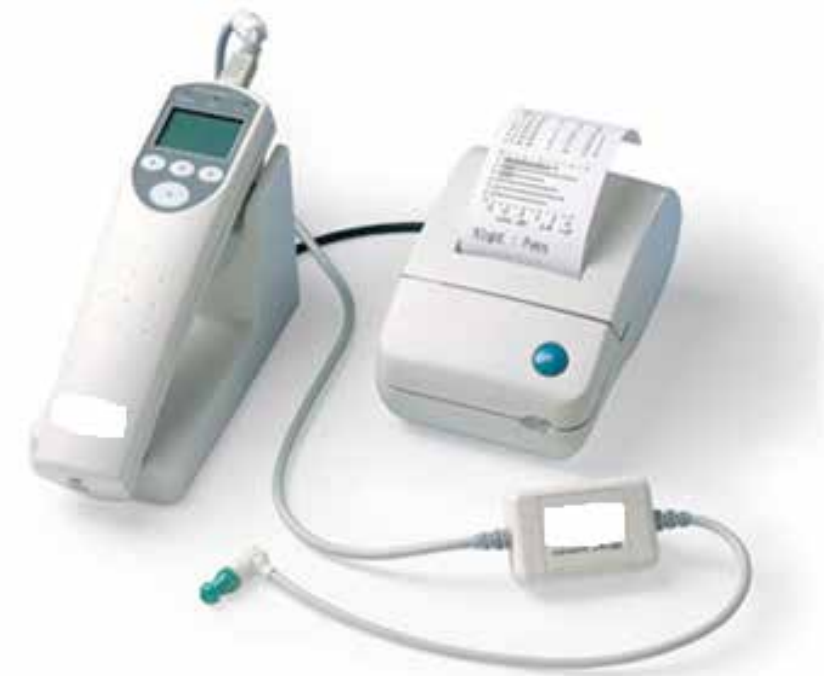
Version no. :	1
Date:	17/09/2013
Done by : (name / institution)	HCT,NHSRC
NAME AND CODING PORTABLE HANDHELD TYMPANOMETRY INSTRUMENT WITH PRINTER FOR NEW BORN, INFANT AND CHILDREN	
GMDN name	NA
GMDN code(s)	NA
GMDN definition	NA

GENERAL		
1	USE	
1.1	Clinical purpose	Used to test the condition of the middle ear and mobility of the eardrum and the conduction bones specifically for newborn, infant and children, should be portable and handheld
1.2	Used by clinical department/ward	ENT
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Probe Tone: • 226 Hz Amplitude: 85 ±3 dB SPL • 1,000 Hz Amplitude: 83 ±3 dB SPL • Frequency Accuracy: ±2% • Total Harmonic Distortion: 3% Maximum Signal Type: Continuous Sinusoid 2. Protocol: Screening, Diagnostic, 3. Pressure Measurement System • Direction of sweep: positive to negative pressure • Sweep Rate: 400 daPa/sec average during data acquisition period. Should have sweep rate 12.5, 50.0, 600/200 daPa/sec. • Range: +200 to -600 daPa • Display Resolution: 20 daPa • Accuracy: ±15% or ±10 daPa, whichever is greater • Compensation: Auto-zero every test cycle • Compliance range for 226 Hz: 1.0 to + 7.0 ml • Tympanometry With Multiple Probe Frequencies i.e., 226, 678, 800 & 1 KHz • Automatic And Manual Tympanometry With Selectable Pressure Ranges And Pump Speeds • Ipsi lateral and Contra lateral Reflex • Reflex Decay • ETF for Intact and Perforated Ears • Large LC Display, Inbuilt Printer & PC Interface 4. Stimulation for Reflex measurements should be 250,500, 1K, 2K, 4K, BBN, LBN, HBN, 5. Stimulus: 100 µs click, external input, non-acoustic 6. Intensity range for Reflex: 35 to 120 (up to 110) dB HL with increment of 1 db. 7. Facility of inbuilt LCD monitor & also facility to connect external monitor. 8. Internal printer & also have facility to connect external USB printer. 9. Internal memory for storing result up to 50 tests. 10. Should be supplied with data base management software.
2.2	User's interface	LCD monitor and printer
2.3	Software and/or standard of communication(where ever required)	Database management software to be supplied along with

3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	light weight
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220Vac; 50 HZ
4.2	Battery operated	minimum 2 hours backup
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	as per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Probe Assembly. Ear tips (standard and special size esp. for new born, infant and children), Printer thermal paper, Calibration test facilities.
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 certified manufacturer IEC 60645-5/ ANSI S3.39, Type I IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 ISO 14971 : 2007 IEC 60601-2-18 IEC 6060-1-2 US FDA or European CE certified product

8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	three years
9.2	Maintenance tasks	maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

5. Oto-acoustic emissions (OAE) Instrument

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
OTO-ACOUSTIC EMISSIONS (OAE) INSTRUMENT FOR NEW BORN INFANT AND CHILDREN		
		
Version no. :		1
Date:		17/09/2013
Done by : (name / institution)		HCT,NHSRC
NAME AND CODING		
GMDN name		Oto-acoustic emission system, battery-powered
GMDN code(s)		CT118
GMDN definition		An assembly of battery-powered devices designed to record and analyze the faint sounds hair cells in the inner ear emit [Oto-acoustic emission (OAE)] in response to a stimulus (e.g., click, tone burst, pure-tone signals) to test for a deficiency of function in the ear during diagnostic evaluation and/or neonatal screening. It typically consists of a portable programmable unit, an OAE probe, and ear tips. The stimulus signal is emitted via the probe inserted into the ear canal and the response is recorded via a microphone in the probe; OAEs are absent / reduced in patients with hearing loss. The system should not be combined with other audiological devices (e.g., Tympanometer, ABR device).
GENERAL		
1	USE	
1.1	Clinical purpose	to record and analyze the faint sounds hair cells in the inner ear emit [Oto-acoustic emission (OAE)]
1.2	Used by clinical department/ ward	ENT

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	a. Should be a handheld unit including probe cord and Cradle b. Should have a Printer including power supply and power cable, Printable text file display of the acquired data, including frequency, signal, noise, response and testing parameters c. Probe cord for extension at least 75 cm d. DPOAE protocol with Fast, accurate results—in as little as 10 seconds per ear e. Tip should be Easy-to-clean f. Results should have an Objective test—no patient response required g. Pass/Refer result provided—No interpretation required h. Should operate on rechargeable battery and also in AC power i. At least 50-test memory j. DPOAE Specifications: • Intensities from 40 to 70 dB SPL k. TEOAE module- Frequencies: 700 to 4000 Hz;Intensity: 83 dBSPL + 3 **Frequencies:** 500 to 6000 Hz. l. 4 independent stimulus channel m. 2 signal input channel Facility to edit the test protocol and save Database management software
2.2	User's interface	Probe and printer
2.3	Software and/or standard of communication(where ever required)	in built
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	Less than 2 kgs.
3.3	Configuration	**Type:** Intel Pentium P4 compatible or better; **RAM:** minimum 1GB; Hard disk: Minimal 5 GB free disk space **Interface:** USB 1.1 or 2 **Display:** SVGA-Color Display 800x600 or better Operating system: Windows XP SP 3 Professional Windows 7 32/64bit Professional or Ultimate
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Mobile
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220-240Vac; 50/60 HZ
4.2	Battery operated	Rechargeable battery with 2 hours backup
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	as per device

5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Reusable ear-tips of various sizes starting from 3mm to 12 mm(each at least 10 for each size), probe cord, cradle, power cable and printer, Cleaning Kit and additional Probe Knob – 04 No., Calibration cavity for new born, infant and children
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/ or international	ISO 13485 certified manufacturer IEC 60601-1- Medical electrical equipment-Part I: General requirement for safety IEC 60645-6- Oto-acoustic emission IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1: 2012 ISO 14971 : 2007 IEC 60601-2-18 IEC 6060-1-2 US FDA or European CE certified product
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	Three years
9.2	Maintenance tasks	Maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

6. Automatic ABR screener without disposable electrodes (rather with integrated electrodes) Stimulation level 35 dBHL; including software for Screening AABR, Additional Follow-up measuring modes: Time-Step-Stimulus and Standard ABR:

NB Single vendor: please refer the annexure on documentation of single vendors

BERAphone

Screening and follow-up with BERAphone incl. software for Screening AABR, Additional Follow-up measuring modes: Time-Step-Stimulus and Standard ABR, compatible with notebook or PC with USB port, including carrying bag

Upgrade

For Frequency Specific Screening Test feature with two bands of 135 — 1500 Hz 1500 — 8000 Hz

Consumables:

Stainless steel electrodes (1 pc.)

Stainless steel electrodes for pre-matures (1 pc.)

Gel protection for electrodes (1 set of 3 pieces)

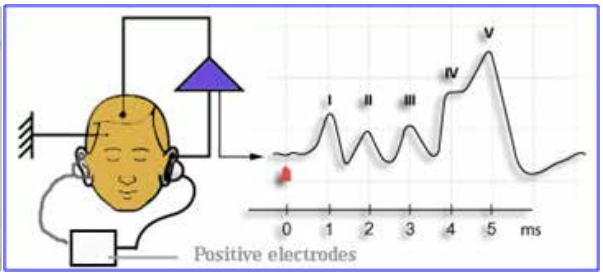
Electrode gel, bottle 250 ml 801 086

MEDICAL DEVICE SPECIFICATION	
AUTOMATIC ABR SCREENER WITHOUT DISPOSABLE ELECTRODES RATHER WITH INTEGRATED ELECTRODES	
	
Version no. :	1
Date:	17/09/2013
Done by : (name / institution)	HCT,NHSRC
NAME AND CODING AUTOMATIC ABR SCREENER WITHOUT DISPOSABLE ELECTRODES RATHER WITH INTEGRATED ELECTRODES	
GMDN name	Evoked-potential audiometer
GMDN code(s)	CT1512
GMDN definition	An electro acoustic instrument designed to evaluate the activity of the auditory pathway of the brain in response to an acoustic signal [auditory brainstem response (ABR)] it provides at the ear (e.g., clicks delivered through an earphone), without need of patient cooperation. The signal, detected via the device's scalp electrodes and possibly a reference electrode on the ear lobe, is measured using computer averaging and signal processing techniques. This device is typically used to assess the function of the auditory pathways and to differentiate coma due to metabolic factors from structural damage.
GENERAL	

1	USE	
1.1	Clinical purpose	to evaluate the activity of the auditory pathway of the brain in response to an acoustic signal [auditory brainstem response (ABR)]
1.2	Used by clinical department/ward	ENT
	TECHNICAL	
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Lightweight & Portable Design 2. Inbuilt reusable electrodes make it easy to screen New Born and young Children 3. Fast and automatic ABR-screening, reliable automatic display of results within seconds. Facility to edit the protocol used for screening. Stimulus: Click/Chirp 4. Integrated electrodes and should have no disposable electrodes 5. Automatic Impedance Check indicating impedance conditions 6. Stimulation level should start at 35 dBnHL. Variable stimulus level desirable 7. Cleaning gel required before placing the electrodes. 8. No Sticking Of Electrodes 9. Results should be stored in computer
2.2	User's interface	electrodes and computer
2.3	Software and/r tandard of communication (where ever required)	in built
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	light weight
3.3	Configuration	**Type:** Intel Pentium P4 compatible or better; **RAM:** minimum 1GB; Hard disk: Minimal 5 GB free disk space **Interface:** USB 1.1 or 2 **Display:** SVGA-Color Display 800x600 or better Operating system: Windows XP SP 3 Professional Windows 7 32/64bit Professional or Ultimate
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220-240Vac; 50/60 HZ
4.2	Battery operated	Desirable
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	NA
4.5	Power consumption	as per device
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Reusable cup electrodes (Infants & Adults) , Compatible insert receivers
	BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS	

6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Complete unit to be easily washable and sterilizable using both alcohol and chlorine agents.
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary,); Performance and safety standards (specific to the device type);Local and/or international	ISO 13485 certified manufacturer IEC 60601-1 -Medical electrical equipment-Part I: General requirement for safety
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Supplier to perform installation, safety and operation checks before handover.
8.2	Requirements for sign-off	Certificate of Calibration and inspection from the factory.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	Three years
9.2	Maintenance tasks	Maintenance manual detailing complete maintaining schedule
9.3	Service contract clauses, including prices	Local clinical staff to affirm completion of installation
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Advanced maintenance tasks required shall be documented User, technical and maintenance manuals to be supplied in English language. List to be provided of equipment and procedures required for local calibration and routine maintenance
10.2	Recommendations for maintenance	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided
11.2	Recommendations or warnings	List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided.

7. Brainstem Evoked Response Audiometer with insert phone BERA or with both Bone-conduction auditory brain-stem response (BCABR) and Air-conducted (AC). Bone vibrator and baby insert phone ABR with ASSR (Optional)

S.N	BERA & ASSR
1	Operational Requirements
	 
1.1	The system should be able to perform the BERA, ASSR.
2	Technical Specification for BERA
2.1	Should have following test types: - AEP: Chirp, Click & tone burst ABR, ECochG, Cortical AEP: AMLR, LLR, & Electrical ABR for pre surgical & Post-surgical Cochlear Implant procedure, VEMP
2.2	Should have ability to record under physiological and electromagnetic noises
2.3	Impedance measurement should be built in and displayed on screen. Should have facility of display multiple panels of waveforms simultaneously. Should have facility of continuous live display of ongoing input signals. Should have stimulus polarity: Condensation, Rarefaction, Alternating Should have absolute or stimulus relative masking types (NBN & White noise). Should have two isolated channels. Should have digital Butterworth High pass/ Low pass Filter.
2.4	Signal presentation : right, left and both
2.5	Should have pre-programmed auto tests. Should have facility of unlimited number of user defined test protocols.
2.6	Stimulus types: CE- Chirp, Click, Pure Tone, Tone Burst, tone pip Transducer: Insert ear phones, Headphones and Bone Vibrator
2.7	Intensity: 0-130dB nHL
2.8	Tone Burst 10 to 130 dB on 250 to 8000 Hz
2.9	Analysis time should be short: -50 to 700 ms
2.10	Should be amplifier frequency response 0.2 to 10,000 Hz.
2.11	Should have repetition rates 0.2 to 100 depending on modality.
3	Technical Specification for ASSR (Optional)
3.1	Stimulus - Modulated Tone, Clicks
3.2	Intensity : up to 125 dB SPL
3.3	Frequency response up to 5000Hz or better
3.4	Should be able to test multiple frequencies simultaneously for both ears
3.5	Automatic Generation of Audiogram in SPL/ HL
3.6	Phasor diagram should be generated automatically.
3.7	Frequency and intensity based phasor diagram.
3.8	FFT Values should be displayed
3.9	Should have spectrum graph

4	Technical Specification for VEMP
4.1	It should be 2 channels
4.2	Transducer type: Ear-Tone ABR insert phone with VEMP stimulus/Position indicator
4.3	Stimuli: Click and Tone Bursts.
4.4	Should have automatic test protocols for Click and Tone burst.
4.5	Patient communication: Talk forward.
5	System Configuration Accessories, spares and consumables
5.1	All accessories for all above facilities to be included. Should be CE certified & ISO certified manufacturing. (Attach Certificate). Should be supplied with following accessories: 1. Insert Earphone 01 no. 2. Electrodes 6mm cup 12 nos. 3. Electrodes 10 mm cup 12 nos. 4. Electrode linker 02 nos. 5. Skin preparation gel 01 no. 6. Conductive paste 01 no. 7. Infant ear tips 3.5 mm 20 nos, 8. Infant ear tips 4.0mm 20 nos. 9. Foam ear tips, 10mm 100 nos. 10. Disposable Electrodes25 nos. 11. Foam ear tips, 13mm 100 nos. 12. User Manual 01 no. 13. Ear Hug/ Halo muffin 100 Nos. 14. Insert adaptor for ear hug/Halo muffin – 02 sets
6	Power Supply
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable UPS with maintenance free batteries.
7	Standards, Safety and Training
7.1	Manufacturer should have ISO certification and the copy of the same should be enclosed along with the technical bid.
7.2	The quoted model should have European CE/US FDA certification and copy of the certificate should be submitted along with the technical bid.
7.3	Comprehensive training should be given for staffs and engineers till familiar with the system.
7.4	Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
7.5	Must submit at least 2 nos. of latest purchase order of the quoted model dated within 3 years along with the price bid.
7.6	Must submit at least 2 no. of unpriced PO copies and performance satisfactory report within last 5 years from reputed clients along with technical bid.
8	Documentation
8.1	Complete User/Technical/Maintenance manual to be supplied in English (Soft copy & Hard copy).
8.2	Certificate of calibration and inspection from factory.
8.3	Warranty & CMC as per tender terms.

8. Tuning Fork 1 set-4 tuning fork of 4 different frequencies 128 Hz, 256 Hz, 512 Hz and 1024 Hz

9. Speech and Voice software

Before Deciding to buy Speech and Voice software or going for a tender, Please consult "The All India Institute of Speech and Hearing", AIISH, located at Mysore, Karnataka or " Ali Yavar Jung National Institute of Speech and Hearing Disabilities", Mumbai. This would also depend on the predominant language spoken in your area.

Test materials are already given in the RBSK manual. However, it is not included here. Hence, attached once again which should be used for speech and Language assessment.

Disclaimer : This guideline is indicating the name of only few companies but before purchasing please form an expert committee and consult AIISH or Ali Yavar Jung National Institute of Speech and Hearing Disabilities, Mumbai Vaghmi Voice & Speech System, Bangalore

S.NO.	NAME OF THE SOFTWARE	SPECIFICATIONS	USEFUL FOR	COMPANIES	APPROX. PRICE (INR)
1	Speech & Voice Analysis Software	Recording of speech with minimum of 16 kHz Frequency and intensity analysis Perturbation measurement Nasalance measurement (Vaghmi Advanced Diagnostic Modules with all add ons)- with no external module	It is useful for speech and voice recording and analysis	Dr. Speech : Professional voice and speech analysis, feedback and documentation	1,30,000/-
2	Speech & Voice Therapy Software	Therapy programs for breath, voice, intonation, articulation, stuttering and nasality measurements	It is useful for speech & voice therapy	Vaghmi Voice & Speech System, Bangalore	1,50,000/-
3	Articulation Testing Software	For testing children in the language age of 2 – 3.6 years	It is useful for testing speech sound errors in Kannada	CAPP-K (Computerized analysis of Phonological Process in Kannada) AIISH, Mysore	2,000/-
4	Articulation Testing Software	For testing children in the language age of 2 – 3.6 years	It is useful for testing speech sound errors in Malayalam	CAPP-M (Computerized analysis of Phonological Process in Malayalam) AIISH, Mysore	2,000/-

10. OPD materials:

- LED Head light
- Thudicum's speculum set
- Killian' speculum set
- Laryngeal mirrors set
- Posterior rhinoscopic mirrors
- Aural Speculum all sizes black finish
- Nasal Packing Forceps
- Aural Suction Tips (Micro suction adapter)
- Nasal Suction Tips
- Tuning Forceps 512
- Hartman's Forceps
- Eustachian tube catheter
- Punch biopsy forceps
- Laryngeal biopsy forceps
- BP Handles of various sizes
- Tongue depressor

CANDIDACY FOR HEARING AID PRESCRIPTION

PEDIATRIC

Any child with a significant hearing loss is a candidate for amplification. The criteria for pediatric amplification include any of the following condition:

If the child has

Permanent, bilateral hearing loss of 25 dB HL or greater in the 1000 - 4000 Hz, amplification should be considered.

Unilateral hearing loss in the affected ear confirmed by ABR and behavioral testing, amplification in this ear may be beneficial. Monitored trial use of hearing aids is suggested during the toddler or preschool years.

Unusual configuration of loss e.g.: cookies bite, the need of amplification should be made on a case by case basis. The decision for amplification should be based on

- Child's audiological data
- Speech and language development
- Home performance
- Family preference
- Existence of other medical condition or special needs.

RESOURCE REQUIREMENTS

As a minimal standard, audiometric testing and the prescription of hearing aids require:

- A Pediatric Video Otoscope
- An OAE (Oto-acoustic emission
- An ABR
- An audiometer that allows calibration of insert phones
- Appropriate equipment to conduct visual reinforcement audiometry (VRA) and conditioned play audiometry (CPA) (i.e. visual reinforcers, age-appropriate toys, etc.)
- Insert earphones
- A sound-treated room
- An Immittance system
- An electro-acoustic analyzer for hearing instruments (including real ear measurement capability with the ability to measure and apply real ear to coupler differences (RECD)
- Equipment necessary to adjust and modify the prescribed device (e.g., computer)

Measurement equipment for evoked potentials is required to estimate thresholds for certain age ranges. The equipment should be calibrated at least annually and meet National Standards

Audiometric threshold testing should be routinely conducted in a sound-treated room, preferably with insert earphones is strongly recommended. In young children use of insert earphones rather than TDH headphones is recommended to reduce testing error due to ambient noise.

AMPLIFICATION PLANNING

Pediatric

After completing the assessment process,

- The audiologist and family/caregivers should discuss the finding and identify areas of difficulty and need.

- In many cases the fitting of hearing aids will be incorporated as an early component of the plan.
- Audiologist makes decisions on specific aspect of electroacoustic performance. However, family/ caregiver participates is strongly encouraged to participate in other planning before decision making.
- Before initiating the fitting of hearing aids it is important to make sure that family/caregiver develops realistic understanding of the potential benefit, limitation and costs associated with procuring amplification.
- Monoaural vs. binaural: Bilateral amplification should be prescribed for children and adults in cases with bilateral hearing loss unless there is a clear contraindication.

HEARING AID

Hearing aid is an option to improve the quality of life of hearing-impaired persons.

Audiologists are the professionals singularly qualified to prescribe and fit all forms of amplification for hearing-impaired persons.

The proper prescription and fitting of hearing aids are important, as it is not a straightforward step that ends at a specific point in time. Rather, it is a continuous process that involves the patient, family, parents/ caregivers (for the pediatric patient), and medical/non-medical professionals especially in rehabilitation programs. Improper assessment, prescription and fitting of hearing aids will lead to certain problems, resulting in failure of using hearing aids.

This guideline can be used as the current best practice for audiologists in prescribing and fitting hearing aids.

Definition

"Hearing aid" is defined as any electronic device fitted to the ear and designed to amplify and deliver sound to the ear (Stach 1997).

"Hearing aid prescription" is defined as the process of selecting the device, including the verification and validation of the selection. Hearing aid provision includes the prescribing and dispensing of hearing aids. It is an ongoing process requiring the joint participation of the audiologist, patient/client, family/caregivers, dispenser and others.

"Audiologists" are professionals engaged in an autonomous practice, who, by virtue of an academic degree in Audiology, clinical training to practice, or by professional credentials, are qualified to provide comprehensive professional services related to the prevention of hearing loss and the audiologic identification, assessment, diagnosis and management for people of all ages with impairment of the auditory system (Stach 1997).

Types of Hearing Aids	
Pocket Model: Worn in a pocket or harness at chest level. It consists of the body of the hearing aid containing the microphone, amplifier and controls. A cord transmits the electrical output to a receiver, which converts this signal into sound. The receiver is attached to a mould, which holds it in place.	
Behind the Ear (BTE): The complete hearing aid is in the ear or ear canal. The hearing aid is housed in a hard plastic shell which is often custom made by taking an ear impression.	
In the Ear (ITE): The complete hearing aid is in the ear or ear canal. The hearing aid is housed in a hard plastic shell which is often custom made by taking an ear impression.	
In the canal (ITC) hearing aid: In-The-Canal hearing aids are less visible than In-The-Ear Hearing Aids. ITC's take advantage of the ear's natural shape and are very small and lightweight. The hearing aid is molded to the inner canal so that the sound is naturally funneled through the hearing aid.	
Completely In the canal (ITC) hearing aid: Completely in the Canal (CIC) describes a type of hearing aid that is so small that it fits right into the ear canal. It has the advantage that it's usually less visible that the ITE or BTE aids, but its disadvantages include smaller batteries (with shorter lifespans), lower power, and fewer features (e.g. usually, no T-Switch).	
Spectacle Type: The hearing aid components are incorporated within a spectacle frame. It is useful for persons who require glasses along with hearing aids	
Bone Conduction (BC) hearing aid: This is used when the ear canal is blocked or in cases where conventional amplification as described above cannot be given. A BC vibrator is placed on the mastoid bone behind the ear. It converts the amplified electrical signal into vibrations. BC vibrator can be used with body level, BTE or spectacle hearing aids. Hearing aids should always be used with custom-made ear moulds. Ear moulds are devices, which couple the hearing aids to the ear. Ear moulds can be of hard or soft material.	

Tips for Hearing Aid Selection

Different Types of hearing aids provide different advantages and disadvantages. The client must choose which hearing aid he/she wants based on the audiologist's advice and their own decisions after weighing the pros and cons. Body level hearing aids are sturdy, less expensive to buy and maintain. They also have lesser problems of feedback squeal if the ear moulds are not good. The disadvantages are that

- The microphone is chest mounted and does not give ear level hearing.
- There is a difficulty in eliminating the effects of cloth rubbing noise and body shadow (the body may block some sounds from reaching the microphone).
- There is a difficulty in providing advantages of binaural hearing such as localization.

BTE hearing aids are more expensive to buy and maintain. They are small and thus easy to wear in children. They offer more flexibility with respect to adjustments in the output signal. BTE provide the advantage of binaural hearing as sounds are received at normal ear level. Localization of sounds is easy compared to even 2 pocket model hearing aids.

In the ear and in the canal hearing aids also provide advantages of binaural amplification. They are expensive and not worthwhile for children because the entire hearing aid will needs to be recased if the size and shape of the ear changes. In BTEs and pocket model aids, only ear moulds need to be changed. ITEs are also not useful for profound hearing losses. In the canal hearing aids fit in the ear canal and make use of the natural resonant properties of the external ear.

It is important to remember that irrespective of which style of hearing aid is chosen (BTE or pocket level) auditory training is required because that is what largely determines the child's progress.

1.1. Behind the ear (BTE) aids are the preferred choice for most children.

1.2. Hearing aids for children should be durable, have flexible features and suitable for growing ears. **ITE cannot be recommended for use with infants and young children due to the small size and rapid growth of outer ear.**

1.3. For older children decision for hearing aid style should be made based on the degree of hearing loss, patient's preference and social activities.

Earmolds

Petite or Spock-like, protruding or tucked, flexible or rigid, our ears are as differently shaped and textured as the nose on our faces, they serve an important purpose, especially for those who wear behind-the-ear (BTE) hearing aids.

Earmolds are the plastic part of BTE hearing instrument which connect the ear canal to the hearing aid and literally place the sound in your ear. Depending on the type and degree of hearing loss and the anatomy of the ear, the earmold can be canal size (tiny), half-shell size (medium) or even a "full shell" size (large).

There are more than ten different, common styles of earmolds, which are available in a variety of colors and types of plastic depending upon personal preference, the shape and texture of ear, and specific hearing instrument.

Earmolds can be used by both hearing aid wearers or to protect hearing from loud sounds.

The importance of a good fit

Much like eye glass frames must be fit to face; earmolds must be fit in ear. It's important for them to be tight enough to prevent sound from leaking out and creating feedback but not so tight they cause pain. That's why a hearing healthcare professional will make a cast of ear, known as an ear impression, to get the right fit.

Common problems

Even though earmolds are made from an actual impression of own ear, they may need a bit of adjusting. Some of the common problems hearing aid users can experience include:

Own voice sounds muffled. Because the ear canal is blocked while wearing hearing aids, users often complain their voices sound muffled, much like during a bad cold. This is known as the occlusion effect and can be managed with earmold modifications or hearing aid circuit changes.

Own voice sounds too loud. When hearing aid users complain their own voice sounds too loud, the earmold may need a larger vent.

Feedback: If the vent in the earmold is too large or in the wrong place, sound can leak through the vent and cause feedback.

Whistling- Sometimes the shape of jaw can affect how the earmold fits. If earmold has a tendency to move every time a person using it talk or chew, hearing aid may produce an annoying whistling sound. This problem can be addressed by attaching a small handle called a canal lock which will hold the ear mold more securely in place preventing feedback.

Advantages & Disadvantages: Hearing Aids

ADVANTAGES OF HEARING AIDS	DISADVANTAGES OF HEARING AIDS
• Greater control over the prosthetic device: - can try different hearing aids to see which is qualitatively preferred, so that user can conceivably purchase a new device every couple of years - can take advantage of new technology as it becomes available (improved earmolds, tubing, tele coils, digital/analog programming strategies) • Greater affordability: - can have a back-up hearing aid (older model) for times when device malfunctions - can afford to buy new device every few years - cost of accessories are minimal • Greater flexibility & accessibility for repairs: - can use hearing aid dispenser or audiologist in just about any neighborhood - can adjust controls on some personal device • Easier maintenance (once the earmold issues are minimized) - visit audiologist/hearing aid dispenser only when the aid malfunctions, which may be rarely or until a new hearing aid is needed/wanted - can easily change the tubing at home	• Limited hearing assistance in high frequency range • Earmolds and their acoustic feedback issues may be repetitive, time-consuming, aggravating • Loud noises are bothersome for those using linear amplification • Hearing aids for those with severe loss need to be fitted carefully, assertively, and well-monitored; securing the appropriate audiologist to accomplish aided thresholds that provide ease in "access to conversational sound" may be difficult in some locations

ADVANTAGES OF HEARING AIDS	DISADVANTAGES OF HEARING AIDS
• Battery gives a few hours warning that it is "dying" with sufficient time to change batteries at a more convenient time/place. • Retain residual hearing for later optimal hearing aid technology • For those with severe hearing loss, may be greater ease in discriminating of low frequency sounds and may better enjoy bass sounds of music • With an aided severe hearing loss, understanding children on the telephone may be easier as compared to understanding them with a cochlear implant • Hearing aids don't "mess" with the body's biology to quite the degree that cochlear implants do; e.g., hearing aids won't cause scarring or bony growth inside the cochlea.	

RISK OF HARM from Inappropriate Hearing Aid:

Inappropriate assessment of hearing problems or prescription and fitting of inappropriate hearing aids can result in harm to children, including but not limited to:

- contributing to significant delays in the development of speech, language, literacy, communication, socialization and learning in children
- impairing hearing further due to inappropriate and/or excessive amplification
- producing painfully loud sounds
- providing no measurable improvement in hearing
- negatively impacting on educational, vocational, social, communication, and emotional and psychological aspects of life
- delaying appropriate treatment for an otherwise treatable condition

HEARING AID PRESCRIPTION

Hearing aid prescription is defined as the process of selecting the device, including the verification and validation of the selection. Hearing aid provision, including prescription and dispensing of hearing aids, is an ongoing process requiring the joint participation of the audiologist, patient/client, family/caregivers, dispenser and significant others.

Hearing aid prescription in the pediatric population differs qualitatively from the adult population for a variety of reasons:

1. Limited audiometric data are often available, either because of a limited ability to respond to test stimuli or because of poor test reliability
2. Obtaining subjective feedback from the hearing aid user is generally not possible, and therefore validation of hearing aid fittings may be based on parent/caregiver or other observations, which may be biased, sketchy or unreliable
3. The presence of multiple disabilities may make the assessment and hearing aid prescription process more difficult

4. Hearing assessment may be complicated by the presence of otitis media, and similarly, prescription of electroacoustic characteristics may be complicated by fluctuations in hearing loss related to otitis media
5. Physical differences in ear anatomy result in differences in ear canal resonance and RECD for children and adults

Prescription from Audiologist must before giving the hearing aid

A hearing aid prescription should state the **type of aid**, **appropriate settings** and **applications** that will result in an amplification system that will improve the quality of life for the individual who is hearing impaired.

The audiologist, **the child** (where appropriate) and the **family/caregivers** will review the ***extent of the hearing loss*** and determine **realistic goals for amplification**, as required by each individual case.

Information regarding hearing loss and (re)habilitation options should be provided to parents/ caregivers in a manner which is clear, unbiased and culturally sensitive.

Hearing aids

S.NO.	NAME OF THE HEARING AID	SPECIFICATIONS	USEFUL FOR	COMPANIES	ILLUSTRATIVE PRICE (INR)
Hearing aids under C-DAC (Programmable Hearing aids till Severe loss)					
Disclaimer : This guideline is indicating the name of few companies but before purchasing please form an expert committee and consult AIISH or Ali Yavar Jung National Institute of Speech and Hearing Disabilities, Mumbai					
1	Tarang Digital Programmable Hearing Aid - Body Worn 	100% digital programmable hearing aid Multiple listening programs Maximum SPL: 134 dB Frequency range (Hz)- Low frequency limit- 200Hz High frequency limit- 6000Hz Sampling rate- 20KHz ADC Resolution- 16 bits Battery type- Ni-MH battery (Rechargeable) BIS certified	Amplification till severe hearing loss (90 dB & below)	C-DAC, Tarang Digital Programmable Hearing Aid, First and Second Floors E - 25, Hauz Khas Market New Delhi - 110016. India Phones:+91-11-26510221 Fax: +91-11-26510207 http://cdac.in/index.aspx?id=products_services	4773/- (Purchased only through Online)
2	Tarang Digital Programmable Hearing Aid - Behind the Ear (BTE) 	100% digital programmable hearing aid Multiple listening programs Maximum SPL: 134 dB Frequency range (Hz)- Low frequency limit- 200Hz High frequency limit- 6000Hz Sampling rate- 20KHz ADC Resolution- 16 bits Battery type- Ni-MH battery (Rechargeable) Easily available button cell battery BIS certified	Amplification till severe hearing loss (90 dB & below)	C-DAC, Tarang Digital Programmable Hearing Aid, First and Second Floors E - 25, Hauz Khas Market New Delhi - 110016. India Phones:+91-11-26510221 Fax: +91-11-26510207 http://cdac.in/index.aspx?id=products_services	5340/- (Purchased only through Online)

S.NO.	NAME OF THE HEARING AID	SPECIFICATIONS	USEFUL FOR	COMPANIES	ILLUSTRATIVE PRICE (INR)
Hearing aids for severe to profound hearing loss available in other hearing aid manufacturing companies					
Disclaimer : This guideline is indicating the name of few companies, and this does not mean we are advocating only these companies for purchase but before purchasing please form an expert committee and can consult AIISH or Ali Yavar Jung National Institute of Speech and Hearing Disabilities , Mumbai .					
3	Behind the ear digital hearing aids   	100% digital programmable hearing aid Multiple listening programs & Channels Maximum SPL: greater 134 dB Frequency range (Hz)- Low frequency limit- 200Hz High frequency limit- 6000Hz Sampling rate- 20KHz ADC Resolution- 16 bits Battery type- Button cell	Amplification for severe to profound hearing loss	M/s. Phonak India Pvt Ltd, # 30, 2nd Floor, Castle Street, Ashok Nagar, Bangalore – 560 025 Ph. : 080 41127074 M/s. Otic Hearing Solutions Pvt. Ltd, Sai Sangam, Office No. # 706/707 7th Floor, Plot No. 85, Sector 15, CBD Belapur, Navi Mumbai – 400 614 Fax : 022-27562973 M/s. Hearing Aid Centre (M/s. Bernafon) # 152-3rd floor, 18th Main, 1st Cross, 2nd Stage, Near Domlur Flyover, Indira Nagar, 100 Feet Road, Bangalore. Phone No. 09243601676 M/s. HAC Acoustic Technologies (Hansaton) TF4, Lokesh Towers, #18, Kodambakkam High Road, Chennai- 34. FAX: 044 42023520	13,000/- onwards
	 	High Resolution Smart digital Super Power	Hearing Aids	ALPS International Ashirwad Commercial Complex, D-1, Green Park, New Delhi, India	

Other options available if hearing aids are not useful/not recommended –

Cochlear implants- The cochlear implant is a prosthetic device, a part of which is surgically implanted inside the cochlea. Cochlear implants have been found to be beneficial for children and adults with severe to profound hearing loss and steeply sloping hearing loss who do not benefit adequately with hearing aids but have an intact auditory nerve. While a hearing aid provides amplified sound energy to the ear, the cochlear implant directly provides electrical stimulation to the nerve endings in the cochlea.

Evaluate the need for an implant-

Before deciding whether a child or adult is a suitable candidate for a cochlear implant, detailed assessments have to be done. These include:

- Audiological assessment including assessment of benefit from hearing aids
- Speech and language evaluation
- Psychological assessment
- Evaluation of the expectations of the client and the family
- Medical investigations
- Radiological investigations (CT scan and MRI)
- Neurological evaluation
- It is only after all these detailed assessments that candidacy can be determined. If the child or adult is deriving adequate benefit through hearing aids, a cochlear implant would not be necessary. It is obvious that for a cochlear implant program to be successful a team of professionals is required. The team includes audiologists and speech language pathologists, the ENT surgeon, the pediatrician in case of children, the neurologist, the special educator, the psychologist and the social worker. Other professionals may be called to give their inputs if required for a particular patient.

For more information on CI, following reference is very useful in order to get more information on Cochlear Implant under ADIP Scheme of Government of India http://adipcochlearimplant.in/

BAHA (Bone –anchored hearing aid)- It is type of hearing aid based on bone conduction. It is primarily suited for people who have conductive hearing losses, unilateral hearing loss, single sided deafness, and people with mixed hearing losses who cannot otherwise wear 'in the ear' or 'behind the ear' hearing aids. They are more expensive than conventional hearing aids, and their placement involves invasive surgery which carries a risk of complications, although when complications do occur, they are usually minor.

Medical use- Bone-anchored hearing aids use a surgically implanted abutment to transmit sound by direct conduction through bone to the inner ear, bypassing the external auditory canal and middle ear. Titanium prosthesis is surgically embedded into the skull with a small abutment exposed outside the skin. A sound processor sits on this abutment and transmits sound vibrations to the titanium implant. The implant vibrates the skull and inner ear, which stimulate the nerve fibers of the inner ear, allowing hearing.

The surgery is often performed under local anaesthesia and as an outpatient procedure. An important piece of information for patients is that if they for whatever reason are not satisfied with the BAHA solution, removing the implant is easy. No other ear surgical procedure is reversible like this.

By bypassing the outer or middle ear, BAHA can increase hearing in noisy situations and help localise sounds. In addition to improved speech understanding, it results in a natural sound with less distortion and feedback compared with conventional hearing aids. The ear canal is left open for comfort, and helps to reduce any problems caused by chronic ear infections or allergies. In patients with single-sided sensorineural deafness, BAHA sends the sound by the skull bone from the deaf side to the inner ear of the hearing side. This transfer of sound gives a 360° sound awareness.

BAHAs may facilitate normal language development.

Scheme of Assistance to Disabled Persons for Purchase/Fitting of Aids/ Appliances (ADIP Scheme)1, Applicable w.e.f. 1st April, 2014.

It has been the constant endeavor of the Government to provide the disabled persons with aids/appliance, at minimum costs, which are essential for their social, economic and vocational rehabilitation. Under the ADIP scheme, Ministry of Social Justice and Empowerment, following aids and appliances may be allowed for each type of disabled individual. However, any other items as notified from time to time by the Ministry of Social Justice and Empowerment for the purpose will also be allowed.

Locomotor Disabled

i. All types of prosthetic and orthotic devices.

ii. Mobility aids like tricycles, wheelchairs, crutches walking sticks and walking frames/rotators.

iii. All types of surgical footwear and MCR chappals.

iv. All types of devices for ADL (activity of daily living)

Visually Disabled

i. Learning equipment like arithmetic frames, abacus, geometry kits etc. Giant Braille dots system for slow-learning blind children. Dictaphone and other variable speed recording system. Tape recorder for blind student upto XII standard.

ii. Science learning equipment like talking balances, taking thermometers, measuring equipment like tape measures, micrometers etc.

iii. Braille writing equipment including Braillers, Braille shorthand machines, typewriters for blind students after the XII class. Talking calculators, Geography learning equipment like raised maps and globes

iv. Communication equipment for the deaf-blind. Braille attachments for telephone for deaf-blind persons.

v. Low vision aids including hand-held stand, lighted and unlighted magnifiers, speech synthesizers or Braille attachments for computers.

vi. Special mobility aids for visually disabled people with muscular dystrophy or cerebral palsy like adapted walkers.

Hearing Disabled

i. Various types of hearing aids.

ii. Educational kits like tape recorders etc.

iii. Assistive and alarming devices including devices for hearing of telephone, TV, doorbell, time alarm etc.

iv. Communication aids like portable speech synthesizer etc.

Mentally Disabled

i. All items including in locomotor disabled.

ii. Tricycle and wheel chair including the modifications to suit the individual.

iii. All types of educational kits required for the mentally disabled.

iv. Any suitable device as advised by the Rehabilitation Professional or treating physician.

1 Details may be referred at http://disabilityaffairs.gov.in/upload/uploadfiles/files/sipda/adiprevised010414.pdf accessed on 29032017

Multiple Disabled

i. Any suitable device as advised by Rehabilitation Professional or treating physician.

The ADIP Scheme also includes under its ambit, medical/surgical correction & intervention, which is essential prior to fitment of aids and appliances. The cost could range from Rs. 500/- for hearing & speech impaired to Rs.1000/- for visually disabled and Rs.3,000/- for orthopedically disabled.

Eligibility of the Beneficiaries

A person with disabilities fulfilling following conditions would be eligible for assistance under ADIP Scheme through authorized agencies.

1 An Indian citizen of any age

2 Holds a 40% Disablement Certificate

3 Has monthly income from all sources not exceeding Rs. 20000 per month

4 In case of dependents, the income of parents / Guardians should not exceed Rs. 20000 per month.

5 Who have not received assistance during the last 3 years for the same purpose from nay source. However, for children below 12 years of age, this limit would be one year.

Quantum of Assistance to Disabled

Cochlear implant- Ministry of Social Justice and Empowerment will recognize an Institute of national stature from each zone to recommend children eligible under the Scheme for cochlear implant, with a ceiling of Rs.6.00 lakh per unit to be borne by the Government. Ministry will also identify and recognize the Institutes in the zones wherein the surgery will be undertaken. Ministry will identify suitable agencies for providing cochlear implant (500 children per year) under the Scheme. Income ceiling for the beneficiaries will be same as for other aids/appliances.

Note: - *Beneficiaries will be linked with Aadhar number or Ration Card or Voter Icard from 2014-15 and with Aadhar number from 2015-16.*

Only those aids/appliances which do not cost less than Rs.50/- and more than Rs.6000/- are covered under the Scheme. However, for visually, mentally, speech & hearing or multiple disabled, the limit should be Rs. 8000/- during their study period up to XII standard. The limit will apply to individual items of aid and where more than one aid is required, the ceiling will apply separately. The amount of assistance will be as follows:

TOTAL INCOME	AMOUNT OF ASSISTANCE
Upto Rs.15,000/– per month	Full cost of aid/appliance
Rs. 15001/- to Rs. 20000/- per month	50% of the cost of aid/Appliance
Amount of assistance is based on total income of the family/head of family	

Further, travelling cost maybe admissible limited to bus fare in ordinary class or railway by second class sleeper subject to a limit of Rs.250/- for beneficiary irrespective of number of visits to the Centre and a Certificate from Doctor or Rehabilitation Professional, travel expenses subject to the same limit would be admissible to an attendant/escort accompanying the beneficiary. The beneficiary should attend the Rehabilitation Centre nearest to his/her place of residence, except in the North-Eastern Region where he may be allowed travel cost for travelling outside the Region till such facilities become available within that Region.

Boarding and Lodging Expenses at the rate of Rs.100/– per day for maximum duration of 15 days would be admissible, only for those patients whose total income is up to Rs.15,000/-per month.

AREA 11: EARLY INTERVENTION OCCUPATIONAL THERAPY

Area 11 –Early Intervention Occupational Therapy

AREA	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
910 sq. ft.	1. Therapy ball 65 cm 45cm 2. Therapy mats- 6ft x3ft 3. Bolster 4. 2ft long, diameter- 8 inch 5. 2ft long, diameter- 10 inch 6. Small roll- 13 inch long, Diameter-3 inch 7. Prone Wedge a. Big- Height-14 inch; Length- 31inch, breadth 17 inches b. Small- Height-10 inch; Length- 26 inch, breadth 17 inches 8. Balance Board 9. Kaye-Walker (height-48-64 cm) 10. Trampoline 11. Bolster Swing 12. Wooden Benches with cushion and Rexene cover 13. Splints (Ankle Foot Orthosis) 14. Special chairs with cut-out tray (Tailor made according to need of the child) **Toys (for play and stimulation)** 15. Small rattles 16. Squeaky toys 17. Puja bell (clapper bell) 18. Soft toy 19. Brush for tactile stimulation 20. Theraputty 21. Peg board 22. Ball Pool with balls of different sizes 23. Gaiters 24. Thick handle spoon – straight and bent 25. Plastic spoon with long handle (for babies) 26. Plastic glass with rim cut on one side 27. Stainless steel plates with high rim 28. Spouted cups	Air conditioner	Physiotherapist / Occupational Therapist / Early Interventionist with Physiotherapy or Occupational Therapy background
Cost of equipment: Rs. 1,00,000/-approx.			

Some Design concept of Early Intervention Occupational Therapy Area

EQUIPMENT FOR PHYSIOTHERAPY/OCCUPATIONAL THERAPY

S.NO	EQUIPMENT	SPECIFICATION	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
1	Therapy ball				
a)	65 cm	Brightly colored, Inflatable by foot pump. Molded heavy duty vinyl ball can support weight up to 150 kg	1	Y	Y
b)	45cm		1	Y	Y
2	Therapy mats- 6ft x3ft	Length 6 ft and breadth 3ft, made up of Rubberized foam, vinyl coated cover, thickness 4 cm, can be wiped clean with a damp cloth	6	Y	Y
3	Bolster				
a)	2ft long, diameter- 8 inch	Sponge cover on wooden shaft, outer side is covered with Rexene, Rexene is fixed to the wooden shaft with thick pins	1	Y	Y
b)	2ft long, diameter- 10 inch		1	Y	Y
4	Small roll- 13 inch long, Diameter-3 inch	Sponge roll covered with Rexene	3	Y	Y
5	Prone Wedge				
a)	Big- Height-14 inch; Length- 31 inch, breadth 17 inches	Foam filled wedges covered with Nylon, fitted with Rexene straps to position the child	1	Y	Y
b)	Small- Height-10 inch; Length- 26 inch, breadth 17 inches		1	Y	Y
6	Balance Board	Rexene covered cushioned platform size 45 cmX60 cmX15cm high	1	Y	Y
7	Kaye-Walker (height-48-64 cm)	Height 48-64cm, distance between hand grips 34 cm, frame width 58-60cm, frame length 69-83 cm, user height 107-137 cm, maximum user weight 39 kg., frame weight 3.85 kg.	1	Y	Y
8	Trampoline	Compact round trampoline, shape-round, light jumpers. Dimensions, diameter of the mat 2.5m, surface area of the mat(4.9 meter square), minimum lateral installation clearance (5.5m),Jumper weight rating 80 kg., structural load capacity 380kg.,height of the mat above ground 0.8 m, height of the Flexi-net above mat1.5 m, total height 2.3m	1	Y	Y
9	Bolster Swing	With nylon rope or straps with hooks to fit in the swing frame. Size 25 cm diameter X 90 cm long	1	Y	Y

S.NO	EQUIPMENT	SPECIFICATION	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
10	Wooden Benches with cushion and Rexene cover	Small (3ft long, height 8 inches, breath 6 inches),	1	Y	Y
		Big (3ft long, height 12 inches, breath 8 inches)	1	Y	Y
11	Splints (Ankle Foot Orthosis)		1 pair	Y	Y
12	Special chairs with cut-out tray (Tailor made according to need of the child)		1	Y	Y
13	Toys (for play and stimulation)				
a)	Small rattles		10	Y	Y
b)	squeaky		3	Y	Y
c)	Puja bell (clapper bell)		2	Y	Y
d)	Soft toy		10	Y	Y
e)	Brush for tactile stimulation		2	Y	Y
f)	Theraputty	Gluten free, non-toxic, red, yellow and blue colors 	3 containers	Y	Y
g)	Peg board	laminated square board having 10 holes to hold smoothly finished solid plastic pegs in five different bright colors	2	Y	Y
h)	Ball Pool	The dense foam padded mini Ball Pool is Soft, safe and perfect for small children. It provides an excellent sensory stimulating activity. The round pool is 120cm in diameter x 50cm high, &has 10cm thick padded sides. The pool contains500multi-color balls of 7cm or 8cm diameter. Pool side and bottom is covered with durable Rexene that easily wipes clean.	1	Y	Y
i)	Balls of different size		5	Y	Y

S.NO	EQUIPMENT	SPECIFICATION	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
j)	Gaiters	Aluminum/bamboo stick of 8",10", 12",14" long inserted in the pockets of thick canvas, 3 Velcro straps to be wound around	Total 8 no.(1 pair of each size mentioned)	Y	Y
k)	Thick handle spoon	Stainless steel spoon, padded handle	3	Y	Y
l)	Thick handle bent spoon	Stainless steel bent spoon, padded handle	3	Y	Y
m)	Plastic spoon with long handle (for babies)	Long handle bright color spoon	3	Y	Y
n)	Plastic glass with rim cut on one side	Plastic glass with one side of the rim is cut to accommodate nose	3	Y	Y
o)	Stainless steel plates with high rim	High rim to prevent spilling over of food	3	Y	Y
p)	Spouted cups	Spouted cups	3	Y	Y

Physiotherapy equipment

1. Therapy ball:

Quantity 2

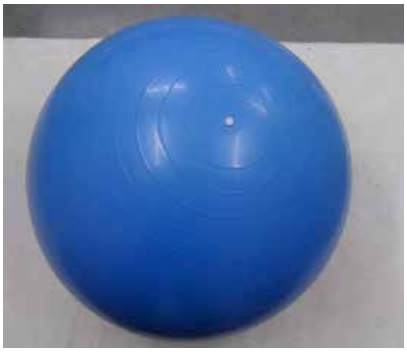
a) 65 cm and

b) 45 cm

brightly coloured,

Inflatable by foot pump.

Moulded heavy duty vinyl ball can support weight up to 150 kg



2. Therapy mats:

Quantity 6

6ft x3ft (Length 6 ft. and breadth 3ft), thickness 4 cm,

made up of Rubberized foam, vinyl coated cover,

can be wiped clean with a damp cloth

3. Bolster:

Quantity – 2 bolsters

2 ft. long, diameter- 8 inch and

2ft long, diameter- 10 inch.

Sponge cover on wooden shaft, outer side is covered with Rexene, Rexene is fixed to the wooden shaft with thick pins

A child is encouraged to roll into prone by rolling the bolster backwards

4. Small roll:

13 inch long, diameter -3 inch

sponge roll covered with Rexene

The child is placed in prone over a roll

A roll is placed under the head to inhibit extensor Tone

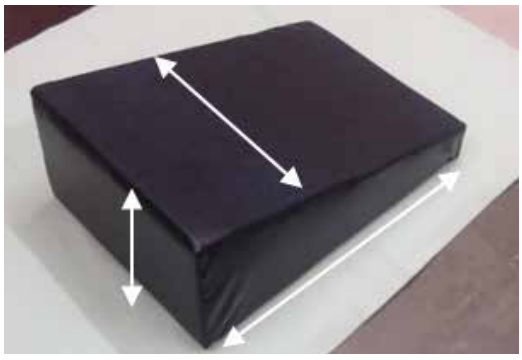
5. Prone wedge

Quantity -2 wedges, 1 big and 1 small

Big- Height-14 inch; Length- 31 inch, breadth 17 inches ,

Small- Height-10 inch; Length- 26 inch, breadth 17 inches

Foam filled wedges covered with Nylon, fitted with Velcro straps to position the child



A mother encourages her child to lift her head and trunk by shaking a rattle when the child is placed prone on a wedge.

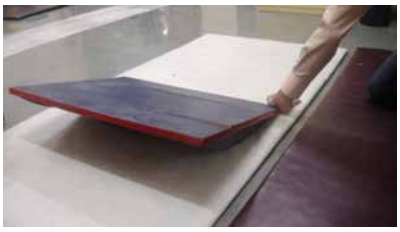
The child is lifting her head and weight bearing through her arms on a bolster

6. Balance Board:

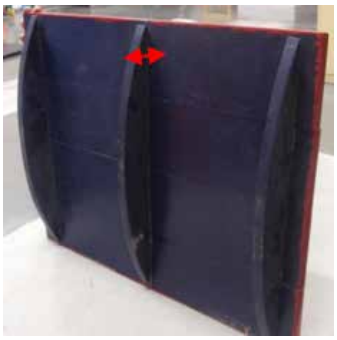
Quantity -2

size 45 cmX60 cmX15cm high

Rexene covered cushioned platform



Underside of the Balance board



7. Kaye-Walker

Quantity -1

Available in 3 sizes-

Height-37-46 cm, distance between hand grips-34cm, frame width5-58-60cm , frame length-52-59cm , user height-upto 95cm , maximum user weight-27kg , frame weight-3kg

Height-41-55 cm, distance between hand grips-34cm, frame width-60-62cm , frame length-56-62cm , user height-99-122cm , maximum user weight-27kg , frame weight- 3.3kg

Height-48-64 cm, distance between hand grips-34cm, frame width- 58-60cm, frame length- 69-83cm, user height- 107-137cm, maximum user weight- 39kg, frame weight-3.85kg

8. Bolster Swing

Quantity –2

1 big - 300mm diameter and 1.5 meter long

1 small-300mm diameter and 1.2 meter long

Size 25 cm diameter X 90 cm long

Swing with nylon rope or straps with hooks to fit in the swing frame.

9. Wooden Benches with cushion and Rexene cover 3ft long and 4, 6, and 8 inches height, breath 6 inches- Quantity-3 (one each) 1 Big (3ft long, height 12 inches, breath 8 inches)	
10. Splints (Ankle Foot Orthosis)	
11. Modified chairs (wooden with cushion covered with Rexene)- Custom made Quantity-1 Child sits in a modified chair with a cut-out tray in front. The chair has castors for easy transportation	
12. Cut-out floor table (2ft×2ft) Quantity – 2	
13. Floor seat (Pelvic strap): Quantity -2	
 Child sits in a floor seat with a cut-out floor table in front	
14. Trampoline Quantity -1	
15. Looking mirror Fixed all around the wall adjacent to the floor at a height of 4 feet and 3 inches above the ground is used for Self-recognition in the child.	

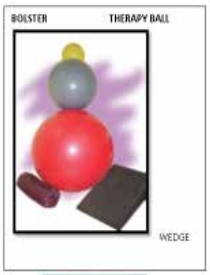
16. Toys (for play and stimulation)

a. Small rattles
b. Squeaky toys
c. Puja bell (clapper bell)
d. Soft toy
e. Brush for tactile stimulation
f. Theraputty : Gluten free, non-toxic, red, yellow and blue colours
g. Peg board: laminated square board having 10 holes to hold smoothly finished solid plastic pegs in five different bright colours
h. Ball Pool: The dense foam padded mini Ball Pool is Soft, safe and perfect for small children. It provides an excellent sensory stimulating activity. The round pool is 120cm in diameter x 50cm high, & has 10cm thick padded sides. The pool contains 500 multi-colour balls of 7cm or 8cm diameter. Pool side and bottom is covered with durable Rexene that easily wipes clean
i. Balls of different size
j. Gaiters : Aluminium/bamboo stick of 8",10", 12",14" long inserted in the pockets of thick canvas, 3 Velcro straps to be wound around Total 8 no's
k. Thick handle spoon Stainless steel spoon, padded handle
l. Thick handle bent spoon Stainless steel bent spoon, padded handle
m. Plastic spoon with long handle (for babies) , Long handle bright colour spoon
n. Plastic glass with rim cut on one side : Plastic glass with one side of the rim is cut to accommodate nose
o. Stainless steel plates with high rim : High rim to prevent spilling over of food
p. Spouted cups

 Puja bell	 Rattle	 Rattle	 Squeaky toy
 Squeaky toy	 Soft toy	 For tactile stimulation	 Brush for tactile stimulation
 Toy for tactile stimulation	 Plasticin	 Peg board	 Peg board

Utilities of therapy equipment

Therapy ball	A useful tool to facilitate movements of head and trunk against gravity. It provides vestibular stimulation. It helps to improve balance reactions. Rolling can be facilitated using righting reactions. It helps to increase tone up to an optimal level for a child with low tone. Rhythmic movements on the ball help to reduce hypertonia and thus prepare a child for more normal patterns of movements.
Therapy mats	Parents and professionals sit on the mats. Therapy is done on the mat. As the mats are placed on the floor, the child feels much secured and dispel fear of falling down from a height in the child and thus rule out any injury due to fall. The mats are easy to clean.
Bolster	Used for proprioceptive, vestibular input. Various movements can be facilitated on a bolster such as head and trunk extension, rotation of trunk in sitting and rolling over. Co-contraction of shoulder girdle muscles can be facilitated through weight bearing through arms in a prone position and gentle rocking movements forward to back helps to facilitate the child's weight shifting ability through arms. Righting reactions can be improved with slight rolling of the bolster to both sides putting the child in an astride position.
Small roll	Used for babies and infants for positioning and to facilitate head control in prone. When placed under the occiput, it helps to maintain elongation of the back of the neck and reduce extensor tone in infants with ATNR and opisthotonic posture.
Prone Wedge	Used for positioning a child in prone, facilitates head control as the effect of gravity is much eliminated.
Balance Board	Improves balance in sitting or in a standing position. Instability invokes equilibrium reactions and thus improves stability in standing and walking.
Trampoline	Used for proprioceptive and vestibular stimulation especially for children with sensory integration disorder.
Kaye-Walkers	A walking aid that facilitates extension of trunk, hips, and knees for children with spastic Diplegia.
Modified chairs	Seating children with Cerebral palsy, modified according to the needs of the child.
Splints	Used to keep the joints in neutral positions and provide stability.
Wooden Benches	Used as therapy tool to facilitate standing and cruising. Cruising is particularly important to reduce adductor spasticity and simultaneously facilitates extension and external rotation of hips and extension of knees when the child shifts her body weight sideways. A child can stand in a modified plantigrade position (weight bearing on extended arms while standing on her feet) and gentle rocking forward and backward facilitates weight bearing through both arms and legs. Such rocking movements also help in improving balance reactions in preparation of walking with walking aids like elbow crutches or rollator or a Kaye-walker.
Bolster Swings	For vestibular stimulation, used for children with sensory integration disorder.



Trampoline

Wedge

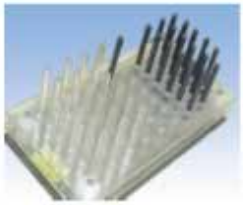
Therapy Floor Mat

Practice Beam

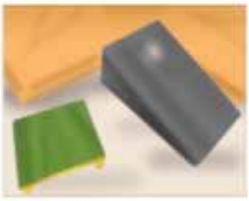
ADDED BALANCE BOARD

MODIFIED CHAIRS

BEAN BAG



PEG BOARD



WEDGES

ACTIVITY TABLE

MODIFIED WHEEL CHAIR

CP WALKER

STACKING RINGS

TRAMPOLINE

BALANCING TOY

STEP STANDER

BALL POOL

SLIDER

Resources to Support Sensory Development

Resources to support sensory development

Fig 1 Sensory toys, to squeeze and feel.

Fig 2 Head phones.

Fig 3 Sensory feely boxes, sand trays, yellow sensory box.

Fig 4 Tactile Mat and Balls

Fig 5 Rocking toy, trampette and play tent.

AREA 12: PSYCHOLOGICAL TESTING

Area 12 –Psychological Testing

AREA.	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
10'x10' ft	1. Developmental assessment for Indian Infants (DASSI) 2. Vineland Social Maturity Scale 3. Vineland Adaptive Behaviour Scales 4. Bayley-III Screening Test Complete Kit Includes; Manual, Stim Book, Picture Book, Record Forms 25 Packs. 5. Developmental Screening Test (DST) by Bharat Raj 6. Denver Developmental Screening Test II (DDST-II) 7. Stanford Binet (Indian adaptation-Kulshreshta) 8. Piagetian Cognitive Tasks **Autism Spectrum disorder:** 9. INCLEN-ASD or Indian Scale for Assessment of Autism (ISAA) 10. INCLEN- Diagnostic Tool for Epilepsy (INDT-EPI) 11. NIMHANS battery 12. Dyslexia Early Screening Test: 4-6 years (DEST) and Dyslexia, Screening Test Junior (6-11 years) 13. Childhood Behavioural Checklist CBCL 14. Cerebral Palsy and Neuromotor impairment: INCLEN (INDTNMI) 15. Adequate chair & tables	Air conditioner	Clinical Psychologist
Cost of equipment/tools: Rs. 2,00,000/-approx.			

PSYCHOLOGICAL TEST TOOLS

BOLSTER THERAPY BALL

VALIDATED CONFIRMATORY / DIAGNOSTIC TOOL	AGE GROUP	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
Receptive-Expressive Emergent Language Test—Third Edition (REEL-3)	0-3 years	1	Y	Y
LPT: Linguistic profile test	3-9 years	1	Y	Y
Developmental assessment for Indian Infants (DASSI)	From birth to 30 months	1	Y	Y
Vineland Social Maturity Scale	0-15 years	1	Y	Y
Vineland Adaptive Behavior Scales	0-90 years	1	Y	Y
Developmental Screening Test (DST) by Bharat Raj	1-15 years	1	Y	Y
Denver Developmental Screening Test II (DDST-II)	1 month to 6 years	1	Y	Y
Stanford Binet (Indian adaptation-Kulshreshta)	4-14 years	1	Y	Y
Bayley-III Screening Test Complete Kit Includes; Manual, Stim Book, Picture Book, Record Forms 25 Packs.	1 month to 42 months	1	Y	Y
Dyslexia Early Screening Test 4-6 years (DEST) and Dyslexia Screening Test Junior (6-11 years)	4-6 years and 6-11 years	1	Y	Y
NIMHANS battery	5-15 years	1	Y	Y
Childhood Behavioral Checklist CBCL	1.6-5 years 6 yrs – 18 yrs	1	Y	Y
Cerebral Palsy and Neuro-motor impairment: INCLEN (INDT-NMI)	0-9 years	1	Y	Y
INCLEN Diagnostic Tool for Epilepsy (INDT-EPI)	2-9 years	1	Y	Y
INCLEN-ASD or Indian Scale for Assessment of Autism (ISAA)			Y	Y

WEDGE

1. Receptive-Expressive Emergent Language Test—Third Edition (REEL-3)

TECHNICAL SPECIFICATIONS	
Name	Receptive-Expressive Emergent Language Test
Used for	language problems
Age Range	Youngsters up to 3 years of age
Other characteristics	The REEL-3 uses the parental observation of the child behavior or guardians to identify major language problems in youngsters up to 3 years of age. It consists of two core subtests--Receptive Language and Expressive Language

2. Linguistic Profile Test (LPT)

TECHNICAL SPECIFICATIONS	
Name	Linguistic Profile Test (LPT)
Used for	Assessment and rehabilitation of language related problems
Age range	6+ years to 10+
Clinical purpose	For evaluation as well as a basis for rehabilitation and linguistic retraining of the communicatively disabled children. Meant for school going children from Grade 1 to Grade V age range from 6+ years to 10+; useful in identifying children with language disorders at particular linguistic levels and also as a baseline for speech-language therapy.

3. Developmental Assessment scales for Indian infant (DASII)

TECHNICAL SPECIFICATIONS	
Name	Developmental Assessment scales for Indian infant (DASII)
Used for	Developmental assessment
Age range	0-30 months
Other characteristics	There are two subscales of this test: Motor and mental and total 230 items. 67 items for motor and 163 items for mental subscale. Motor items tests loco motor skill, manipulatory behavior and supine to erect posture. Mental scale scores cognizance, perceptual pursuit, exploration, communication and language comprehension, manual dexterity, spatial relationship, social interaction, and imitative behavior.

4. Vineland Social Maturity Scale

TECHNICAL SPECIFICATIONS	
Name	Vineland Social Maturity Scale
Used for	Assessment of social maturity
Age range	0-15 years

TECHNICAL SPECIFICATIONS	
Other characteristic	It consists of 117 test items and adopts an interview format for parent or other primary caregiver. Also, examiner's observation plays an important role. The test should consists of 8 sub-scales measuring: - Communication skills - General self-help ability - Locomotion skills - Occupation skills - Self-direction - Self-help eating - Self-help dressing - Socialization skills Although it is meant for children between 0-15 years, it can also be used for adults with intellectual disability. It is helpful in planning for therapy and/or individualized instruction for persons with mental retardation or emotional disorders.

5. Vineland Adaptive Behavior Scales

TECHNICAL SPECIFICATIONS	
Name	Vineland Adaptive Behavior Scales
Used for	Adaptive behaviors
Age range	Birth to 90 years
Other characteristics	To measure adaptive behavior of individuals from birth to age 90. It can also be used for assessment of autism spectrum disorder, Genetic disorder and other Development evaluations.

6. Developmental Screening Test (DST) by Bharat Raj

TECHNICAL SPECIFICATIONS	
Name	Developmental Screening Test (DST) by Bharat Raj
Used for	Screening for developmental delay
Age range	Birth to six years
other characteristics	This test consists of Task performing activity The scale reflects what percentage of a certain age group is able to perform a certain task.

7. Denver Scale II- Developmental Screening Test II

TECHNICAL SPECIFICATIONS	
Name	Denver Scale II- Developmental Screening Test II
Used for	Developmental screening
Age range	1 month to 6 years

TECHNICAL SPECIFICATIONS	
Other characteristics	The DENVER II is a revision and update of the Denver Developmental Screening Test, DDST. Both were designed for use by the clinician teacher, or other early childhood professional to monitor the development of infants and preschool-aged children. - Used to monitor children at risk for developmental problems; - 125 performances based and parent report items are used to screen children's development in four areas of functioning: fine motor-adaptive, gross motor, personal social, and language skills; - Time: 10 to 20 minutes

8. Stanford Binet (Indian adaptation-Kulshreshta)

TECHNICAL SPECIFICATIONS	
Name	Stanford Binet (Indian adaptation-Kulshreshta)
Used for	Intelligence testing
Age range	2 years to 22 years
Other characteristics	- Age equivalent test to measures general mental ability i.e. intelligence - Binet-Kamat Scale of intelligence is the Indian adaptation of the 1934 version of Stanford-Binet Scale of Intelligence Age group: 2 years to 22 years Administration time:50-60 minutes

9. *Bayley-III Screening Test Complete Kit Including Manual, Stimulation Book, Picture Book, Record Forms 25 Packs

TECHNICAL SPECIFICATIONS	
Name	BAYLEY-III Screening Test
Used for	Screening for developmental delay
Age group	1 month to 42 months
Other characteristics	To determine if a child is "on track" developmentally or if further, more comprehensive assessment is needed. - It takes total of 10 to 20 minutes to administer this test; - It is an individually administrated test; - It assess cognitive, language and motor development, fast and easy administration using selected items from full Bayley-III battery Child-friendly with playful activities, cut scores according to age.

10. Dyslexia Early Screening Test 4-6 years (DEST) and Dyslexia Screening Test Junior (6-11 years)

TECHNICAL SPECIFICATIONS	
Name	Dyslexia Early Screening Test 4-6 years (DEST) and Dyslexia Screening Test Junior (6-11 years)
Used for	Screening learning disability
Age range	4-6 Years
	Screening tests of attainment and ability to determine whether a young child is experiencing difficulty in areas known to be affected in dyslexia. Dyslexia Early Screening Test - Second Edition (DEST-2) for 4-6years should include 12 subtests: Rapid naming, Bead threading, Phonological discrimination, Postural stability, Rhyme/Alliteration, Forwards digit span, Digit naming, Letter naming, Sound order, Shape copying, Corsi frog Vocabulary (group/individual). Dyslexia Screening Test - Junior (DST-J) is for 6-11 years and should consists of the following subtests: Rapid Naming Bead Threading One Minute Reading Postural Stability Phonemic Segmentation Two Minute Spelling Backwards Digit Span Nonsense Passage Reading One Minute Writing Verbal Fluency Rhyme NEW Vocabulary NEW

11. NIMHANS Neuropsychological battery

TECHNICAL SPECIFICATIONS	
Name	NIMHANS battery
Used for	Neuropsychological assessment
Age range	5-15
	Subtests include Tests of Speed, Attention, Memory, Executive Function, Comprehension and other neuropsychological functions
other characteristics	Should include Finger tapping Test Digit Symbol Substitution Test Color Trails Test Digit Vigilance Test Triads Test Auditory Verbal Learning Test Logical Memory Test Complex Figure Test Design Learning Test Controlled Word Association Test Animal Names Test Design Fluency Test N Back tests (Verbal & Visual) Self-Ordered Pointing Tests Tower of London Test Wisconsin Card Sorting Test Stroop Test Token test. Should be used for 6-9 years.

AREA 13: LABORATORY

Area 13 – Laboratory

AREA	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
200 sq. ft.	Automated 3-part Differential Blood Cell Counter Microscope *Hematocrit Capillary Centrifuge with capillary and Hematocrit Reader * Laboratory table top centrifuge (test tubes) Semi-automated biochemistry analyzer Bilirubinometer, total bilirubin, capillary based (If not already present in SNCU) Lab reagents Testing kits Slides, beakers, test tubes etc. Air-conditioner Hematocrit Capillary Centrifuge with capillary and Hematocrit Reader Laboratory tabletopcent rifuge (testtubes) Bilirubinometer, totalbilirubin, capillarybased (IfnotalreadypresentinSNCU)	1. Newborn screening for Haemoglobinopathies : using Dried Blood Spots (DPS) 1a) Those most commonly used in neonatal screening are High-performance liquid chromatography (HPLC) Variant NBS using DBS 1b) Capillary electrophoresis (CE) using DPS 1c) Isoelectric focusing (IEF) using DPS. 2. Newborn Screening for Inborn error of metabolism a) Congenital Hypothyroidism b) Congenital Adrenal Hyperplasia Methods 1) Flurometry technology 2) ELISA Reader and Washer 3. Portable Digital Hemoglobinometer	Lab Technician
Cost of equipment: Rs. 12,00,000/- approx.			
Some design concept of Laboratory in DEIC			

LAB EQUIPMENTS

EQUIPMENT	QUANTITY	ESSENTIAL FOR MODEL DEIC	ESSENTIAL FOR DISTRICT DEIC
Automated Blood cell Counter (3 part)	1	Y	Y
Microscope	1	Y	Y
Semi-automated analyzer	1	Y	Y
Digital Hemoglobinometer (with cuvic and lancet)	1	Y	Y
Hemoglobin HPLC system	1	Y	OPTIONAL
ELISA Reader and Washer	1	Y	OPTIONAL
Lab reagents		Y	Y
Slides, beakers, test tubes etc.		Y	Y
Fluorometer	1	Y	OPTIONAL
Hb electrophoresis machine	1	Y	OPTIONAL
Hematocrit Capillary Centrifuge with capillary and Hematocrit Reader	1	Y	Y
Laboratory table top centrifuge (test tubes)	1	Y	Y
Bilirubinometer, total bilirubin, capillary based (If not already present in SNCU)	1	Y	Y

LAB EQUIPMENTS

1. Automated 3-Part Differential Blood cell Counter

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
AUTOMATED BLOOD CELL COUNTER		
		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Automated Blood Cell Counter
GMDN code		CT 1184
GENERAL		
1	USE	
1.1	Clinical purpose	The instrument measures Hemoglobin and counts and identifies different types of blood cells including Red Blood Cells (RBCs), White Blood Cells (WBCs), and Platelets by analyzing data about the size and aspects of light as they pass through the cells (called front and side scatter) and provides related indices
1.2	Used by clinical department/ward	Hospital, Blood Bank, Clinical Laboratory

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Principle: Electrical Impedance method. 2. Should have extended linearity (preferably up to 25g/dl for HGB, 1 lac/ Cubic mm for RBC and 10 Lac/ Cubic mm for platelets. 3. Number of reportable parameters: a minimum of 18 parameters with differential identification of 3 types of WBCs (Granulocytes, Lymphocytes and Mixed) 4. Essential reportable parameters in whole blood: Hemoglobin (HGB); Hematocrit (HCT);RBC,MCV,MCH,MCHC,RDW-SD,RDW-CV;WBC#, Granulocytes(Neutrophils)#, Granulocytes (Neutrophils)% of WBC; Lymphocyte % of WBC; Mixed (Eosinophils, Monocytes, Basophils and others) % of WBC; #Platelets (PLT);MPV;PDW 5. Sample: Both whole blood and pre-diluted mode 6. Throughput: Minimum of 50 samples/hour 7. Minimum of three histograms-RBC,WBC and PLT should be displayed 8. Should have in-built thermal printer with provision for connection with an external printer 9. Minimum of 200 results memory 10. Alerts for operator for level of reagents and to empty waste when indicated;
2.2	User interface	Touch screen
2.3	Software and/or standard of communication (where ever required)	Applicable software to be supplied
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Should maintain normal temperature and the heat should be disbursed through a cooling mechanism
3.6	Mobility, portability	Movable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging UPS unit: Input voltage- 220VAC ± 10%, 50 Hz
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	Should have online UPS and over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. Quality controls facility with the availability of controls with each set of reagents; 2. Reagent expiry time should be minimum of 1 year; 3. One set of all reagent and controls at the time of delivery; 4. Two sets of all tubing; 5. Staged supply of controls over 1 year from the date of installation; 6. Cost of reagents, control & calibration for price to be declared involve cost/cycle for 3 years.

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 5 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Instrument should be CE (EU) marked or USFDA approved; 2. Should have IEC 61010-1, IEC 61010-2-101:2002;
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5Amps/ 15Amps socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

2. Microscope

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
MICROSCOPE		
		
Version no. :		1
Date:		12/05/2014
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Basic Light Microscope
GMDN code		CT 35484
GENERAL		
1	USE	
1.1	Clinical purpose	Microscopic analysis of blood cells helps diagnose infections, leukemia, anemia, and other blood disorders. Microscopic examinations can identify different types of cells and detect abnormal changes in cells or tissues to differentiate benign, inflammatory, precancerous, or malignant conditions.
1.2	Used by clinical department/ ward	Medical laboratory; physician office; clinic; hospital
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Body: Binocular, sturdy stable with focus adjustment controls 2. Eyepiece: Paired, high quality 10X with minimum of 18 diopter adjustment. Reticle to be fixed on eyepiece 3. Objectives: 4X, 10X, 40X, 100X (oil immersion). All objectives should be compatible for use with coverslip. 4. Nosepiece: revolving nosepiece to accommodate 4 objectives with click stops 5. Stage: uniformly horizontal stage with right hand stage holder and stage micrometer with minimum reading accuracy of 0.1 mm 6. Sub stage Abbe type condenser with filter holder and removable blue filter 7. Illumination: built –in light source LED bulb or 20W, 6V halogen bulb with on off switch with intensity control and socket for easy replacement of bulb and fuse of the bulb should be easily accessible 8. A Plano- concave mirror with fork mounting should be supplied for use when power not available
2.2	User interface	Manual

2.3	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	[380-450] x [203-820] x [305-380]
3.2	Weight (lbs., kg)	Max: 10 Kg
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	NA
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Input voltage- 220-240 VAC ± 10%, 50/60 Hz
4.2	Battery operated	NA
4.3	Tolerance (to variations, shutdowns)	± 10%,
4.4	Protection	In built protection device to withstand voltage fluctuations from 140-280V
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	Should be providing dust cover, at least a 25 ml bottle of immersion oil, A roll of lens tissue paper, lens cleaning solution, Include two extra bulbs, fuses 6 nos 3 core power cord with a 3 point male plug
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambience (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Amenable to cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1) Should have IEC 61010-1 certificate; 2) Instrument should be CE (EU) marked or USFDA or ISI approved.
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1) Availability of 5 amp socket; 2) Safety and operation check before handover; 3) Line power
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1) Training of users on operation and basic maintenance; 2) Advanced maintenance tasks required shall be documented

9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1) Maintenance manual detailing; 2) Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1) User, technical and maintenance manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Biomedical engineering staff and/or service contract with the manufacturer or third-party organization; OEM servicers. Contact details of manufacturer, supplier and local service agent to be provided; Any contract (AMC/CMC/ad-hoc) to be declared by the manufacturer.
11.2	Recommendations or warnings	Any warning signs should be adequately displayed

3. Semi-automated biochemistry analyzer

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
Semi-automated analyzer		
		
Version no. :		2
Date:		July 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Laboratory multichannel clinical chemistry analyzer IVD, semi-automated
GMDN code		CT 56677
GENERAL		
1	USE	
1.1	Clinical purpose	A semi-automated biochemistry analyzer is a medical laboratory instrument designed to measure different enzymes and other substances in a number of biological samples quickly, with minimal human assistance.
1.2	Used by clinical department/ward	Pathology and clinical diagnostic laboratory

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. System Type: Semi-Automatic, 2. Type of Tests: Routine & Un common Biochemistry Enzymes, Substrates, Drug Assays, Serum Proteins 3. Analysis Mode: End Point, Fixed Time, Kinetic, Linear/Non-Linear Multipoint Calibration with graph display 4. Should have at least 100 programmable channels 5. Should have 6 Interference Filters in the range of 340 -700 6. Analyzer resolution should be 0.0001 absorbance unit and range 0.000 to 3.000 Abs. Unit 7. Should have quartz flow cell with flow cell volume less than 20 ul 8. Should be capable of using wet chemistry reagents 9. Should have previous blank and standard memory storage 10. Capable of three reaction temperature controls-25, 30 and 37 degree Celsius 11. Keyboard should be touch mechanical 12. 3 level control by Levey Jennings chart stored and displayed
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	NA
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Stationery, can be moved to change installation place
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging unit: Input voltage- 220VAC ± 10%, 50-60Hz
4.2	Battery operated	No
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	NA
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	UPS-0.5KVA online, Light source /lamp-1 no. Micro-pipettes- 4 nos. 2 variable (5-50) 2 (100-1000) Tips for pipettes 500 small (100ul) and 500 big (1000 ul) Required reagents

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should have IEC 61010-1 certificate; 2. Instrument should be CE (EU) marked or USFDA approved; or ISI approved
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; (Type D). 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

4. Portable Digital Hemoglobinometer

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
Digital Hemoglobinometer		
		
Version no. :		1
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		Digital Hemoglobinometer
GMDN code		
GENERAL		
1	USE	
1.1	Clinical purpose	Portable hemoglobinometers are microprocessed photometer used to provide easy and convenient measurement of hemoglobin content of the blood, where the reaction is carried out in a disposable reagent filled vial (cuvette). It is particularly useful in areas where no clinical laboratories are available. It is also useful in emergencies due to its ease-of-use, accuracy, and fast delivery of results.
1.2	Used by clinical department/ward	Hospital, blood bank, clinical laboratory, bedside or in outdoor locations
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1) Should have testing time of not more than 5 seconds 2) Sample volume should not be more than 20µL 3) Range of measurement should be between 0 to 25g/dl 4) Output: On-board screen display screen, printer(optional) 5) Should be able to withstand outdoor environmental conditions
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	Microprocessor based proprietary software

3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	Max: 250 g (excluding battery)
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Should maintain nominal Temperature
3.6	Mobility, portability	Portable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	NA
4.2	Battery operated	Yes
4.3	Tolerance (to variations, shutdowns)	± 10%
4.4	Protection	Should have inbuilt protective mechanism
4.5	Power consumption	Internal batteries(should be easily available in market)
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. Cuvette supply should be accompanied by equal supply of Disposable Lancets and swab in equal numbers and not to exceed Rs.30/unit 2. 1x10 cells 3. 1x50 cuvettes extra for calibration/checking purposes
	BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS	
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/ or international	1. Should have IEC 61010-1 certificate; 2. Instrument should be CE (EU) marked or USFDA approved or ISI marked
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	Safety and operation check before handover
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer/factory
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance;

9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1) User, technical and maintenance manuals to be supplied along with machine diagrams; 2) List of equipment and procedures required for local calibration and routine maintenance; 3) Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

Guidelines for screening and diagnosis of Hemoglobinopathies

METHODOLOGIES FOR HEMOGLOBINOPATHY SCREENING AND DIAGNOSIS :

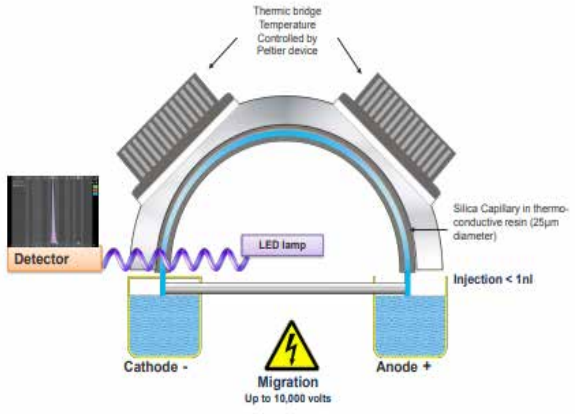
Various methods of hemoglobinopathy newborn screening and adult testing are employed by laboratories. Many of the same methods used for screening, such as Isoelectric focusing (IEF) and High performance liquid chromatography (HPLC,) are also used for diagnosis

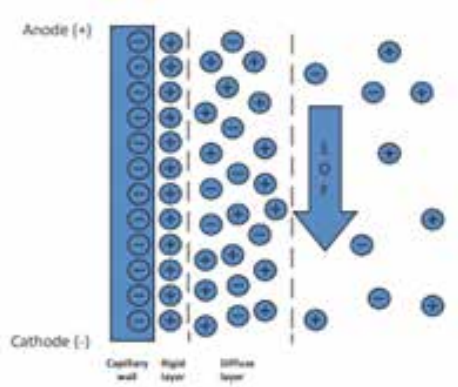
1) CAPILLARY ELECTROPHORESIS FOR HAEMOGLOBINOPATHIES SCREENING:

PRINCIPLES Capillary Electrophoresis is an emerging diagnostic tool in many clinical chemistry labs to separate Hb fractions and calculate the percentage of each fraction.

Capillary Electrophoresis (CE) is the technique of performing electrophoresis in buffer-filled narrow capillaries, 25-100 µm in diameter. The separation relies on difference s in the speed of migration (migration Velocity) of ions or solutions, but the vitally important feature of CE is the bulk flow of liquid through the capillary, which is called Electric Osmotic Flow (EOF).

The CAPILLARYS HEMOGLOBIN (E) assay is based on the principle of capillary electrophoresis in free solution. Capillary electrophoresis separates hemoglobin variants by electro-osmotic flow and electrophoretic mobility in alkaline buffer (pH 9.4). Hemoglobin fractions are separated in silica capillaries, by their electrophoretic mobility and electroosmotic flow at a high voltage in an alkaline buffer. Hemoglobin fractions are directly detected at the specific absorbance of 415 nm. Each zone displays a drop down library of possible variants migrating within this zone. More than 300 variants are listed. In capillary electrophoresis a thin capillary tube made of fused silica is used. When an electric field is applied, the buffer solution in the capillary tube generates an electro-endosmotic flow that moves toward the cathode. Separation of individual hemoglobin's takes place due to differences in overall charges. Different hemoglobin's are represented in different zones.





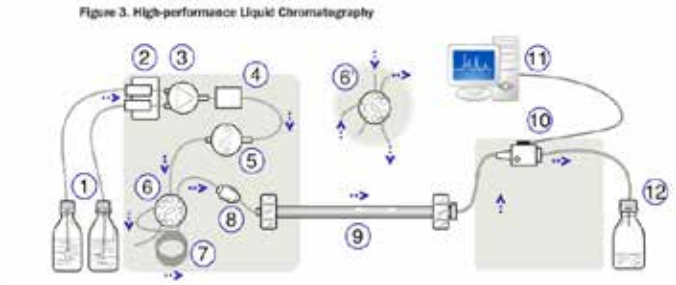
The inside surface of the capillary has ionisable (Silica) silanol groups, which readily dissociate giving a negative charge to the capillary wall. The negative charge attracts the positive charged ions from the buffer, creating an electrical double layer and therewith a potential difference close to the capillary wall. When a voltage is applied across the capillary, cations in the diffuse layer are free to migrate towards the cathode, carrying the bulk solution with hem. The result is an Electro Osmotic Flow and separation of the differently charged Hb fractions. These fractions are detected directly at an absorbance wavelength of 415 nm, which is optimal to hemoglobin, in the following order from cathode to anode: HbC, A2, E, S, D, F, A, Bart's, and H.

2) HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY FOR HAEMOGLOBINOPATHIES SCREENING

High-Performance Liquid Chromatography (HPLC) systems utilize a weak cation exchange column system. A sample of an RBC lysate in buffer is injected into the system followed by application of a mobile phase so that various hemoglobin can partition (interact) between the stationary phase and mobile phase. The time required for different hemoglobin molecules to elute is referred to as the retention time. The eluted hemoglobin molecules are detected by light absorbance. HPLC permits the provisional identification of many more variant types of hemoglobin's that cannot be distinguished by conventional gel electrophoresis. When HPLC is used, a recognized problem is carryover of a specimen from one to the next. For example, if the first specimen belongs to a patient with sickle cell disease (HbSS), then a small peak may be seen at the "S" window in the next specimen. This can lead to diagnostic confusion as well as the necessity of re-running the sample.

PRINCIPLES

Hemoglobins are separated by an analytical cartridge in cation exchange HPLC using a preprogrammed Buffer gradient with increasing ionic strength to the cartridge. The hemoglobin fractions separate based on their ionic interaction with the cartridge. The separated fractions pass through a flow cell, where absorbance is measured at 415 nm and again at 690 nm to reduce background noise. Changes in absorbance are monitored over time producing a chromatogram (absorbance vs. time). Each hemoglobin has its own characteristic retention time and is measured from the time of sample injection into the HPLC to the maximum point of each peak. Identification of unknown hemoglobin is achieved through comparison with known hemoglobin retention times. If a peak elutes at a retention time not predetermined, it is labeled as an unknown. HPLC achieves good separation and quantitation of HbF and HbA2 in addition to screening for variant hemoglobin's along with thalassemia. HPLC is highly reproducible, offers simplicity with automation, superior resolution and rapid results. Some HPLC instrument programs can identify Hemoglobinopathies from both newborns and adult specimens while others identify only one or the other. Identification between adult and newborn specimens depends on the algorithm/software/instrument specifications.



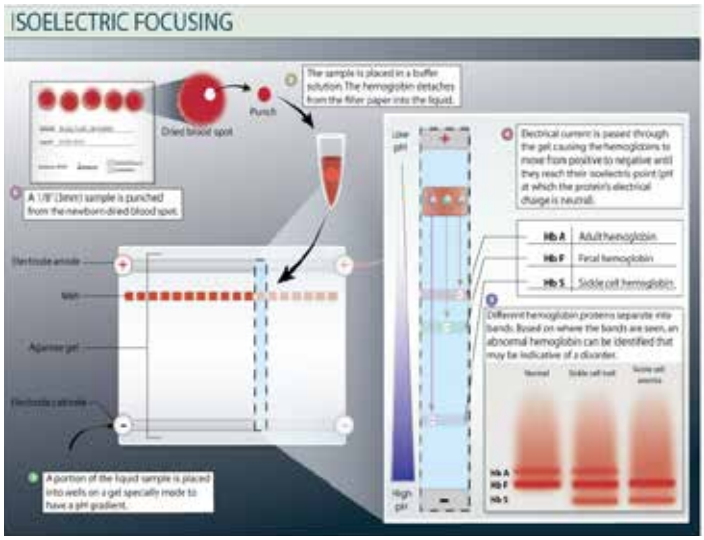
Schematic representation of an HPLC unit.
(1) Solvent reservoirs,
(2) Solvent degasser,
(3) Gradient valve,
(4) Mixing vessel for delivery of the mobile phase,
(5) High-pressure pump,
(6) Switching valve in "inject position", Switching valve in "load position",
(7) Sample injection loop,
(8) Pre-column (guard column),
(9) Analytical column,
(10) Detector (i.e. IR, UV),
(11) Data acquisition,
(12) Waste or fraction collector.

3) ISOELECTRIC FOCUSING (IEF) FOR HAEMOGLOBINOPATHIES SCREENING

Isoelectric focusing is the electrophoretic method that separates proteins according to the isoelectric points. The net charge of a protein is the sum of all negative and positive charges of its amino-acid chains and their ionisable groups (amino and carboxyl termini). The isoelectric point (pI) is the specific pH at which the net charge on the molecule is zero (proteins are positively charged at pH values below their pI and negatively changed at pH values above their pI).A pH gradient is necessary so that under the influence of an electrical field, a protein will move to the position where its net charge is zero. A protein with a positive net charge will migrate towards the cathode becoming progressively less positively charged as it moves through the pH gradient until it reaches a point that corresponds to its pI value. Isoelectric focusing needs high voltage (1000 V or more). It gives good separation with a high resolution compared to any other method. Resolution depends on: a) The pH gradient, b) The thickness of the gel, c) Time of electrophoresis, d) The applied voltage, e) Diffusion of the protein into the gel.

PRINCIPLES

IEF separates proteins in a gel medium that has a pH gradient consisting of ampholytes (zwitterions). When a high voltage is applied, narrow buffered zones are created with stable, but slightly different pHs. Slower moving proteins migrate through these zones and stop at their individual isoelectric points (pI). In the case of hemoglobin, these migrate to a zone in the medium where the pH of the gel matches the hemoglobin's pI. At the pI, the charge of the hemoglobin becomes zero and ceases to migrate. The hemoglobin migration order of IEF is similar to alkaline electrophoresis. Resolution is clear with differentiation of HbC from HbE and HbO and HbS from HbD and HbG respectively. HbA and HbF are also clearly differentiated.



With neonatal specimens, a distinct band representing acetylated HbF is readily identified and slightly anodic to HbA.

Staining may be necessary depending on the manufacturer's recommendations. Gels may be read wet or dry and band identification is accomplished by comparison to migration patterns of known quality controls. This method allows for greater precision and accurate quantification than standard electrophoresis. It gives excellent resolution in addition to high throughput, but is also labor-intensive and time consuming. An alternative method is needed to confirm or differentiate hemoglobin variants (bands other than HbF or HbA). Fast migrating bands (Hb Bart's, HbH) can also be identified by IEF

New born screening for Hemoglobinopathies:

Method 1: VARIANT™nbs Newborn Hemoglobin Screening System Using Dried blood spot: The VARIANT nbs is the established worldwide standard in automated newborn screening for sickle cell disease and other hemoglobin disorders. It features fully automated analysis and advanced result reporting for maximum efficiency. Using dried blood spot specimens, the VARIANTnbs identifies the most clinically significant hemoglobin variants, including hemoglobin's F, S, A, C, D and E, as well as the carrier status for abnormal hemoglobin variants and many double-heterozygote conditions. The VARIANTnbs provides the total hemoglobin picture. The VARIANTnbs is specifically designed for high-capacity screening and walk-away automation, reducing labor requirements and human error. Load up to three systems per workstation and up to 1,128 samples per run. Smart reports with optional pattern rules simplify data review while providing objective, accurate results. A flexible work list import function eliminates file incompatibility issues. Reviewing and managing results is simple with electronic chromatogram storage and retrieval.

Method 2:

IEF in RESOLVE® System. The preferred isoelectric focusing electrophoresis method in the Oxford laboratory is the RESOLVE® Systems K Hemoglobin Kit, used to detect hemoglobin variants in whole blood (EDTA) for antenatal screening or blood spot samples from Guthrie cards for neonatal screening. Equipment consists of:

a.) Multiphor II electrophoresis unit;

b.) A circulating water bath to provide constant temperature control to the electrophoresis unit;

c.) Programmable Power Supply and Voltage stabilizer

d) Soft ware

Reagents:

a. Hemoglobin Kit – contains 5 IEF gels, an anode and cathode solution, Hb elution solution, electrode wicks, blotting paper and strips and sample application templates.

b. JB-2 Staining System - 2x Gel Stain Concentrate, 2x Stain Buffer and 1x Stain Activator.

c. 10% Trichloroacetic acid -To make up to 500 ml 10% TCA, add 50 ml 6.1N TCA to 450 ml distilled water.

d. Vnbs Retention Time markers (FASE and FACD) are used as control samples.

Steps:

1) Sample preparation from blood spots on Guthrie cards

2) Electrophoresis;

3) Fixing and Staining Gel;

4) Calculation of Results;

5) Interpretation

New born screening for Congenital Hypothyroidism

1) **Based on time-resolved fluorescence**:

   a. DBS PUNCHER® INSTRUMENT: - semi-automatic, Two plate device for punching dried-blood spot samples into micro titration plates.;

   b. PLATE DISPENSER : this device enables automatic and precise addition of enhancement solution or Reagents (e.g. buffer or tracer solution);

   c. WASHER-DISK REMOVER : This device performs all wash stages as specified in the assay protocol, automatically removing filter paper disks from the wells without overfilling.; d) Incubator and shaker

2) TSH levels estimated by **Sandwich Enzyme Linked Immunoassay** for the determination of Thyroid Stimulating Hormone (TSH) in dried neonatal blood spot specimens, intended for newborn screening for Congenital Hypothyroidism (CH)

5. Isoelectric focusing (IEF) for Newborn screening

MEDICAL DEVICE SPECIFICATION
(Including Information on the following where relevant/appropriate, but not limited to)

Name	**Isoelectric focusing (IEF) for Newborn screening for Haemoglobinopathies with automated scanning and software to help interpretation**
Version no.	3
Date:	JUNE 2014

1	Clinical purpose	To Screen Newborn dried **blood spot** for Sickle cell anemia, sickle cell trait, Thalassemia major. Designed to separate hemoglobin by isoelectric focusing (IEF) on a thin agarose gel especially for newborn. The clean separation of Hb F from Hb A should permit differentiation of sickle cell anemia (Hb SS) from sickle cell trait (Hb AS). The specificity and sensitivity of the pre-casted gels should help in separating Hb C from Hb A2 and Hb E, as well as Hb D-Punjab from Hb S. Hb Barts may be clearly detected
2	Principle	By using ampholyte buffers appropriate for isoelectric focusing of hemoglobin (pH 6-8), the separation and identification of many abnormal hemoglobin, are possible since the migration is only affected by the isoelectric point of the protein. Hemoglobins with a difference of less than 0.05 pH units could be resolved and separated.

5. Isoelectric focusing (IEF) for Newborn screening		
3	Technical characteristics	a) Running horizontal IEF gels to detect Hemoglobinopathies in new-borns b) Instrument capable of running the Pre-casted Gels c) The gels should be stable in between the temperature of 15 to 30°C, d) Instrument and gels should be validated on New-borns using DBS for Hemoglobinopathies and should be capable of eluting from the dried blood spot e) The Hemoglobin kit should provide analytical sensitivity of 0.4 to 0.6µg hemoglobin / band when stained; and without staining 1.6 µg to 1.8 µg Hemoglobin / band. f) Instrument shall include a lid with three electrodes (2 anodes and cathode in the middle) with adjustable spacing. g) Cooling plate shall stay firmly in the out position during pipetting. h) Cooling plate shall contain a grid to help in the positioning of the gel. g) Instrument can be levelled with the levelling feet h) The material of the cooling plate shall be resistant of the components of the electrophoresis gel i) The material of the electrodes shall be resistant of the components of the electrophoresis gel j) Gel electrophoresis unit shall have tubing stubs to allow easy connection for series units with water bath unit (no leakage with disconnected tubing). K) Capable with Programmable power supply L) Capable with the Recirculating water bath m) The Gel electrophoresis unit should able to run a minimum of 240 x 203 mm sized gels. n) Gel electrophoresis unit shall have tubing stubs to allow easy connection for series units with water bath unit (no leakage with disconnected tubing). O) The system IEF unit shall be easy to install by the customer. p) Time including IQ/OQ should be less than 1 working day. All necessary tubing, wiring etc. shall be included in the package.
4	Atmosphere / Ambiance (air conditioning, humidity, dust)	-Storage conditions as applicable;
5	User's care, Cleaning, Disinfection & Sterility issues	Unit layout to enable easy cleaning and sterilization of all surfaces. Electrical safety according to EN-61010-1, 61010-2-101.
6	Warranty	2 Years

6. Hemoglobin HPLC System

MEDICAL DEVICE SPECIFICATION **(Including Information on the following where relevant/appropriate, but not limited to)**		
HEMOGLOBIN HPLC SYSTEM		
		
Version no. :	2	
Date:	JULY 2014.	
Done by : (name / institution)	HCT/NHSRC	
NAME AND CODING		
GMDN name	Hemoglobin HPLC System	
GMDN code	CT 1184	
GENERAL		
1	USE	
1.1	Clinical purpose	Fully automated instrument for estimation of Hemoglobin fractions, HbA, HbF, HbA2, and Hemoglobin variants HbE, HbD and HbS required for diagnosis of Beta Thalassemia and common Hemoglobin variants.
1.2	Used by clinical department/ward	Hospital, Blood Bank and Clinical Laboratory

TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	1. Should work on the principle of High Pressure Liquid Chromatography 2. Sampling: System should be able to use primary samples collected in standard anticoagulants (EDTA). Sample stability should be a minimum of 3 days at ambient temperature and at least 1 week at 2-8 degree Celsius 3. should be able to load a minimum of 10 samples at a time. 4. Should be able to separately quantify at least HbA, HbF, HbA2, HbD, HbS and HbC 5. A throughput time of analysis per sample should not more than 9 minutes for thalassemia and not more than 5 minutes for HbA1c for diabetes. 6. Linearity for HbF at least 75% and for A2 at least 70 % 7. Lower detection limit for HbA2 should be at least 2% and for HbF 1% 8. Results should be displayed on screen and also there should be printout facility with integral printer able to printout the chromatogram also. 9. There should be a memory facility for storage of results of a minimum of up to a 100results. 10. Two point calibration and calibrator should be traceable to IFCC.
2.2	User's interface	Manual
2.3	Software and/ or standard of communication (where ever required)	Should have port and compatibility for connection to external computer and printer
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	NA
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	NA
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	Recharging unit: Input voltage- 220V-240VAC +/-10%, 50Hz
4.2	Battery operated	No
4.3	Tolerance (to variations, shutdowns)	NA
4.4	Protection	Should have over-charging cut-off with visual symbol.
4.5	Power consumption	220V-240VAC +/-10%, 50 Hz Single phase UPS for 30 min backup with maintenance free battery
5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	1. 1x thermal paper roll External computer with printer compatible with the testing system

BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1) Instrument should be CE (EU) marked or USFDA approved; 2) Should have IEC 61010-1, IEC 61010-2-101:2002;
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented
9	WARRANTY AND MAINTENANCE	
9.1	Warranty	2 years
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;

11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/ landline number)	Contact details of manuf acturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/add-hoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

7. ELISA Reader and Washer

MEDICAL DEVICE SPECIFICATION (Including Information on the following where relevant/appropriate, but not limited to)		
ELISA (ENZYME-LINKED IMMUNOSORBENT ASSAY) READER AND WASHER		
		
Version no. :		2
Date:		JULY 2014.
Done by : (name / institution)		HCT/NHSRC
NAME AND CODING		
GMDN name		NA
GMDN code		NA
GENERAL		
1	USE	
1.1	Clinical purpose	Enzyme Linked Immunosorbent Assay (ELISA) is an antigen- antibody reaction based assay linked with color development used to detect and monitor various infectious and non-infectious diseases. It is a common diagnostic tool in medicine
1.2	Used by clinical department/ward	Clinical laboratory, Hospital, Blood Bank
TECHNICAL		
2	TECHNICAL CHARACTERISTICS	
2.1	Technical characteristics (specific to this type of device)	**Microplate Reader** 1. Should be fully automatic PC based able to support all plate formats-U-bottom, V-bottom and flat bottom 96 microwell plates 2. Optical System: LED lamp / Xenon flash lamp/ Halogen lamp 3. 8 and 12 measurement channels 4. Absorbance range 0-4.0 abs Single and dual wavelength measurement with facility for kinetic measurement. 8s minimum measurement time; 5. Measurement: Range for wavelength should be 400 to 700 nm; 6. Accuracy: (0.000-1.000 abs)± 0.005 7) Resolution:0.001 abs

		7. Grating/In built(Tunable) Filters with narrow band interference. Essential 405,450,492 and 630 nm 8. Plate shaking mode for sample mixing(selectable speed and time) 9. Flexible blank mode setting 10. System should have capability to do qualitative, quantitative, kinetics with any formulae including validation, transformation and factors and floating cut-off 11. 16 digit alphanumeric fluorescent display membrane keyboard 12. Operating cycle should be programmable. 13. Should have automatic calibration before each reading. **Washer** 1. Fully automatic plate washer 2. Programmable 3. Alarm for monitoring the overflow and wash solution 4. Dispensing and aspiration needles should be separate 5. 8 to 12 channel wash head 6. Wash volume per well should be programmable 7. Should have residual volume of <2ul 8. Should have strip selection option to allow wash of selected strips only
2.2	User's interface	Manual
2.3	Software and/or standard of communication(where ever required)	Storage of immediately preceding measurement At least 15 programmable tests permanently stored Time programmable between each measurement Agitation programmable before each reading Bidirectional printer interface
3	PHYSICAL CHARACTERISTICS	
3.1	Dimensions (metric)	NA
3.2	Weight (lbs., kg)	NA
3.3	Configuration	NA
3.4	Noise (in dBA)	<60db
3.5	Heat dissipation	Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
3.6	Mobility, portability	Movable
4	ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power Requirements	220VAC ± 10%, 50 Hz AC Single phase UPS for 30 min backup for maintenance free battery
4.2	Battery operated	No
4.3	Tolerance (to variations, shutdowns)	+ 10%
4.4	Protection	Should have in built mechanism for protection against fluctuations
4.5	Power consumption	NA

5	ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system)	ELISA Reader with built-in printer and digital interface 1. Halogen/xenon lamps x 2 2. Thermal paper printer x10 3. Dust Cover 4. Set of pipettes consisting of single channel variable volume color pipettes: [0.5-10µl, 2-20µl, 20-200µl] x 2 each: 8 channel variable volume pipettes,5-50µl and 50-300µl 5. Pipettes should offer easy in-lab calibration, quick tip ejection, and click volume setting and high accuracy precision ELISA Plate Washer(Automatic) 1. Auto strip washer for all 96 well plates 1x8 strips/1x12 strips 2. Dispensable volumes 25-300µl. Soaking time 1-250 sec 3. Aerosol shield for user safety 4. 1 x 8 and 1 x 12 channel manifold 5. All tubing sets, wash/rinse waste bottles 6. Maintenance kit, vacuum filter
BIDDING / PROCUREMENT TERMS / DONATION REQUIREMENTS		
6	ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	Atmosphere / Ambiance (air conditioning, humidity, dust ...)	1. Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 degree C and relative humidity of 15 to 90% in ideal circumstances. 2. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 degree C and relative humidity of 15 to 90%.
6.2	User's care, Cleaning, Disinfection & Sterility issues	Capable of cleaning with alcohol or chlorine wipes
7	STANDARDS AND SAFETY	
7.1	Certificates (pre-market, sanitary, ..); Performance and safety standards (specific to the device type);Local and/or international	1. Should have IEC 61010-1 certificate; 2. Instrument should be CE (EU) marked or USFDA approved;
7.2	Local and/or international	Manufacturer / supplier should have ISO 13485 certificate for quality standard.
8	TRAINING AND INSTALLATION	
8.1	Pre-installation requirements: nature, values, quality, tolerance	1. Availability of 5 amp socket; 2. Safety and operation check before handover;
8.2	Requirements for sign-off	Certificate of calibration and inspection from the manufacturer
8.3	Training of staff (medical, paramedical, technicians)	1. Training of users on operation and basic maintenance; 2. Advanced maintenance tasks required shall be documented

9	WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years;
9.2	Maintenance tasks	1. Maintenance manual detailing; 2. Complete maintenance schedule;
9.3	Service contract clauses, including prices	1. The spare price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warranty period should be attached; 2. Free servicing (min. 2 services/year) during warranty period;
10	DOCUMENTATION	
10.1	Operating manuals, service manuals, other manuals	Should provide 2 sets(hardcopy) of:- 1. User, technical and maintenance manuals to be supplied along with machine diagrams; 2. List of equipment and procedures required for local calibration and routine maintenance; 3. Certificate of calibration and inspection;
10.2	Other accompanying documents	List of important spares and accessories, with their part numbers and cost;
11	NOTES	
11.1	Service Support Contact details (Hierarchy Wise; including a toll free/landline number)	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC/adhoc) to be declared by the manufacturer;
11.2	Recommendations or warnings	Any warning signs would be adequately displayed

AREA 14: PLAY AREA

Trained staffs observe child's interaction with environment and stimuli to identify suspected cases

AREA	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
420 sq. ft.	Swings Slides See Saw Tunnel Tricycle Locally available toys		
Cost of equipment: Rs. 50,000/-approx.			
Some Design concept			

Play Area enclosure	
Play Area : Indoor and Outdoor	 
The wall mounted : playful activities and Beads , colours , textures, abacus, different sounds for multisensory stimulation	 

AREA 15: PANTRY

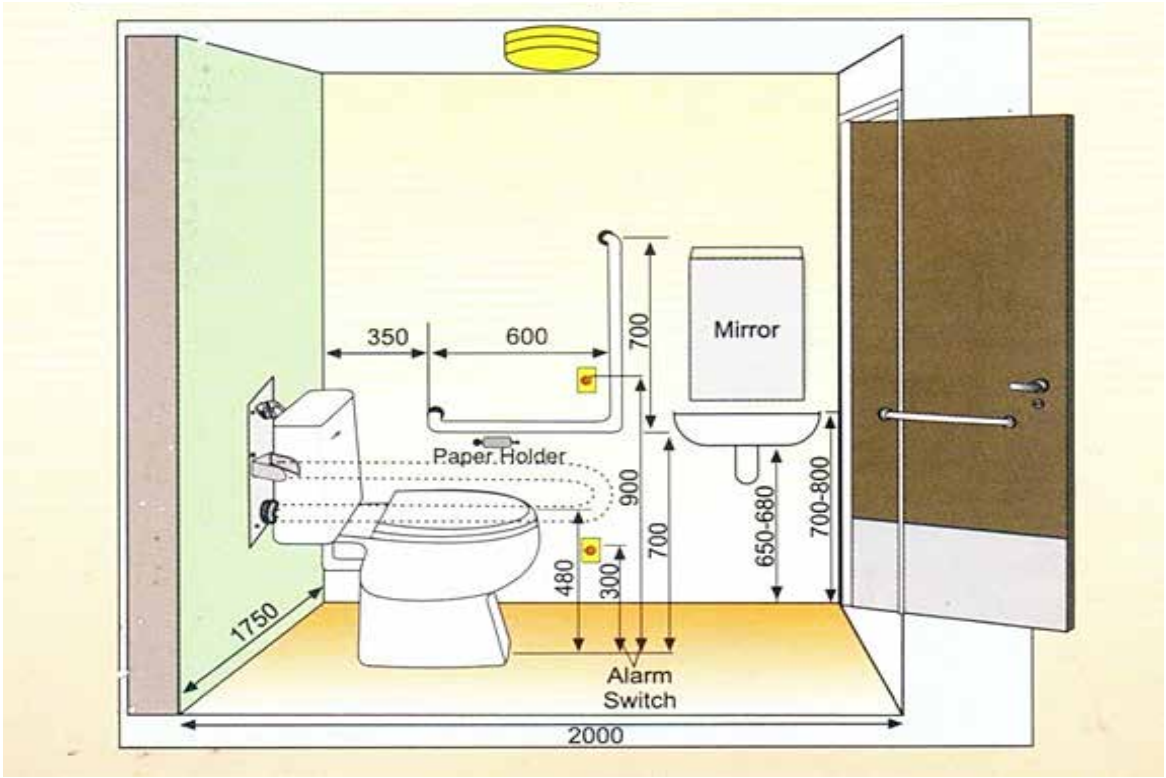
A Typical DEIC is a day care centre, however to support to small children a pantry area has been added in the DEIC.

This area may also be used by the SN in DEIC/ nutritionist from DH to demonstrate preparation of nutritious food especially for the nutritionally deficient children.

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	Essential	Desirable	
70 sq.ft.	Induction cooker Set of Utensils	Refrigerator Microwave	
Cost of equipment: Rs. 50,000/- approx.			

AREA 16: GENDER SPECIFIC AND USER-FRIENDLY TOILETS

DEICs to cater children suffering from developmental delay including disability and it is important to establish Gender Specific and User-friendly toilets



AREA 17: DEIC MANAGER AND DATA ENTRY - 10'X12' (120 SQ. FT.)

AREA 18: TWO MORE OPDS: OPD 1 + OPD 2 [10'X11' (110 SQ. FT.) + 10'X11' (110 SQ. FT.)]

AREA 19: TWO ADDITIONAL WAITING AREA ADJOINING PLAY AREA

AREA IN SQ.FT.	EQUIPMENT	
	ESSENTIAL	DESIRABLE
100	4 chairs for each corner	
Cost of equipment: Rs. 10,000/- approx.		

AREA 20: SPECIAL EDUCATION ROOM - 10'X11' (110 SQ. FT.)

AREA 21: SOCIAL WORKER ROOM - 10'X11' (110 SQ. FT.)

AREA 22: PLASTER AREA WITH BATH TUB

A low cost implementation can reduce the chance of accidental injury, discomfort to small children and ease of managing such children

Area in sqft - 10'x11' (110 sq. ft.)

The plaster area is to be used for repeated casting specifically for management of children suffering from club foot. It is advisable that provision of bath tab with running hot and cold water is made. This may be found beneficial in removal of plaster over the conventional plaster removal technique. A low cost implementation can reduce the chance of accidental injury, discomfort to small children and ease of managing such children.

AREA IN SQ.FT.	EQUIPMENT		REQUIRED STAFF
	ESSENTIAL	DESIRABLE	
110	Plaster room Bath Tub with running warm water	TV Electric water Geyser	Plaster technician
Cost of equipment: Rs. 20,000/- approx.			

Use of bath tub.

Cast removal in a club foot child is easy by submerging and soaking the cast in warm water for 15-20 minutes

After soaking, the plaster will begin to break apart


Applying and Removal of plaster carefully while the child is soothed


Bath Tub for smaller children


Bath Tub, one for slightly older children

Caution

- Utmost care to be given so that the child is not left alone and is not submerged in the bathtub. Involve the mother and/or caregiver in the process after explaining the complete process.
- The plaster washed water must pass through a sieve so that the debris are removed and the drain is not chocked.

AREA 23: STORE - 10'X11' (110 SQ. FT.)

AREA 24: RAMP (DISABLED FRIENDLY)

ANNEXURES

1. List of some Vendors of DEIC equipment
2. Government Letters (State Government procurement orders for reference only).
3. Single Equipment Vendors with their certificates and product details with costing:
4. Illustrative costing of DEIC equipment
5. Designer Impression of Proposed DEIC Design layout Noida, Uttar Pradesh

Disclaimer: *Please note that suppliers of equipment mentioned below is a suggested listing and is only for reference purpose.*

Ministry of Health and Family Welfare, Government of India, does not endorse or recommend any of the suppliers for the purchase of any of the equipment. It is not mandatory to purchase the equipment from companies listed in this reference. States are free to purchase equipment from any provider following State/UT specific procurement policy. (The illustrative costing of the equipment is tentative only, and may vary from supplier to supplier.)

ANNEXURE 1

Contact Details of some of the vendors which are the sole distributor to best of our knowledge, however the status of being the sole distributor / supplier may change , hence kindly re-validate before procurement:

DETAILS	ILLUSTRATIVE COST	VENDOR
Vineland Social Maturity Scale:	Rs. 12080/-	**Pearson Clinical and Talent Assessment:** Alfa Center, Unit B # 20, Koramangala Inner Ring Road; Bangalore - 560 047. 91-080-4215 3440; Fax 91-080-42153438 www.psychcorpindia.com **Email:** info@pearsonclinical.in **Board line:** 080 6673 0200 ; Phone: +91-9945047966
Vineland Adaptive Behavior Scales (Vineland II)-	Rs 13860/unit	
REEL-3:	Rs 12,000/-	
015-8498-135 REEL–3 Complete Kit - Includes Examiner's Manual and 25 Profile/Test Forms.		
015-8498-143 REEL–3 Examiner's Manual		
015-8498-151 REEL–3 Profile/Test Forms - Pkg of 25		
BAYLEY-III Screening Test		
Bayley III Screening Test	Rs 21312/unit	
Bayley Scales of Infant and Toddler Development®, Third Edition (Bayley-III®)	Rs 87335/unit	
Dyslexia Early Screening Test (DEST) 2nd edition	Rs 13440/unit	
Dyslexia Screening Test Junior (DST-J)	Rs 10710/unit	
DASII scale		ANAND Agencies: 1433A off Bajirao Road, ShukrawarPeth, Pune 411002. e-mail:anandagenciespune@gmail.com phone :9372499000 ,(020) 24459187 Survey No 1433/A, Near Janata Sahakari Bank, Off Bajirao Rd, ShukrawarPeth, Pune - 411002 Call: (020) 24459187
LPT:		1. Ali Yavar Jung National Institute for Hearing Handicapped. K.C. Marg, Bandra (W) Reclamation Mumbai - 400 050 Phone: 022-26400215/26409176/26400263: Fax: 022-26404170 E-mail: ayjnihhmum@gmail.com
		2. NIMH, Hyderabad
		3. Communication DEALL Trust. Head office 7, Hutchins Road, IV Cross, Cooke Town, Sarvajna Nagara Bangalore 560084 Tel: 080 25800827 Email: communicationdeall@gmail.com

DETAILS	ILLUSTRATIVE COST	VENDOR
Early Language Training Kit (the manual and kit are sold together): [Manual Rs 100.00; Kit Rs 500.00] with a little bit of help manual, is also available in Kannada, Hindi, Marathi, Telugu, Malayalam and Tamil)		
CommunicA ids – Com DEALL Resources		**CDDC**: Communication DEALL Trust. **Head office** # 7, Hutchins Road, IV Cross, Cooke Town, Sarvajna Nagara Bangalore 560084 Tel: 080 25800827 Email:communicationdeall@gmail.com
1. Com DEALL – The Program -	Rs 150	
2. The Com DEALL Manual for families of children with Autism Spectrum Disorder	Rs 125	
3. Communication DEALL Developmental Checklist (CDDC) (Inclusive of 50 score sheets)	Rs 150.00	
4. Manual for Pre-requisite Learning Skills	Rs 200	
Communication DEALL Intervention Manuals (Toddlers) :		
5. Communication (Receptive and Expressive)	Rs. 240.00	
6. Augmentative and Alternative Communication (AAC)	Rs. 240.00	
7. Cognitive, Social & Emotional Skills	Rs. 240.00	
8. Motor skills (gross and fine) and Activities of daily living -	Rs. 240.00	
Communication DEALL Intervention Manuals (Preschoolers)		
9. Communication (Receptive and Expressive)	Rs. 250.00	
10. Augmentative and Alternative Communication (AAC)	Rs. 300.00	
11. Cognitive, Social & Emotional Skills	Rs. 350.00	
12. Motor skills (gross and fine) and Activities of daily living	Rs. 350.00	
{DISCOUNTED PACKAGE PRICE (ITEMS NUMBERED 1-12) RS 2,500+VAT}		
13. Oro-motor Kit	Rs 530.00	
14. Pragmatic Kit (Basic)	Rs 950.00	
15. Pragmatic Kit (Advanced	Rs 600.00	
16. Stories of Everyday Social Skills	Rs 350.00	
17. Stories of Everyday Social Skills (Set II)-	Rs 330.00	
18. Proto-vocabulary Kit (My Proto-Vocabulary Book & My Verb Book)	Rs 450.00	
19. Assessment of oro-motor skills in toddlers: A manual (with score sheets)	Rs. 180.00	
20. Parallel Talk	Rs. 30.00	
21. Communication Ring	Rs. 125/- + 14.5% VAT (per kit)	
22. With a little bit of Help Early Language Training Kit (the manual and kit are sold together):	Manual Rs 100.00; Kit Rs 500.00	

ANNEXURE 1 CONTINUED

Contact Details of some of the vendors which are the sole distributor to best of our knowledge, however the status of being the sole distributor / supplier may change , hence kindly re-validate before procurement:

EQUIPMENT		AGENCY
AABR Screener without Disposables		**Starkey Laboratories India Pvt Ltd** Authorized Distributor of MAICO Diagnostics GmbH (Manufacturer of AABR Screening ABR System) in India. Contact Person- Deepak Sharma, National Manger Equipments Division- Starkey M- 09818199042
LEA VISION ASSESSMENT TOOLS		GOOD-LITE
SN	P N	Description
1	253300	Lea Grating Paddles
2	252500	LEA Symbols Playing Cards
3	250800	LEA Symbols Near Vision Card (16 inches/40 centimeters)
4	252400	LEA Symbols 13-Line Translucent Distance Chart (10 feet/3 meters)
5	251100	Lea Symbol Low Contrast 10M Flip chart
6	251600	LEA 3-D Puzzle
7	253500	Hiding Heidi Low Contrast Face Test
8	254505	Heidi Expressions Test Game
9		Occluder glasses

ANNEXURE 2

Government Letters (State Government procurement orders for reference only).

ANAND AGENCIES

MANUFACTURERS OF APPARATUS FOR
PSYCHOLOGY, PHYSIOLOGY, PHARMACOLOGY & PHYSICAL EDUCATION
THURSDAY CLOSED

Ref.No. 636/15-16 Date: 21/3/16.

To,

Professor & H O D
Department of Neonatology,
I P G M E & R,
244, A J C Bose Road,
KOLKATA – 700 020

CERTIFICATE

This is to certify that we are the sole manufacturers & Publishers of the test, 'Developmental Assessment Scale for Indian Infants (DASII) by Dr.Mrs. Phatak

For ANAND AGENCIES
M.S. Dighe
Partner

1433/A, SHUKRAWAR PETH, TULPULE'S HOUSE, NEAR NAVA VISHNU TEMPLE,
OFF. BAJIRAO ROAD, PUNE - 411 002. PHONE : 2448 3573, 2445 9187

RBSK SCREENING EQUIPMENT FOR MOBILE HEALTH TEAM (MHT)

DIRECTORATE OF HEALTH SERVICES, ODISHA

STATE DRUG MANAGEMENT UNIT

IN FRONT OF RAM MANDIR, CONVENT SQUARE, BHUBANESWAR-1

Tel / Fax : 0674 – 2380750, 2380549, , sdmuorissa@yahoo.co.in

Letter No. 1208 **Dated** 12/9/14

SDMU – II-34/2013

Purchase Order No-: CR13148

To

Premier Surgicals,
158, Bapuji Nagar,
Bhubaneswar – 751 009
Email : premiersurgicals@yahoo.in FAX : 0674 – 2597213

Subject: Purchase order for Supply of BP Apparatus (aneroid type) with different sizes of Cuff for Mobile Health Team (MHT)

Ref. : Tender Enquiry No. SDMU/2013-14/EQP/RBSK Kit/031

Sir,

With reference to the above, we are pleased to place the purchase order for supply of **BP Apparatus with different sizes cuff** as per the price & quantity (to the consignee list as per Annexure-I) mentioned below.

PRICE :

Sl.	Brief Description	Qty	Unit Price which includes excise duty / customs duty, packing, insurance, forwarding / transportation (door delivery) warranty but excludes VAT/ET (Price in Rs.)	Total (Rs.) (Excluding VAT)
i)	**BP Apparatus (Aneroid type) with different sizes cuff (3 nos.: Infant, Child, and Adult)** Make : Heine, Germany Model : Heine Gamma G5 Shock Proof (Detail technical specification as mentioned at below)	**376**	**6,200.00**	**23,31,200.00**
	Total Price **excluding Tax** (in words) : **Rupees Twenty Three Lakhs Thirty One Thousand Two hundred only**			
ii)	**Tax : VAT** @ 5% Entry tax extra			

Technical Specification

Technique : Aneroid, Shockproof
Latex free
Light weight ; easy to carry
Range of BP monitoring : upto 300mm Hg with a accuracy of ±3Hg
The housing of the meter should be made of good quality termoplasitc/ corrosion proof aluminium alloy.
The insufflations bulb should be made of good quality material and should allow rapid insufflations.
The pressure release valve should permit precise release of pressure and also allow fast deflation.
Micro filter must provided to protects air release valve and measuring system.
The device should be **shock resistant**
Should be supplied with a good quality carrying case (Vinyl)
Should be supplied with following reusable cuffs: **Infant, Child, and Adult**.
The cuff should be latex free. The cuff surface should be easily cleanable by wash.
Comprehensive onsite warranty for 5 years.

TERMS AND CONDITIONS :

1. **Scope**

   This scope of work covers supply of the item as per technical specification (as mentioned above) at the consignee locations (as mentioned at **Annexure-I**).

2. **Performance Security:**

   Within 7 days from the receipt of the letter of award/purchase order, the supplier should submit a performance security in the shape of DD/BG **(from any Nationalized/ Scheduled Bank)** of an amount equal to **5% of the purchase order/contract value. In case of BG, the BG should be valid for 6 months from the date of purchase order).** The performance security should be made in favour of the Joint Director, State Drug Management Unit payable at Bhubaneswar. The proceeds of the Performance Security shall be payable to SDMU as compensation for any loss resulting from the firm/Company's failure to fulfill the obligations under the scope of work and terms & conditions of the Purchase Order.

3. **Delivery**

   The 1st Phase of supply (50% of the quantity) must be completed by **24.2.2014**. The supply of the entire quantity in all respect has to be completed maximum within 30 days from the date of issue of purchase order.

4. **Delay in Supply**

   The time schedule for completion of the supply as mentioned above is very important and the supplier must take utmost care to complete the work within the time specified in clause 3. If the supply of the entire quantity is delayed beyond 30 days for any reason for which the SDMU or the authorities in charge of the concerned site are not responsible, a penalty @ 0.5% of the purchase order / contract value will be deducted from the payment to the supplier for each week (or a part thereof) of delay subject to maximum 4% of the purchase order/contract value.

5. **Payment Terms**

   100% payment shall be released after supply of full quantity as per purchase order and duly submission of performance security against submission of bill alongwith duly signed stock entry certificates from the consignee.

6. Warranty

The supplier shall warrant comprehensively that the equipments supplied under the contract is new, unused and incorporate all recent improvements in design and materials. The supplier shall further warrant that the goods supplied under the contract shall have no defect arising from design, materials or workmanship or from any act or omission of the supplier that may develop under normal use of the supplied goods in the conditions prevailing in India.

This comprehensive on-site warranty shall remain valid for **one year** from the date of supply.

In case of any unsatisfactory performance of equipment(s) or any claim arising out of this warranty, the purchaser/consignee shall promptly notify the same in writing or over phone or by fax to the supplier.

Upon receipt of such notice/communication, the supplier shall, within 48 hours on a 24(hrs) X 7 (days) X 365 (days) basis, rectify or replace the defective goods or parts thereof, free of cost, at the ultimate destination.

If the supplier, having been notified, fails to rectify or replace the defective goods or parts thereof within 48 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.

7. Spare Part /Spare Equipment

The supplier will stock adequate spare part / spare equipment to provide services during the warranty period so that the equipment can be repaired/replaced within 48 hours.

8. Inspection

The purchaser or it's authorized representative may inspect the equipment on a random basis after it's supply to verify that the same is as per the technical specification

9. Delivery of Documents & Warranty certificate

(a) The supplier will provide will provide the warranty certificate to the consignee at the time of supply.

(b) The firm will submit 3(three) copies of supplier invoice/bill, warranty certificate, photocopy of the purchase order with Annex to the consignee.

10. Inspection

The purchaser or it's authorized representative may inspect the items on a random basis after it's supply to verify that the same is as per the technical specification

11. Penalties

If the supplier fails to deposit the required performance security within the time specified or unable to undertake the contract, the Purchase order/contract will be cancelled and the EMD / Performance security deposit shall stand forfeited by the purchaser.

Violating the terms and conditions , non supply or supply which is not as per technical specification will lead to blacklisting of the firm for a period of 3 (three) years from the date of issue of letter and the EMD / Performance security deposit will be forfeited.

12. Arbitration

The purchaser and the supplier shall make every effort to resolve amicably by direct negotiation on any disagreement or dispute arising between them under or in connection with the work assigned. In case of their failure to resolve the matter will be referred to Director of Health Services (DHS), Odisha whose decision will be final and binding on both parties. The arbitration proceedings shall be held in Bhubaneswar, Odisha

13. Disputes & Legal Jurisdiction

All legal disputes are subject to the jurisdiction of Bhubaneswar courts or High Court of Odisha.

Thanking you.

Yours faithfully,

Jt. Director of Health Services I/C [SDMU]

Memo No. ---1209--- / BBSR, Dated ---12/2/14---

Copy forwarded to CDMO of concerned districts for information and they are requested to receive stock as per tender terms & condition and furnish the stock entry bills (that the stocks have been received in good condition of the concerned firms within 3 (three) days from the date of receipt of the stock / consignment, for taking further action at this end.They should ensure that the RBSK Equipment are distributed as per the guideline of NHM at the earliest.

Jt. Director of Health Services I/C [SDMU]

Memo No. ---1210--- / BBSR, Dated ---12/2/14---

Copy forwarded to Mission Director NHM(O) for kind information

Jt. Director of Health Services I/C [SDMU]

Memo No. ---1211--- / BBSR, Dated ---12/2/14---

Copy forwarded to the Addl. Director (CH) / Consultant (RBSK), NHM for information with reference to their letter No. 2335 dtd. 20.11.2013 and he is requested to ensure receipt, distribution at the district level and timely submission of stock entry bills to SDMU.

Jt. Director of Health Services I/C [SDMU]

Encl. : Annexure –I (Consignee List)

GOOD-LITE®
The Quality Always Shines Through

March 23, 2016

IPGME&R
Dr. Suchandra Mukherjee
244, AJC Bose Road
Kolkata 7000020 India

RE: Certificate as Sole Distributor

This letter is to inform you that Good-Lite Company is sole distributor of the Lea Chart.

Sincerely,

Chris Greening
General Manager
Good-Lite Company
Phone: 800-362-3860

1155 Jansen Farm Drive • Elgin, IL 60123 t: 847-841-1145 f: 847-841-1149 w: www.good-lite.com

GOOD-LITE®
The Quality Always Shines Through

1155 Jansen Farm Drive
Elgin IL 60123
United States
ph: 800-362-3860 fx: 888-362-2576
www.good-lite.com

QUOTE

Quote #: 400652

Order Date: 03/22/16
Pack Date: 03/22/16
Terms: PREPAY - Prepay Payment
Sale Type: CUST
Sales Rep.: Bev Converse

Order #: 400652
Customer #: 14060
Customer P/O #:

Bill To: IPGME&R
244, AJC Bose Road
Kolkata, 7000020
India

Ship To: IPGME&R
244, AJC Bose Road
Kolkata, 7000020
India

Phone: 9133 22041427 SM
Fax:

Ship Via: UPS-EXP-UPS Expedited International

Line #	Item #	Description	Qty Ordered, UOM	Price, UOM	Extended Price
1	280000	**Flickering Wand** Options: Option Description: Additional Description: Customer P/N:	1.0000 EA	350.00 EA	350.0000
2	253510	**Hiding Heidi Low Contrast Face Single Side** Options: Option Description: Additional Description: Customer P/N:	1.0000 EA	108.00 EA	108.0000
3	250600	**Lea Symbols Single Symbol Book Set** Options: Option Description: Additional Description: Customer P/N:	1.0000 SET	55.00 SET	55.0000
4	250800	**Lea Symbols Near Card** Options: Option Description: Additional Description: Customer P/N:	1.0000 EA	33.00 EA	33.0000
5	256100	**Lea Symbols Low Vision 60M&40M** Options: Option Description: Additional Description: Customer P/N:	1.0000 EA	48.00 EA	48.0000

Customer Is Responsible for Duties and Taxes
Orders shipped outside the the United States maybe subjects to import taxes, customs duties and fees levied by the destination country.
Additional charges for customs clearance are the responsibility of the recipient.

6	**252900**	**Cone Adaptation Test**	**1.0000**	**EA**	**55.00 EA**	**55.0000**
		Options:	Option Description:			
		Additional Description:				
		Customer P/N:				

Note, this quotation is priced in: **US Dollar**

Sub-Total:	**649.0000**
Misc. Charges:	**0.0000**
Freight:	**85.7200**
Tax:	**0.0000**
Total:	**734.7200**

Order Comments:

Shipping Comments:

Customer Is Responsible for Duties and Taxes
Orders shipped outside the the United States maybe subjects to import taxes,
customs duties and fees levied by the destination country.
Additional charges for customs clearance are the responsibility of the recipient.

INCOMING WIRE TRANSFER INSTRUCTIONS

Dear Customer:

Please provide the following incoming wire transfer instructions when having wires directed to your account at JPMorgan Chase Bank, N.A.

INCOMING DOMESTIC WIRE INSTRUCTIONS

Wire to:	JPMorgan Chase Bank, N.A. 270 Park Avenue New York, NY 10017 ABA #021000021
For credit to:	Good-Lite Co.
Account #:	5330015200

INCOMING FOREIGN (INTERNATIONAL) WIRE INSTRUCTIONS

Wire to:	JPMorgan Chase Bank, N.A. 270 Park Avenue New York, NY 10017 Swift: CHASUS33 Telex: 420120
For credit to:	Good-Lite Co.
Account #:	5330015200

INCOMING ACH TRANSACTIONS

Wire to:	JPMorgan Chase Bank, N.A.
ABA:	071000013
For credit to:	Good-Lite Co.
Account #:	5330015200

If you have any questions with regards to wires please feel free to contact your account representative.

ANNEXURE 3

Single Equipment Vendors with their certificates and product details with costing:

DISCLAIMER :

The single source equipment / Technology/ products/devices mentioned in this Annexure are claimed to be proprietary products by their respective OEM (Original equipment Manufacturers) and the experts feel these Technologies are ideally suited for the intended purposes.

The Authors/contributors do not endorse any such claims of the OEM. The information provided by OEM is attached in the annexure only for reference of the purchasing authority. The single source status is also likely to change with time.

As per GFR 2017 the specifications with brand names are discouraged. Thus state needs to be verifying whether the single source items are the only available technology for the purpose. The procuring authority is mandated to verify these claims before and during the procurement process.

As per GFR Proprietary Article Certificate (PAC) to be provided by the Ministry/ Department in the appropriate format for single source purchase under Rule-166 (i) and (ii)

PAC to be provided as below for single source procurement under 166 (i &ii):

i. intended goods are manufactured by M/S….
ii. No other make or model is acceptable for the following reasons-
iii. Concurrence of the finance wing to the proposal is vide…..
iv. Approval of the competent authority is vide….

(signature with date and designation of the indenting officer)

The state procurement officers are requested to abide by the state procurement rules in addition to the GFR 2017. Further state procurement officers are also requested to inform the Ministry about authenticity of these claims of proprietorship verified with the experts.

Certificates of single equipment vendors

1	**Pearson**	Certificates of authorization.
2	**MAICO**	Certificates of authorization
3	**Goodlite**	Certificates of authorization
4	**Pearson**	List and costing quotation of products
5	**Goodlite**	List and costing quotation of products

1. Pearson Certificates:

PEARSON ALWAYS LEARNING

PEARSON ALWAYS LEARNING

Pearson
19500 Bulverde Road
San Antonio, TX 78259
USA

To Whom It May Concern:

This is to certify that NCS Pearson, Inc., doing business as the Clinical Assessment and Talent Assessment group ("Pearson") are the sole owners and providers for the following assessments.

Bayley Screening Test by Nancy Bayley and the
Vineland Adaptive Behavior Scales – Revised by Domenic Cicchetti and Sara Sparrow

Pearson has the exclusive rights to sell or license these assessments from the authors throughout the world, including the right to sub-license distribution rights related to such assessments.

Customers who wish to buy these products in India can purchase them from Pearson's affiliate and licensed distributor in India at:

Pearson Clinical and Talent Assessment
Pearson India Education Services Private Limited
(Formerly TutorVista Global Private Limited)
3, Salarapuria Citadel 1st Floor,
Hosur Main Road, Opp Bosch,
Bangalore – 560030
Karnataka, India

Should you require any additional information, please contact the undersigned.

Sincerely,

Karen Chiang
VP Emerging Markets
NCS Pearson, Inc.
19500 Bulverde Road
San Antonio, Texas 78259-3701
Karen.Chiang@Pearson.com

PEARSON ALWAYS LEARNING

PEARSON
CLINICAL ASSESSMENT
80 Strand
London WC2R 0RL
United Kingdom
T: +44 (0)20 7010 2860
F: +44 (0)20 7010 6631

www.pearsonclinical.co.uk

Akshay Kumar
Pearson Clinical and Talent Assessment
Pearson India Education Services Private Limited
3, Salarapuria Citadel 1st Floor,
Hosur Main Road, Opp Bosch,
Bangalore – 560030
Karnataka, India

2 March 2015

Dear Sirs

Re: Exclusive Distribution rights for Pearson, Clinical Assessment products

This is to confirm that **Pearson Clinical and Talent Assessment,** a subsidiary of Pearson India Education Services Private Limited (formerly TutorVista Global Private Limited) is authorised by Pearson, Clinical Assessment, a subsidiary of Pearson Education Ltd, to be an authorised distributor and to handle business on our behalf under the following terms and conditions:

Territory:	India and Pakistan
Products:	All products published by Pearson, Clinical Assessment including but not limited to the Dyslexia Early Screening Test – Second Edition (DEST-2) and the Dyslexia Screening Test – Junior (DST-J).
Price:	According to UK price list as stated on UK website www.pearsonclinical.co.uk plus shipping & handling and any customs & duties charges.
Payment:	All payments in GBP (Pounds Sterling).
Shipment:	All items to be shipped from the UK.

Please note that the intellectual property and copyright is held by Pearson Education Ltd not the individual authors, therefore the author also permits exclusive sales rights.

Yours sincerely

Sarah Weinberg
Export & Permissions Manager
Pearson

PEARSON ALWAYS LEARNING

No . PCTA/GOV/2015
9th Mar 2015

3, Salarpuria Citadel 1st Floor,
Hosur Main Road,
Bangalore – 560030
Karnataka, India
T:+91 (080) 6673 0200
www.talentlensindia.in
www.pearson.co.in

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Pearson Clinical and Talent Assessment Division of Pearson India Education Services Private Limited **is the Sole owner, publisher, copyright- holder and supplier of the psychological tests as listed in quotation no C 000963 except for product REEL-3** , There is no other source in the Indian sub-continent to supply Pearson products and as such there is no other authorized distributor/supplier of our company in India to supply these items. It is, therefore,quite obvious that no other agency/supplier/tenderer can legally quote for our proprietary psychological tests.

Your kind attention is also invited to the **provisions of Rule 154(i) of General Financial Rules, 2005** of Government of India, Ministry of Finance laying down procedure for Single Tender Enquiry – Procurement from a single source and it is submitted that as per our enclosed certificate in terms of Rule 154(i) of GFR, no public interest will be served by putting these items to re-tendering as no other agency/tenderer can legally quote for them and these provisions authorize competent authority in your university for placing your purchase order with us as you will kindly appreciate that we alone qualify to get your purchase order in view of the above facts, circumstances and relevant government rules(GFR).

We also distribute **product REEL-3: Receptive-Expressive Emergent Language Test - Third Edition** in India.

For Pearson India Education Services Private.

(Nisha Raghudas)
Customer Relationship Manager

pro-ed
An International Publisher

25 February 2015

To Whom It May Concern:

This letter is to certify to you that Pearson Clinical and Talent Assessment / Pearson India Education Services of Bangalore is an approved for the PRO-ED Nonexclusive Distributorship Program since 29 June 2011.

Pearson Clinical and Talent Assessment / Pearson India Education Services of Bangalore is an authorized distributor in India of PRO-ED, Inc. proprietary products, including: *Receptive-Expressive Emergent Language Test–Third Edition* (REEL-3), by Kenneth R. Bzoch, Richard League and Virginia L. Brown, ©2003 by PRO-ED, Inc.

Please do not hesitate to contact us if we can be of further assistance.

Best regards,

Cheri Richardson
Marketing Coordinator
PRO-ED, Inc.
cheri@proedinc.com
800-897-3202 x 609

8700 Shoal Creek Boulevard Austin, Texas 78757-6897 Phone 512/451-3246 Fax 512/302-9128 www.proedinc.com

2. MAICO certificates

MAICO

LETTER OF AUTHORIZATION

We hereby declare that

Starkey Labs India PVT Ltd.
C-2, Sector 7
Noida - 201301
Uttar Pradesh
India

is authorized to promote, offer and sell MAICO Audiometers, Impedance Meters, Otoacoustic Emissions Systems OAE and Auditory Brainstem Measuring Systems ABR in India.

Products supplied:	MAICO Audiometers, Impedance Meters, OAE and ABR measuring systems
Origin of products:	European Union and USA
Seller of MAICO products:	MAICO Diagnostic GmbH / Federal Republic of Germany

This agreement will be effective until 31st of December 2015. It will be automatically renewed for periods of one year each unless terminated by MAICO Diagnostic GmbH 90 days before year's end.

After the initial period of cooperation the agreement may be terminated with or without cause by either Starkey India PVT Ltd. or MAICO Diagnostic GmbH upon 120 days written notice to the other party.

Berlin shall be the exclusive place of jurisdiction for all disputes arising from this agreement.

MAICO Diagnostic GmbH

Angela Röske
International Sales

MAICO Diagnostic GmbH
Salzufer 13/14
10587 Berlin, Germany
Tel.: +49 30 70 71 46-50
Fax: +49 30 70 71 46-99

Berlin, March 24th, 2015

MAICO Diagnostic GmbH
Salzufer 13/14
10587 Berlin, Germany
Tel.: +49 (0)30/70 71 46 50
Fax: +49 (0)30/70 71 46 99
www.maico.biz

General Manager: Norbert Böttcher, Andreas Kurzbuch
Office and Registering Court: Berlin
Place of Performance and Jurisdiction: Berlin
Commercial Register Entry No. HRB-Nr. 56201
VAT Registration No. DE 170899958
Creditor Id-No. DE27 ZZZ0 0000 028 583

Bank details:
Danske Bank AG Hamburg, BIC: DABADEHH
IBAN DE41 2032 0500 4989 0049 99
Commerzbank AG Berlin, BIC: DRESDEFF100
IBAN DE79 1008 0000 0808 3083 00

MAICO

Confirmation

To whom it may concern,

We, **Maico Diagnostic GmbH**, who are official manufacturers of **Maico Audiometers, Impedance Meters, Otoacustic Emissions Systems OAE and Auditory Brainstem Measuring Systems ABR** having factories **at Salzufer 13/14, 10587 Berlin, Germany** do hereby confirm that we are the sole and original equipment manufacturer for AABR Screener without disposables.

Berlin, 19th March, 2015

Yours faithfully,

MAICO Diagnostic GmbH

Uwe Ledworuski
Quality Manager

For and on behalf of:
Messrs Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlin
Germany

MAICO Diagnostic GmbH
Salzufer 13/14
10587 Berlin, Germany
Tel.: +49 30 70 71 46-50
Fax: +49 30 70 71 46-99

MAICO Diagnostic GmbH
Salzufer 13/14
10587 Berlin, Germany
Tel.: +49 (0)30/70 71 46 50
Fax: +49 (0)30/70 71 46 99
www.maico.biz

General Manager: Norbert Böttcher, Andreas Kurzbuch
Office and Registering Court: Berlin
Place of Performance and Jurisdiction: Berlin
Commercial Register Entry No. HRB-Nr. 56201
VAT Registration No. DE 170899958
Creditor Id-No. DE27 ZZZ0 0000 028 583

Bank details:
Danske Bank AG Hamburg, BIC: DABADEHH
IBAN DE41 2032 0500 4989 0049 99
Commerzbank AG Berlin, BIC: DRESDEFF100
IBAN DE79 1008 0000 0808 3083 00

MAICO Diagnostic GmbH

MAICO

LETTER OF AUTHORIZATION

We hereby declare that

Starkey Labs India PVT Ltd.
C-2, Sector 7
Noida - 201301
Uttar Pradesh
India

is authorized to promote, offer and sell MAICO Audiometers, Impedance Meters, Otoacoustic Emissions Systems OAE and Auditory Brainstem Measuring Systems ABR in India.

Products supplied:	MAICO Audiometers, Impedance Meters, OAE and ABR measuring systems
Origin of products:	European Union and USA
Seller of MAICO products:	MAICO Diagnostic GmbH / Federal Republic of Germany

This agreement will be effective until 31st of December 2014. It will be automatically renewed for periods of one year each unless terminated by MAICO Diagnostic GmbH 90 days before year's end.

After the initial period of cooperation the agreement may be terminated with or without cause by either Starkey India PVT Ltd. or MAICO Diagnostic GmbH upon 120 days written notice to the other party.

Berlin shall be the exclusive place of jurisdiction for all disputes arising from this agreement.

MAICO Diagnostic GmbH

Andreas Kurzbuch
International Sales Director
Authorized Representative

Berlin, March 1, 2013

Salzufer 13/14,
10587 Berlin/Germany
Tel.: +49 30/70 71 46-0
Fax: +49 30/70 71 46 -99
www.maico.biz

Geschäftsführer:
Norbert Böttcher, Arne Boye Nielsen
Sitz der Gesellschaft und Registergericht: Berlin
Erfüllungsort und Gerichtsstand: Berlin
HRB-Nr. 56201 Ust-IdNr. DE 170899958

Danske Bank AG, Hamburg
Account No. 498 900 499 9
Bank routing number 203 205 00
IBAN DE41 2002 0500 4989 0049 99
SWIFT-BIC: DABA DE HH

Commerzbank AG Berlin
Account No. 08 08 30 83 00
Bank routing number 100 800 00
IBAN DE79 1008 0000 0808 3083
SWIFT-BIC: DRES DE FF 100

MAICO

EC Certificate of Conformity

Product:

Product category	**Objective Audiometer**
Trademark	**MB 11 BERAphone®**
Description	**ABR Test System**
Serial number beginning with	**MA9014798**

Manufacturer:

Name:	**MAICO Diagnostic GmbH**		
Address:	**Salzufer 13/14**		
Area code/Area:	**D-10587 Berlin**	Country:	**Germany**
Phone no.:	**(+49) 30 70 71 46 0**	Fax no.:	**(+49) 30 70 71 46 99**

Is in conformity with:

- Council Directive 93/42/EEC of 14 June 1993, including all amendments, concerning medical devices, fulfilling the essential requirements in appendix I through application of a full quality system according to appendix II.3.
- The product is graded as active diagnostic medical product in class IIa, see also rule 10 of the MDD 93/42/EEC.
- 2011/65/EU & Regulation (EC) 1907/2006 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

The conformity is achieved by fulfilling the following main standards:

- EN 60601-1 (General safety)
- EN 60601-1-1 (Safety of systems)
- EN 60601-1-2 (EMC)
- EN 60645-3 (Audiologic Devices)

Notified body:

TÜV SÜD Product Service GmbH

Ridlerstr. 65, Germany – 80339 München

CE 0123

MAICO Diagnostic GmbH
Salzufer 13/14
10587 Berlin, Germany
Tel.: +49 30 70 71 46-50
Fax: +49 30 70 71 46-99

This declaration is made by:

Name:	**U. Ledworuski**		
Title:	**Quality Manager**		
Company:	**MAICO Diagnostic GmbH**		
Address:	**Salzufer 13/14**		
Area code/Area:	**D-10587 Berlin**	Country:	**Germany**
Phone no.:	**(+49) 30 70 71 46 61**	Fax no.:	**(+49) 30 70 71 46 99**

Signature: U. Ledworuski Date: 24th March 2015

3. GOOD-LITE certificates

GOOD-LITE®

The Quality Always Shines Through

1155 Jansen Farm Drive Elgin, IL 60123
Phone: 847-841-1145 Fax: 847-841-1149
Phone: 800-362-3860 Fax: 888-362-2576
www.good-lite.com

OEM Certificate

03/19/2015

To whom it may concern:

This certifies that the Good-Lite Co. has been given the exclusive worldwide manufacturing rights from LEA Test International, LLC, owner of the LEA IP, for all of the products that are being requested. No other licensor approved products are available from any other source.

Please feel free to contact me for any further information needed.

Regards,

Chris Greening
General Manager
Good-Lite Co.

GOOD-LITE®

The Quality Always Shines Through

1155 Jansen Farm Drive Elgin, IL 60123
Phone: 847-841-1145 Fax: 847-841-1149
Phone: 800-362-3860 Fax: 888-362-2576
www.good-lite.com

Certificate of Quality Commitment

03/1/2015

To whom it may concern:

This certifies that the products manufactured by Good-Lite Co., are subject to the industry's highest standards of quality at every level of production. From raw materials to the finished product, all products are produced in a controlled environment.

Good-Lite Co. guarantees that manufacturing lots meet the industry's highest standards.

Good-Lite Co. guarantees that we will have replacement parts for 7 years from the date of sale.

Satisfaction Guaranteed
Dedicated to customer service and quality manufacturing, Good-Lite Co. guarantees its products will be free of defects in materials and workmanship and will replace any product that fails to perform as promised for one (1) year after date of purchase. Contact our Customer Service Department for details.

Best regards,

Chris Greening
General Manager

OFFICIAL SEAL
GOOD-LITE®
The Quality Always Shines Through
USA
1930

4. Pearson List and costing quotation of products

PEARSON ALWAYS LEARNING

3, Salarpuria Citadel 1st Floor,
Hosur Main Road,
Bangalore – 560030
Karnataka, India
T:+91 (080) 6673 0200
www.talentlensindia.in
www.pearson.co.in

Quotation

PEARSON

Pearson Clinical and Talent Assessment
Pearson India Education Services Private Limited ,3, Salarpuria Citadel 2nd Floor, Hosur Main Road, Opp Bosch, Bangalore – 560030

To,
National RBSK Unit
Ministry of Health & Family Welfare
Government of India
New Delhi 110067

Quotation No. C 000963 Date: 6th Mar 2015

Sr. No	Description of Goods	Specification	ISBN NO.	Quantity	Rate per unit	Taxes: VAT	Total Amt. INR
1	REEL-3: Receptive-Expressive Emergent Language Test - Third Edition	Examiner's Manual and 25 Profile/Examiner Record Booklets (©2003).	(10675)	1	8018	0	8018
2	Bayley Scales of Infant and Toddler Development®, Third Edition (Bayley-III®)	Includes: Administration Manual, Technical Manual, Cognitive, Language, and Motor Record Form, Pkg of 25, Stimulus Book, Picture Book, Manipulative Set, Social-emotional and Adaptive Behavior Questionnaire, Pkg of 25, Caregiver Report Form, Pkg of 25, and Rolling Case	0158027248	1	87335	4367	91702
3	Bayley-III Screening Test	Includes: Screening Test Manual (Technical and Administration), Screening Test Stimulus Book, 25 Screening Record Forms, Picture book, and Screening Manipulative	158027256	1	21312	1066	22378
4	Vineland Adaptive Behavior Scales, Second Edition (Vineland-II)	Includes manual, 10 survey interview forms, 10 parent/caregiver rating forms, 10 survey interview report to parents and 10 survey forms report to caregivers	9780749152000	1	13860	0	13860
5	DST-J INDIA Complete Kit	Includes examiner's manual, envelope 1 (DST-JINDIA subtest cards, sample permission letter and acetates), envelope 2 (containing score keys), balance tester, blindfold, beads, cord, and 50 score sheets in a carry case.	9789380862552	1	10710	536	11246
6	Dyslexia Early Screening Test - Second Edition (DEST-2)	Includes examiner's manual, envelope 1 (containing subtest cards and sample permission letter), envelope 2 (containing score keys), forward digit span CD, sound order CD, corsi frog, beads, cord, blindfold, balance tester, scoring software with manual and 50 score sheets in a bag.	9780749158088	1	13440	672	14112
	Total						161316

Payment terms: 30 days credit
Quote Validity: Six Months
Method of Payment: CHEQUE / DEMAND DRAFT made payable to "Pearson India Education Services Private Limited"
Note: Free shipping. Local Body Tax (LBT) should be borne by consignee/buyer.

"Pearson / Psychcorp" products are available in India only with Pearson Clinical & Talent Assessment at its Bangalore office. Any unauthorised representation for Pearson / Psychcorp products is illegal and will be subjected to legal action. Please join hands with us in Preventing spurious representation by informing us on time.

For Pearson India Education Services Private Limited
Authorised Signatory

5. Pearson List and costing quotation of products

Regd. Office :
A- 6, NAND Complex,
Near AIMS Oxygen, Juna Padra Road,
Baroda 390 020 - INDIA

Marketing / Customer Support :
5-6, 3rd Floor, Mrudula Sadan,
Pratap Road, Raopura,
Baroda 390 001 - INDIA

JUTRON Vision
enhancing vision ~ enriching life

Proforma Invoice

Customer
Name District Early Intervention Center
Address District Hospital
Aundh
Pune - 411027

P I No. 1617-PI-01
Date 01-Apr-16
PO #
PO Date

Qty	Description	Unit Price	Total
1	# 251600 LEA 3-D Puzzle Good-Lite USA	3,900.00	3,900.00
1	# 253300 LEA GRATINGS, a Preferential Looking Test Good\Lite USA	29,600.00	29,600.00
1	18342-VC Streak Retinoscope WelchAllyn USA	26,800.00	26,800.00
1	# 253500 Hiding Heidi Low Contrast Face Test Double Sided Good-Lite USA ---- OR ----- Delivery within 3 weeks afer receipt of payment Inclusive of Freight from USA, Custom Duty Custom Clearance etc.	12,000.00	12,000.00
		SubTotal Rs.	72,300.00
		VAT 5%	3,615.00
		Courier	1,700.00
		TOTAL Rs.	77,615.00

Payment

Advance 100 % against order

Authorised Signature:

Rs. Seventy Seven Thousand Six Hundred Fifteen only

Payment in favor of: JUTRON VISION. Account No.: 074911021009,
Dena Bank, Alkapuri Branch, Baroda, Gujarat
RTGS (IFSC) Code BKDN 0210749

Service With Smile

Delhi : Chandigarh : Lucknow : Jaipur : Indore : Ahmedabad : Mumbai : Pune : Nagpur : Hyderabad : Bangalore : Chennai

Tel. : +91-99987-02020 • mail@jutronvision.com • www.JutronLowVision.com • www.JutronVision.com

ANEXURE 4

Illustrative costing of equipment for DEIC and Model DEIC under RBSK:

(Following financial projection of individual equipment and the total is illustrative only. Prices may vary and may go higher or lower)

Disclaimer: The names of the companies are not an endorsement or suggestion to buy from these companies. This is only indicative list compiled by asking the various Government hospitals the brand they are using.

Illustrative Total cost of Essential equipment : Rs. 57,21,982
Illustrative Total cost of *Essential + Optional equipment*: Rs.1,22,47,482

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
A: Medical Equipment : 1-8				
1. Stethoscope (Paediatric)	E	4	600	2,400
2.Sphygmomanometer with Paediatric cuff with 3 different sizes (Infant, Child and Adult) Reusable	E	2	6000	12,000
3.Infantometer with integrated head piece and sliding leg positioner 10-99cm	E	2	3000	6,000
4. Electronic Baby Weighing Scale	E	2	800-1000	2,000
5. Adult weighing scale	E	2	400-800	1,500
6. Height Measuring scale -Stadiometer	E	2	1500-2000	4,000
7.MUAC tape	E	5	15-20	100
8.Head circumference tape-Non stretchable TEFLON synthetic material	E	5	70-300	1,500
Total : ALL ESSENTIAL				**29,500**
B. For R.O.P : 9-12				
9. Indirect Opthalmoscope with a 20, 28 or 30 D lens	E	1	65000	65,000
10. a) Eye speculum (Alfonso infant wire speculum) b) • Scleral depressor (wire vectis) c). ROP speculum	E	1	5000	5,000

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
11. Laser console plus laser indirect opthalmoscope with protective glass	Opt	1	12-15 lac	15,00,000
12 Retinal camera	0pt	1	10-15 lacs	15,00,000
Total for ROP				**70,000**
				30,70,000
C. Hearing equipment : 13-20				
13 Screener pediatric audiometer	E	1	70000	70,000
14. Paediatric Video Auroscope (Otoscope)	E	2	25,000-30,000	30,000
15. Tympanometer/Impedance Audiometer-Table top	E	1	2.5- lacs	2,50,000
16 Oto-acoustic emission(OAE) instrument	E	1	5.5-6.0 lac	6,00,000
17.Brainstem Evoked Response Audiometer	E	1	8.0 lacs	8,00,000
with ASSR and both insert phone and				
18. Tuning Fork 1 set-4 tuning fork of 4 different freq 128 Hz, 256 Hz, 512 Hz and 1024 Hz	E	1	Rs 500	500
19.Automatic ABR screener without disposable electrodes rather with integrated electrodes	E	1	Rs 5 lacs	5,00,000

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
20. OPD material. .LED Head light : total a) Thudicum's speculum set b) Killian' speculum set c) Laryngeal mirrors set d) Posterior rhinoscopic mirrors e) Aural Speculum all sizes black finish f) Nasal Packing Forceps g) Aural Suction Tips (Micro suction adapter) h) Nasal Suction Tips i) Tuning Forceps 512 j) Hartman's Forceps k) Eustachian tube catheter l) Punch biopsy forceps m) Laryngeal biopsy forceps n) BP Handles of various sizes o) Tongue depressor	E		Rs 10,000- 20,000	20,000
21. Sound proof room	E	1	7 lacs	7,00,000
Total equipments cost for Hearing				29,70,500
D. VISION EQUIPMENTS : 21-26				
21.Torch-penlight	E	**2**	50	100
22. Direct Ophthalmoscope	E	**1**	5000	5,000
23. Streak Retinoscope	E	1	20000	20,000
24. Lea Grating Paddles	E	1	18,837	18,837
25. Lea Near single symbol Playing cards	E	1	3,370	3,370
26. Lea Near Card symbols with Cord	E	1	3,370	3,370
27.Lea Symbol Test Set 3 meter	E	1	3370	3,370
28. Hiding Heidi	E	1	4255	4,255
26. Lea Symbol Low Contrast 10M Flipchart	E		7780	7,780
Total cost of essential vision				66,082
E: Tools for psychological tests: 27-37				
27 *Receptive-Expressive Emergent LanguageTest—Third Edition (REEL-3)	E	1	15,000	15,000
28*LPT: Linguistic profile test	E	1	500	500
29.Developmental assessment for Indian Infants - (DASSI)	E	1	15,000	15,000

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
30 .Vineland Social Maturity Scale	E	1	15,000	15,000
31. Vineland Adaptive Behaviour Scales	E	1	15,000	15,000
32.Developmental Screening Test (DST) by Bharat Raj	E	1	900	900
33.Denver Developmental Screening Test II (DDST-II)	E	1	46,000	46,000
34. Stanford Binet (Indian adaptation-Kulshreshta)	E	1	2,500	2,500
35. *Bayley-III Screening Test Complete Kit Includes; Manual, Stim Book, Picture Book, Record Forms 25 Packs.	E	1	30,000	30,000
36.Piagets Sensori-motor Intelligence Scale 0-2 years • Piagetian Cognitive Tasks	E	1	10,000	10,000
37.Dyslexia Early Screening Test 4-6 years (DEST) and Dyslexia Screening Test Junior (6-11 years)	E	1	13000 x2 =26,000	26,000
Total for essential equipments				**1,75,900**
F: Lab equipments : 38-43				
38. Automated Blood cell Counter (3 part)	E	one	5 lac	5,00,000
39. Microscope	E	one	5000	5,000
40. Semi-automated analyzer	E	one	7 lac	7,00,000
41. Digital Hemoglobinometer(with cuvic and lancet)	E	one	25000-30000	30,000
Total Essential				**12,35,000**
For Hemoglobinopathy testing among newborns either any one of these				

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
42.a Isoelectric Focusing	O	one	15 lac	15,00,000
42.b Capillary Electro Focusing	O	one	15-30 lac	
42.c Hemoglobin HPLC system	O	one	50 lac	
43. ELISA Reader and Washer	O	one	2.5 lac	2,50,000
Total (Essential + Optional)				**29,85,000**
G: Dentistry				
44. Paedtaric Dental Chair	E	ONE	2 lac	2,00,000
45. Wall mounted dental x ray	E	ONE	2 lac	2,00,000
46. Table top Front Loading Autoclave (electrical)	E	ONE	75,000	75,000
47. LED Curing Light source (composite)	E	ONE	25,000-50,000	50,000

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
48 .Other dental equipments : a. Forceps set for extraction: 2 Set (1 Adult +1 Paediatric) b. Restorative Filling and Carving Instruments Set : 1 set c. Elevators set of 10 (ten): 1 Set d. Airotor: 1 e. Dental ultrasonic scaler(complete set): 1 f. Composite Filling Instruments: 1 kit g. Dental Electric Brushless Micromotor h. LED Curing Light source: 1 Complete Unit i. Automatic Water Distiller: 1 j. Mouth Mirrors:40 k. Probes-Straight: 40 l. Explorers: 40 m. Tweezers: 40 n. Cheatle forceps: 1 o. Kidney trays 10 p. Plastic Cheek Retractors 2 each q. Mouth Props (Adult + Pedo) 1 each r. Cement Spatula (Plastic and Metal) 1 each s. Matrix Band and retainer(both no1 & 8) 1 set t. Dental Impression Trays (upper and lower) 1 set each u. Rubber Bowls 2 v. Plaster Spatula- straight and curved 1 each w. Suction tips (Metal) 2 x. Mallet - Dental 1 **25. Scissors 1** **26. Needle Holder- 1** **27. Bone Chisel- 1** **28. Glass slab** **29. Scalpel handle : 1** **30. Plastic patient drape 2** **31. Hand scaler(complete set) 1** **32. Mortar And pestel : 1** **33. Lead Apron: 1**	E	as mentioned	1 lac	1,00,000
Total essential cost				6,25,000
H : Computers : **49. 6 Computers with LAN**	**E**	ONE		3,00,000
I : Physiotherapy equipment				1,00,000

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
50. **Therapy ball**: a) 65 cm b) 45 cm and a pump for inflation	E	2 of each size		
51.**Therapy mats**- 6ft x3ft (Length 6 ft and breadth 3ft, thickness 4 cm	E	8		
52**. Bolster:** **2ft long, diameter- 8 inch** **2ft long, diameter- 10 inch**	E	1		
53. **small roll**-13 inch long, diameter -3 inch	E	3		
54. **Prone wedge**s	E	1 EACH		
55**.Balance Board**	E	1		
56**.Kaye-Walker (height-48-64 cm**	E	1		
57.**Bolster Swing**	E	1		
58.**Wooden Benches with cushion and Rexene cover** a) Small (3ft long, height 8 inches, breath 6 inches), b) 1 Big (3ft long, height 12 inches, breath 8 inches)	E	1		
59.**Splints (Ankle Foot Orthosis)**	E	1 PAIR		
60**.Special chairs**	E	2		
61. **looking mirrors**	E			
62.**Toys (for play and stimulation)**	E	as mentioned		
a) **Small rattles**: 10 number				
b) **squeaky toys** : 3				
c) **Puja bell** (clapper bell) : 2				
d) **Soft toy** : 10				
e) **Brush for tactile stimulation** : 2				
f) **Theraputty**: Gluten free, non-toxic, red, yellow and blue colors : 3 containers				
g) **Peg board** : laminated square board having 10 holes to hold smoothly finished solid plastic pegs in five different bright colours : 2				

Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
h) **Ball Pool :** The dense foam padded mini Ball Pool is Soft, safe and perfect for small children. It provides an excellent sensory stimulating activity. The round pool is 120cm in diameter x 50cm high, & has 10cm thick padded sides. The pool contains 500 multi color balls of 7cm or 8cm diameter. Pool side and bottom is covered with durable Rexene that easily wipes clean. : 1				
i**) Balls of different size** :5				
j) **Gaiters** : Aluminium/bamboo stick of 8",10", 12",14" long inserted in the pockets of thick canvas, 3 velcro straps to be wound around Total 8 nos (1 pair of each size mentioned)				
k) **Thick handle spoon** Stainless steel spoon, padded handle 3				
l) **Thick handle bent spoon** Stainless steel bent spoon, padded handle 3				
m) **Plastic spoon** with long handle (for babies) , Long handle bright color spoon 3 n) **Plastic glass with rim cut** on one side : Plastic glass with one side of the rim is cut to accommodate nose : 3				
o)**Stainless steel plates** with high rim : High rim to prevent spilling over of food : 3				
p) **Spouted cups** s : 3				
63. Sensory Integration Equipments				1,50,000

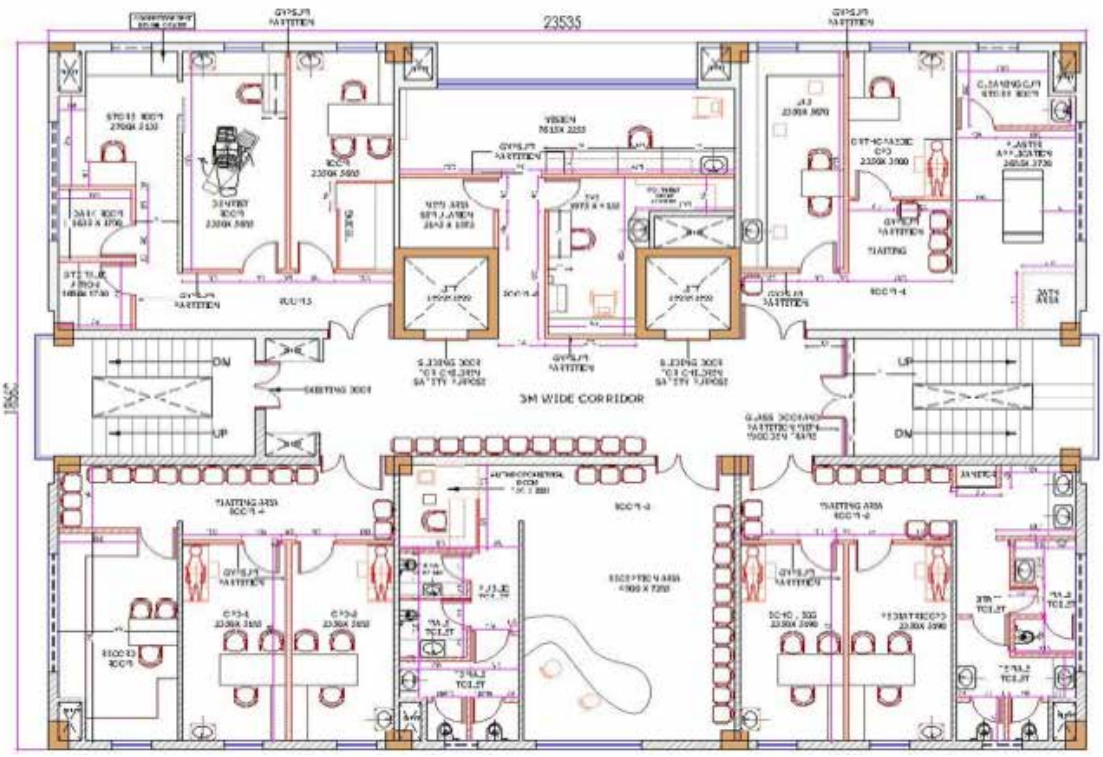
Name of Equipment	Essential / Optional	Number for each DEIC	Likely unit price (Rs)	Indicative cost (in Rs)
i. Pinspot and Mirror Ball ii. Mirror Ball Motor iii. LED Mirror Bal iv. Fire ball -mounted on the roof v. Sound Activated Light vi. LED Bubble Tube vii. OPTIC fibers viii. Blue LED Lights ix. 150 bulb blue LED light chain x. Bubble Tube xi. Rotating Drum xii. Chime Frame and Beater xiii Mirror Chime bout xiv.Swings: a) Bolster swing b)Platform swing c)Tyre tube swing d)Rope ladder swing e)Rhythmic Rocker f)Balance boards g) Bean bags including white ones, h) Real size animal toys	E	ONE SET EACH		
64. ECG digital machine and ECHO machine	**Optional**	one		18,00,000
Grand total Essential + optional			1,12,47,482	56,97,482

ANNEXURE 5

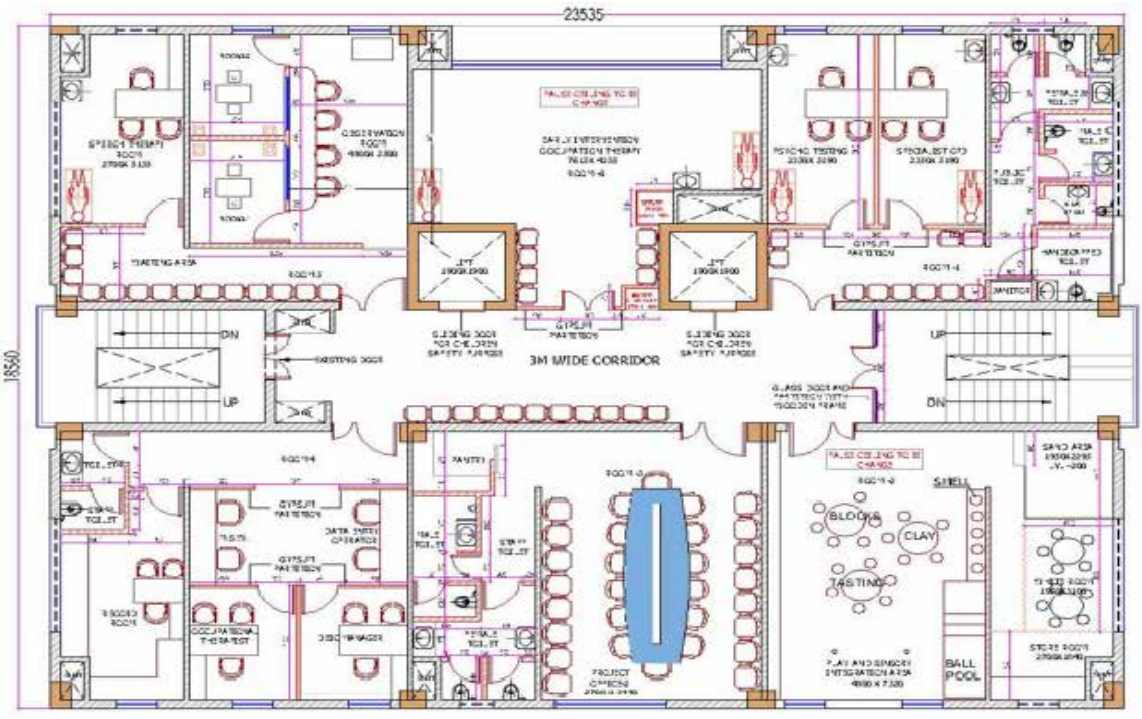
Designer Impression of Proposed DEIC Design layout Noida, Uttar Pradesh

Interior designer impression of the under construction "Centre of Excellence District Early Intervention Centre" at 3rd and 4th Floor, Tower 9, Super Specialty Paediatric Hospital and Training Center, Sector 30, Noida Uttar Pradesh under RBSK, National Health Mission, Uttar Pradesh. The layout and design has been mentored by National RBSK Unit within available space, with interior design firm for turnkey partner HLFPPT of the centre.

Floor plan 3rd floor



Floor plan 4th floor

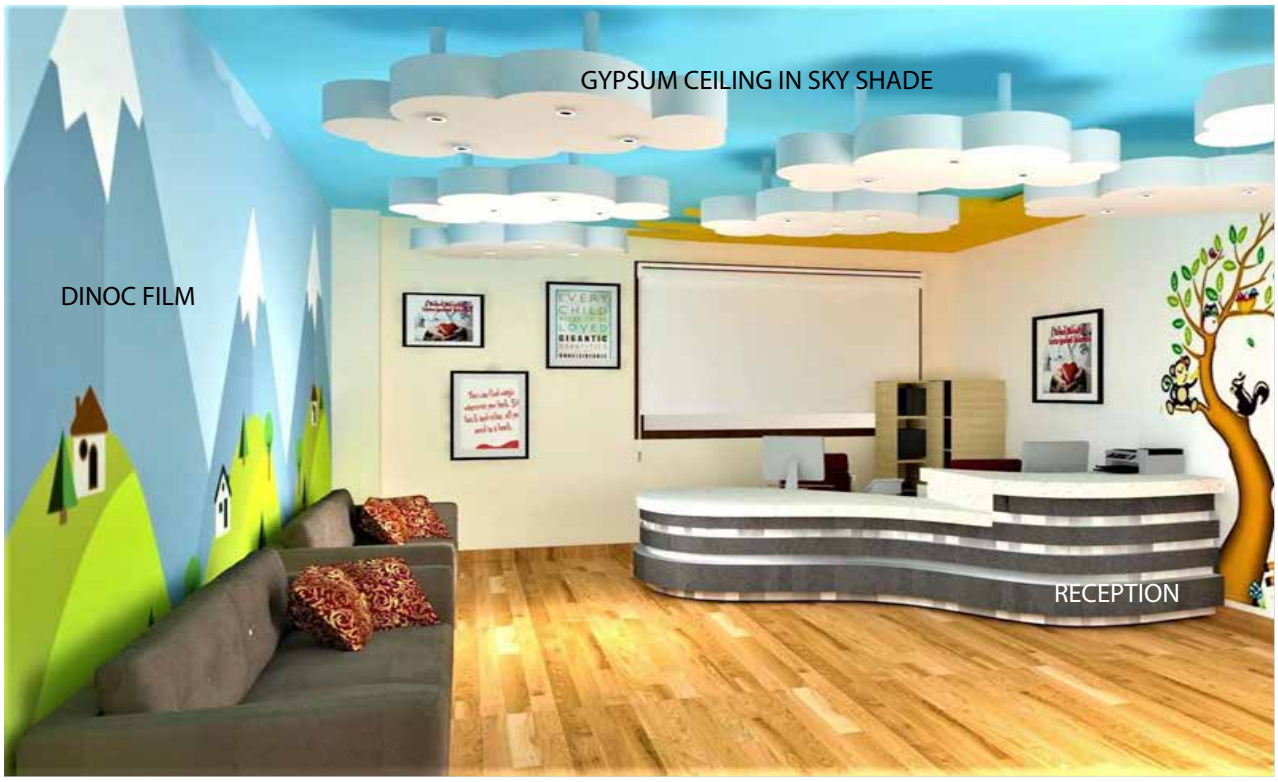


ENTRANCE TO THIRD FLOOR

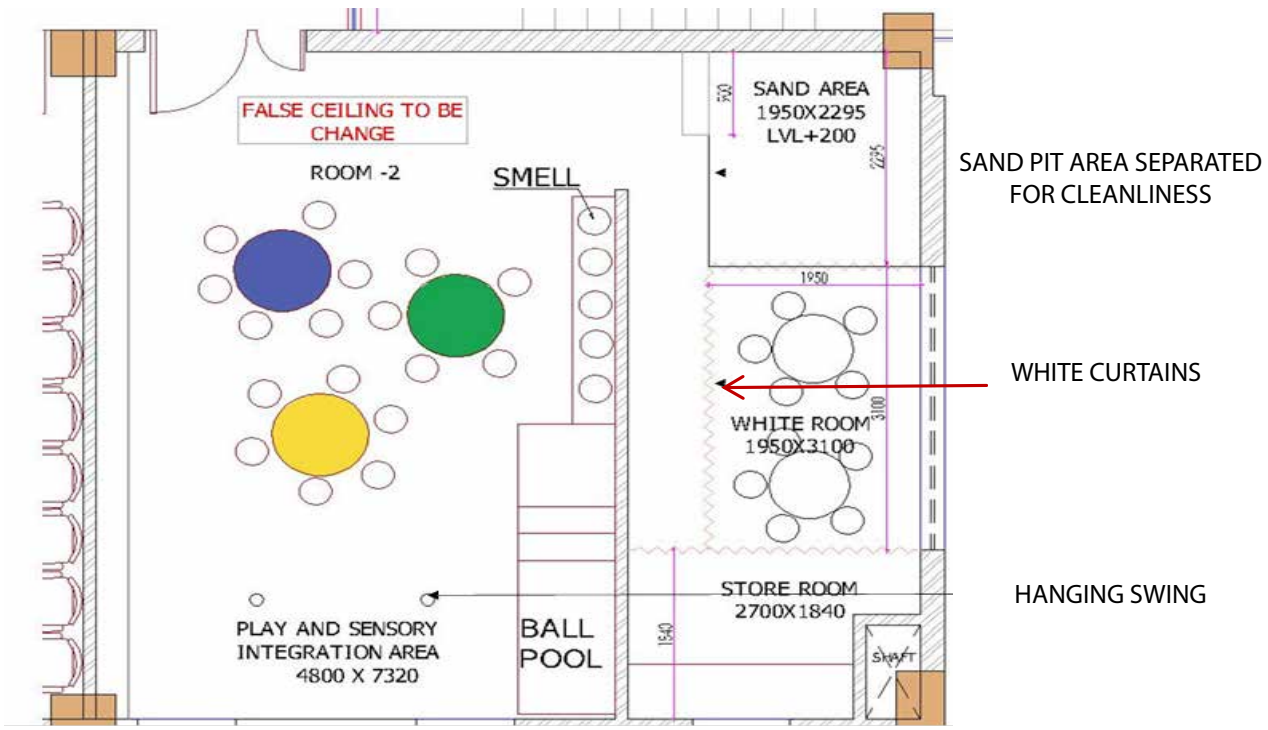
Corridor option

Reception


DOOR LAMINATED
IN BRIGHT YELLOW
GAMES FOR KIDS ON
WALL AND TABLE TOP


GYPSUM CEILING IN SKY SHADE
DINOC FILM
RECEPTION

Play and Sensory Integration plan

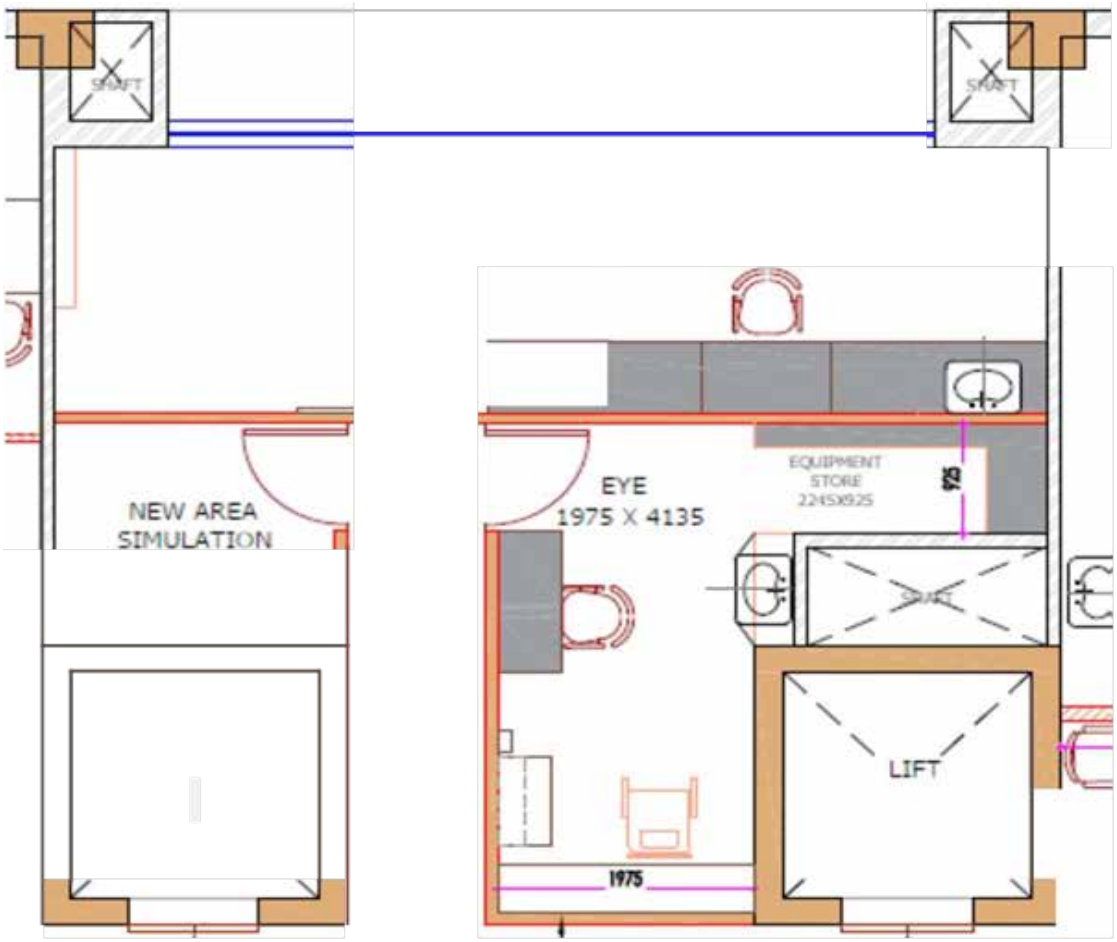


Sensory Integration

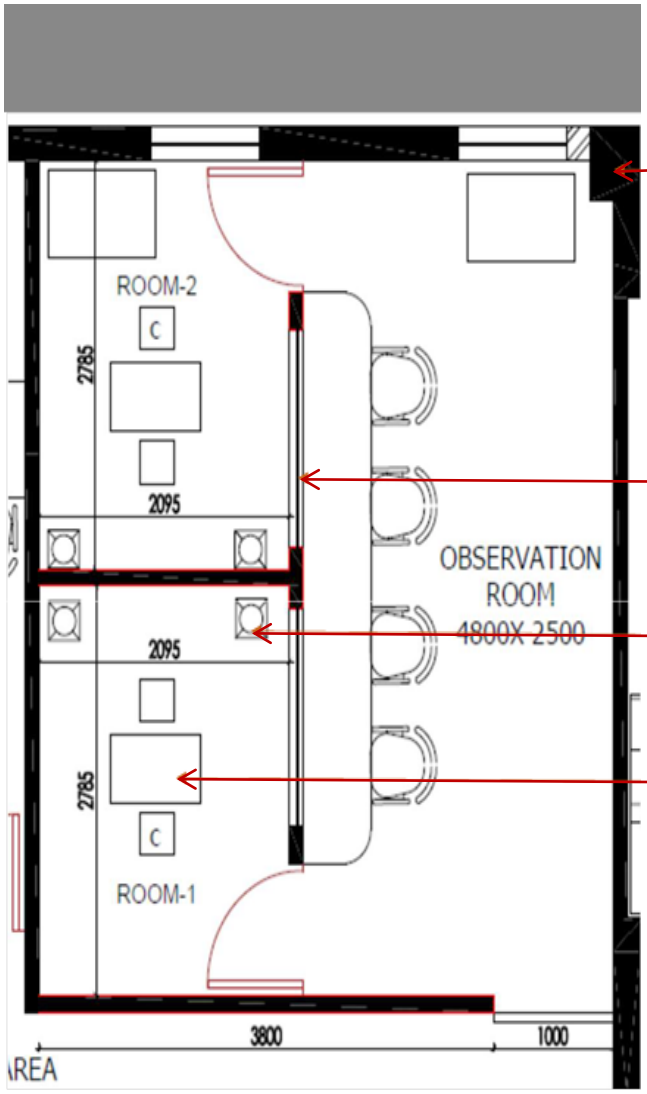

HIGH CONTRAST IMAGES FOR VISION PANEL
ARTIFICIAL GARDEN FOR SMELL WITH DIFFUSERS PANEL
TACTILE FLOOR

FUN GAMES ON WALLS FOR KIDS

VISION


SHAFT
SHAFT
NEW AREA
SIMULATION
EYE
1975 X 4135
EQUIPMENT
STORE
2245X925
975
SHAFT
LIFT
1975

AUDIOMETRY



FABRIC INSULATION ON WALLS FOR ACHIEVING 35 DB

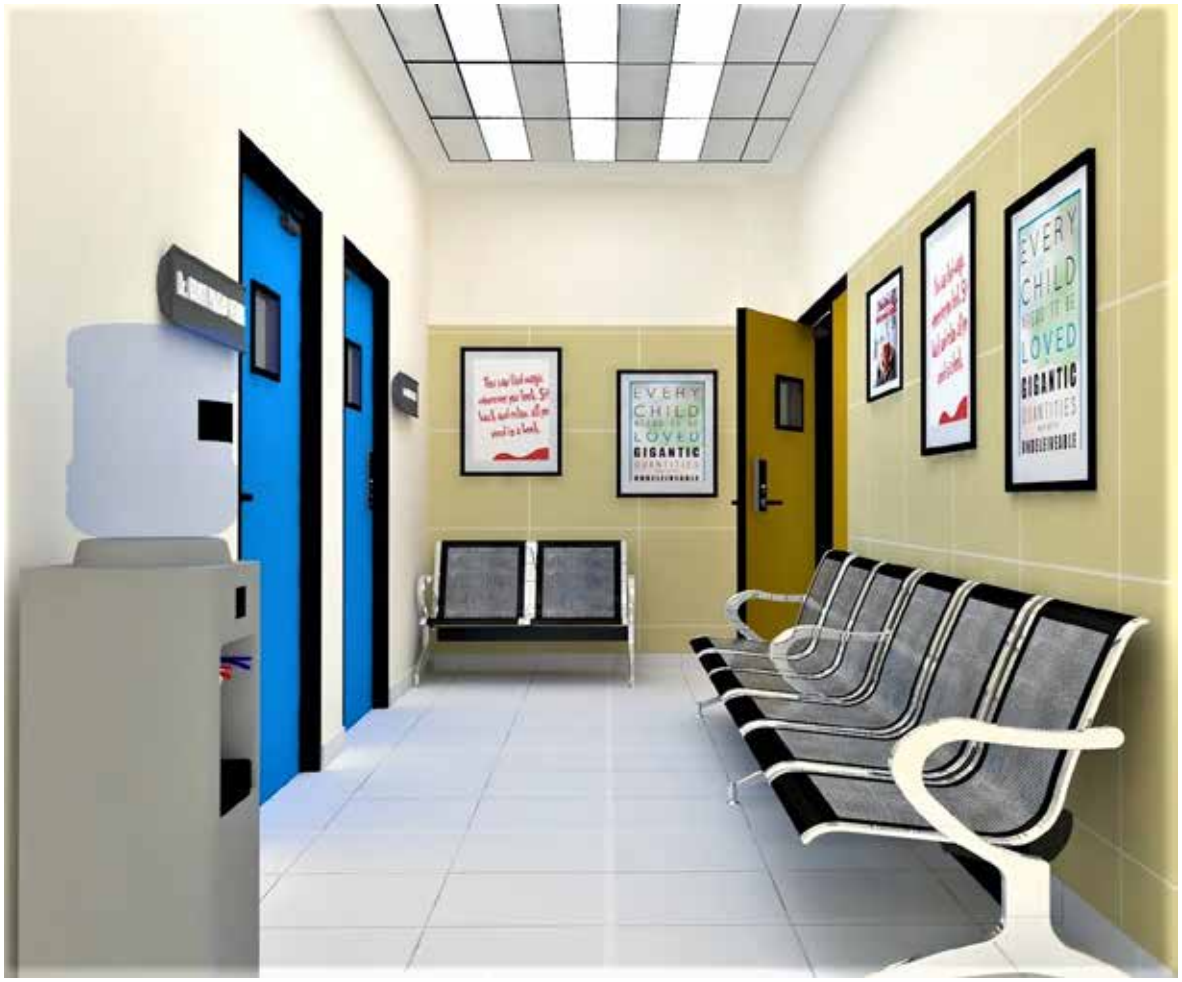
DOUBLE GLASS WITH VACCUM

SPEAKERS WITH TOYS

CHILDREN FURNITURE

OCCUPATIONAL THERAPY

WAITING AREA OUTSIDE OPD



TYPICL CONSULTATION ROOM

CONSULTATION ROOM OPTIONS

PAINTED GYPSUM PARTITION

BRIGHT COLOURS SHELVES ON TILES

CONSULTATION ROOM OPTIONS

CLOUD AND HOUSE SHELVES ON TILED WALL

PRINTED DINOC ON THE EXAMINATION TABLE

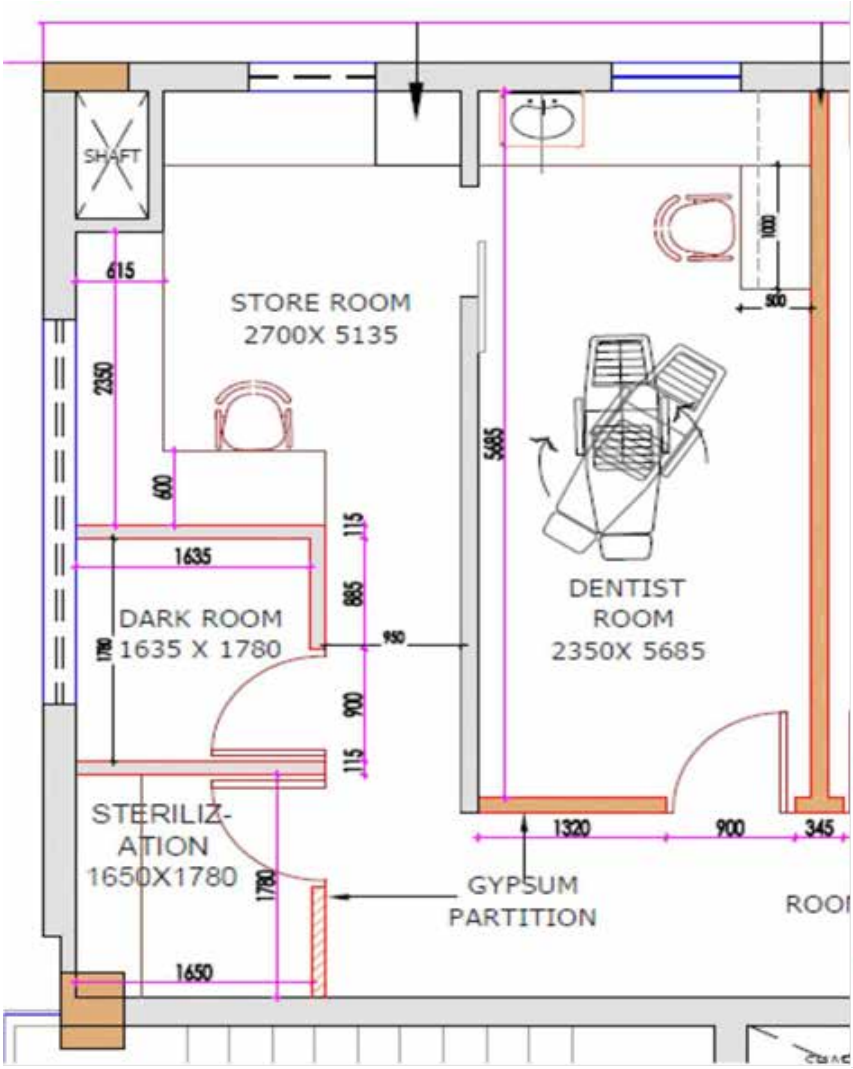
CONSULTATION ROOM OPTIONS

MDF CUTOUTS IN PANELLING FIXED ON TILES

PRINTED DINOC ON THE EXAMINATION TABLE

CONSULTATION ROOM OPTIONS

DENTAL ROOM PLAN



LABORATORY

CONFERENCE ROOM MODEL DEIC

ROLLER BLIND

DINOC PRINTING WITH MOTIVATIONAL QUOTES

WALL MOUNTER TV

RECORD ROOM

Design & Layout: JS MEDIA (www.jsmedia.in)

Ministry of Health & Family Welfare
Government of India