Dr. Manohar Agnani, IAS
Joint Secretary
Telefax : 23061723
E-mail : js.policy-mohfw@gov.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

D.O. No. Z-1595/7/2018-NHM-I
Dated the 1st July, 2019

Dear All,

You are aware of the critical importance and the transformative potential of the Ayushman Bharat - Health and Wellness Centres (AB-HWCs) in providing comprehensive primary healthcare close to the community and building a robust foundation for a healthy India. Under this scheme, it is imperative to expand the existing diagnostic services being provided at the transformed Sub Health Centres and Primary Health Centres as AB-HWCs, to ensure early detection of disease conditions and also monitor the treatment outcomes of chronic illnesses.

In order to provide the essential diagnostic facilities at these AB-HWCs, the diagnostic list of tests to be provided has been expanded to 14 tests at the AB-HWC-SHC and 63 tests at AB-HWC-PHC. I am herewith sending the details of 14 tests that are to be made available at AB-HWCs, besides, detailed technical specifications for the equipment required for POC in a hub and spoke model along with the estimated cost.

I request and firmly believe that you will be taking required actions to ensure that these expanded diagnostic services are made available at all the Ayushman Bharat – Health and Wellness Centres in your respective State / UT at the earliest. I look forward to establishing a holistic healthcare at these centres and move towards achieving universal health coverage.

With kind regards,

(Encl. As above)

Yours sincerely,

01/07/2019

(Dr. Manohar Agnani)

Additional Chief Secretary/Principal Secretary/Secretary (HFW) – All States and UTs

Copy to:

1. JS (VG/VS/SP/SS/LA/SK/NS/AS)
2. ED, NHSRC
3. Mission Director (NHM) - All States and UTs
4. PPS (AS&MD, MoHFW)

Table 1 : List of diagnostic tests at Health and Wellness Centre - Sub Health Centres

S.no.	Diagnostic test	Human resource required for conducting the test at sub-centre	Product/ equipment required for testing
1	Hemoglobin	ANM/MLHP	Digital Hemoglobinometer
2	Human chorionic gonadotropin (HCG) (Urine test for pregnancy)	ASHA/ANM/MPW/MLHP	Rapid card test (Dipstick)
3	Urine test for ph, specific gravity, Leucocyte esterase glucose, bilirubin, urobilinogen, ketone, hemoglobin, protein, nitrite	ANM/MLHP	Multiparameter urine strip (dipstick)
4	Blood sugar	ASHA/ANM/MPW/MLHP	Glucometer
5	Malaria test	ASHA/ANM/MPW/MLHP	Rapid card test
6	HIV (Antibodies to HIV 1&2)	ANM/MLHP	Rapid card test
7	Dengue	ANM/MLHP	Rapid card test for NS1 antigen and IgM and IgG antibodies
8	Visual Inspection – Acetic Acid	ANM/MLHP	Manual
9	Test for iodine in salt (used for food)	ASHA/ANM/MPW/MLHP	Iodine in salt testing kit
10	Water testing for fecal contamination and chlorination	ASHA/ANM/MPW/MLHP	Strip method
11	HbsAg test for Hepatitis B	ANM/MLHP	Rapid card test
12	Filariasis (endemic areas only) -FST	ANM/MLHP	Rapid kit
13	Rapid Test Kit for Syphilis	ANM/MLHP	Rapid Kit
14	Sputum for AFB#	ANM/MLHP for sample collection. TB microscopy centre for testing	Microscopy

TECHNICAL SPECIFICATIONS FOR DIAGNOSTICS EQUIPMENT REQUIRED IN HEALTH AND WELLNESS CENTRES (PHC & SC)

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HAEMOGLOBINOMETER

ersion no. :	Ver_1
ate:	15/09/2018
one by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

MDNS name	Analyzers, Point-of-Care, Whole Blood, Hematology, Hemoglobin
MDNS code(s)	23456

GENERAL

1. USE

1.1	**Clinical purpose**	Point of care testing of hemoglobin
1.2	**Used by clinical department/ward**	Clinical lab

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	**Technical characteristics (specific to this type of device)**	1. It should working on the principle of Reflectance Photometry/ Absorbance Photometry 2. Should have LCD light display system. 3. Should display of results in g/dl. 4. Measuring Range 0g/dl to 20 g/dl or beyond 5. Maximum volume of sample required should not more than 50µl (One full blood drop) 6. Sensitivity and Specificity should more than 80%. Findings should be publishec in two peer reviewed indexed journals. The studies should be done in two different Indian settings by two independent teams of investigators. 7. Auto calibration is required
2.2	**User's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required**	Inbuilt

3. PHYSICAL CHARACTERISTICS

3.1	**Dimensions(metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Noise (in dBA)**	Noise-free system
3.4	**Heat dissipation**	Should maintain nominal temp and the heat should be disbursed through a cooling mechanism
3.5	**Mobility, portability**	Portable.

4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)

4.1	**Power requirements**	Preferably battery operated. Should also be able to work on direct connection with electricity source (AC).
4.2	**Battery operated**	Yes
4.3	**Protection**	NA
4.4	**Power consumption**	To be specified by Vendor

5. ACCESSORIES, SPARE PARTS, CONSUMABLES

5.1	Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1 .Operating Condition: Capable of operating continuously in ambient tempertur of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	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**	1. Should be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements w be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements(or equivalent BIS Standard).
	8. TRAINING AND INSTALLATION	
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenanc shall be provided. Advanced maintenance tasks required shall be documented.
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years, including all spares and calibration.
	10. DOCUMENTATION	
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequaetly displayed.

Glucometer

Version no. :		1.0
Date:		3/9/2014
Done by : (name/institution)		HCT/NHSRC
Name and coding		
GMDN name		**Glucose self-testing**
GMDN code(s)		CT296
General		
1. Use		
1.1	**Clinical purpose**	It intended to be used together for testing, either at the point-of-care or in self-testing by a layperson, for the quantitative measurement of glucose and/ or ketones in a whole blood clinical specimen.
1.2	**Used by clinical department/ ward**	All
Technical		
2. Technical characteristics		
2.1	**Technical characteristics (specific to this type of device)**	Should have reading range/linearity from 30 to 600 mg/dl; Should have a maximum reading time of less than 10 seconds; Should use a minimum blood sample less than 1.5µl; Should have a minimum memory of 50 tests; accuracy +/-10% and reproducibility +/-5%; Packing of strips should be such that there are not more than 50 strips/pack. The strips should be readily avalibale throughout the country;
2.2	**Settings**	Should have automatic code detection facility , display of sugar in Mg/dl and NOT in mili moles.
2.3	**User's interface**	LCD display
2.4	**Software and/or standard of communication (where ever required)**	Inbulit; .Should have facility to ensure accuracy of measurements.
3. Physical characteristics		
3.1	**Dimensions (metric)**	Handheld device
3.2	**Weight (lbs, kg)**	Handheld device
3.3	**Configuration**	Electrochemical/colorimetric/color sensing technology.
3.4	**Noise (in dba), heat dissipation**	NA
3.5	**Mobility, portability**	Handheld
4. Energy source (electricity, Ups, solar, gas, water, co2 ....)		
4.1	**Power requirements**	Battery powered
4.2	**Battery operated**	3-volt lithium coin cell battery or 2 x (AAA) Alkaline Batteries.

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 & spare parts	NA
5.2	Consumables/reagents (open, closed system)	Glucose strips(able to use capillary blood samples) with availabilty in local market, shelf life of strips should be 12 months, the cost of strips for the next five years should be declared (for cost comparison)- with use of two strips/ day.
	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 deg C and relative humidity of 15 to 90%. Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90%.
6.2	User's care, cleaning, Disinfection & sterility issues	The unit should be cleanable with alcohol.
	7. Standards and safety	
7.1	Certificates (pre-market, sanitary, ..); performance and safety standards (specific to the device type); local and/or international	US FDA or CE (EU) and BIS or ISO 13485 certified.
	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)	Required
	9. Warranty and maintenance	
9.1	Warranty	2 years; shelf life of minimum 12 months for strips from the date of manufacture; strips should work minimum 3 months from opening of pack.
9.2	Maintenance tasks	Should require no routine maintenance.
9.3	Service contract clauses, including prices	Should have life time replacement offer.
	10. Documentation	
10.1	Operating manuals, service manuals, other manuals	Required
10.3	Recommendations for maintenance	To Be provided during installation
	11. Notes	
11.1	Service support contact details (hierchy Wise; including a toll free/landline number)	Should provide complete contact details of sales and service departments.
11.2	Recommendations or warnings	

Colorimeter

Version no. :	1
Date:	5/12/2014
Done by : (name/institution)	Hct/nhsrc

Name and coding		
Gmdn name		**Colorimeter**
Gmdn code(s)		Na
General		
1. Use		
1.1	**Clinical purpose**	It is used to determine the concentration of colored compounds in solution. A colorimeter is a device used to test the concentration of a solution by measuring its absorbance of a specific wavelength of light.
1.2	**Used by clinical department/ ward**	Clinical laboratory
Technical		
2. Technical characteristics		
2.1	**Technical characteristics (specific to this type of device)**	1. Should have 5 no of filters for standard wave length from 400 nm to 700 nm. 2. Should have upto 3 decimal calibrated directly in optical density. 3. Detector should be encased spill proof photocell. 4. Should have facilities for concentration, calculation, percentage transmission and optical density. 5. Should have detectorsilicone photo-diode. 6. Filter : optical filter(420nm, 460nm, 510nm, 540nm, 600nm). 7. Light source : bright intensity led/halogen. 8. Display : lcd/led display. 9. 3 red leds for selected function(t%/abs/conc). 10. Photometric range0-2.0. 11. Maximum reaction volume required 1 ml.
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)**	Less than 3 kg.
3.3	**Capacity**	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**	Fixed lab installation.

	4. Energy source (electricity, ups, solar, gas, water, co2 ....)	
4.1	Power requirements	230v, 50hz ac
4.2	**Battery operated**	No
4.3	**Tolerance (to variations, shutdowns)**	Na
4.4	**Protection**	Na
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) Filter case : 1 pc 2) Filter (420nm, 460nm, 510nm, 540, 600nm) : 5 pcs; lamp/light source 3) Square cuvette : 4 pcs (glass) 4) Round cuvette : 4 pcs (glass) 5) Cuvette adaptor : 1 pc 6) Analog output cable : 1 pc 7) Open system
	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 50 deg 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 deg 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**	1. Should be fda/ce/bis approved product. 2. Manufacturer and supplier should have iso 13485/us(fda)/eu(ce) certification for quality standards. 3. Shall meet internationally recognised for electromagnetic compatibility (emc) for electromedical equipment: 61326-1. 4. Certified to be compliant with iec 61010-1, iec 61010-2-281, iec 61010-101 for safety.
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**	
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)**	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

BINOCULAR MICROSCOPE

VERSION NO. :		1
DATE:		5/12/2014
DONE BY : (NAME/INSTITUTION)		HCT/NHSRC
GMDN NAME		**BINOCULAR MICROSCOPE**
GMDN CODE(S)		NA
GENERAL		
1. USE		
1.1	CLINICAL PURPOSE	Binocular Microscope is a microscope that lets the viewer use both the eyes. The Microscope has two eye lenses.
1.2	USEDBYCLINICAL DEPARTMENT/ WARD	CINICAL LABS.
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**TECHNICAL CHARACTERISTICS (SPECIFICTOTHISTYPEOFDEVICE)**	1. BODY-SINGLE MOULD STURDY STAND, INCLINED BINOCULAR BODY 30°, 360º ROTATABLE HEAD. 2. EYEPIECES-HIGHEST QUALITY 10 X/20MM WIDE ANGLE ANTI FUNGUS FIELD EYEPIECE. ONE WITH POINTER. DIOPTER ADJUSTMENT MUST BE PRESENT ON BOTH EYE PIECES. 3. OBJECTIVES-PARFOCAL, ANTIFUNGUS COATED 4X, 10X, 40X AND 100X (OIL IMMERSION) WITH SEMI PLANNER ACHROMATIC CORRECTION. OBJECTIVE SHOULD BE WELL CENTRED EVEN IF THEIR POSITION ON TURRET IS CHANGED. 4. OPTICAL SYSTEM-INFINITYCORRECTED. 5. STAGE - DOUBLE PLATE RACKLESS HORIZONTAL MECHANICAL STAGE PREFERABLY 100 X 140 MM WITH FINE VERNIER GRADUATIONS DESIGNED WITH CONVENIENT COAXIAL ADJUSTMENT FOR SLIDE MANIPULATION PREFERABLY THROUGH 30 X 70 MM DOUBLE SLIDE HOLDER. 6. SUB STAGE-ABBE CONDENSER FOCUSABLE, CONTINUOUSLY VARIABLE IRIS DIAPHRAGM 7. ILLUMINATOR-BUILT-IN LED LIGHT SOURCE WITH WHITE LIGHT WITH INTENSITY CONTROL AND LED LIFE OF MORE THAN 10, 000 HRS. 8. FINISH-A DURABLE TEXTURED ACID RESISTANT FINISH. 9. BATTREY BACKUP : MINIMUM 1 HOUR. 10. NOSE PIECE: BACKWARD TILTED REVOLVING NOSE PIECE SUITABLE TO ACOMODATE FOUR OBJECTIVES WITH CLICK STOP AND RUBBER GRIP. 11. FOCUSSING: COAXIAL COARSE AND FINE FOCUSSING KNOB, CAPABLE OF SMOOTH, FINE FOCUSSING MOVEMENT SENSTIVITY; MINIMUM: 300 MICRON; FOCUSSING STOP FOR SLIDE SAFETY.
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	**Capacity**	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- single phase 230 V
4.2	**Battery operated**	No
4.3	**tolerance (to variations, shutdowns)**	NA
4.4	**pressure gauge**	NA
4.5	**operating pressure**	NA
4.6	**Sterilizing pressure**	NA
4.7	**Protection**	Should have over-Voltage cut-off with visual symbol.
4.8	**power consumption**	Less than 2 W.
	5. Accessories, spare parts, consumables	
5.1	**Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system)**	Should provide with wooden storage box, dust cover, immersion oil.
	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 deg 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 60 deg 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**	1. Should be FDA/CE/BIS approved product. 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-General requirements(or equivalent BIS Standard) 4. Certified to be compliant with IEC 61010-1, IEC 61010-2-40 for safety.
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**	CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registartion.
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)**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/CMC) to be declared by the manufacturer;
11.2	**recommendations or warnings**	Any warning signs would be adequately displayed

NEAR VISION CHART

Version no. :	Ver_1
Date:	19/08/2018
Done by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

UMDNS name	NA
UMDNS code(s)	NA

GENERAL

1. USE

1.1	**Clinical purpose**	A Near Vision chart is used to screen uncorrected near visual acuity at 25 cm
1.2	**Used by clinical department/ward**	Ophthalmology Department

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	**Technical characteristics (specific to this type of device)**	1. Alphanumeric and Animal Picture Chart for preverbal children. 2. Self illuminated. 3. English, Hindi, Regional language, illiterate E and C Chart. 4. Plates made from high quality non reflective plastic.
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	**Noise (in dBA)**	NA
3.4	**Heat dissipation**	NA
3.5	**Mobility, portability**	Wall mountable type.

4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)

4.1	**Power requirements**	NA
4.2	**Battery operated**	NA
4.3	**Protection**	NA
4.4	**Power consumption**	NA

5. ACCESSORIES, SPARE PARTS, CONSUMABLES

5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	a. Red Glass and Green Glass b. pin hole c. Slit d. Two back discs e. Cross Cylinder +/- 0.25 and +/- 0.5

BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS

6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS

6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	NA
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.

7. STANDARDS AND SAFETY

7.1	Certificates (pre-market, sanitary,..); Performance and safety standards (specific to the device type); Local and/or international	NA
	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	Standards	Manufacturer should have ISO 13485 certification for quality standards.
	10. DOCUMENTATION	
10.1	Operating manuals, set 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)	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 sign would be adequaetly displayed.

COLOUR VISION CHART

Version no. :		Ver_1
Date:		19/08/2018
Done by : (name.institution)		HCT/NHSRC
NAME, CATEGORY AND CODING		
UMDNS name		NA
UMDNS code(s)		NA
GENERAL		
1. USE		
1.1	**Clinical purpose**	It is used to measures your ability to tell the difference among colors
1.2	**Used by clinical department/ward**	Ophthalmology Department
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Animal Picture Chart for preverbal children. 2. Ishihara's colour vision chart. 3. Standard Ishihara's pseudo - isochromatic plates in booklet form, 4. standard key for interpretation.
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	**Noise (in dBA)**	NA
3.4	**Heat dissipation**	NA
3.5	**Mobility, portability**	Wall mountable type.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	NA
4.2	**Battery operated**	NA
4.3	**Protection**	NA
4.4	**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 CONSIDERATIONS		
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	NA
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.

	7. STANDARDS AND SAFETY	
7.1	**Standards**	Manufacturer should have ISO certification for quality standards.
	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**	NA
	10. DOCUMENTATION	
10.1	**Operating manuals, set 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)**	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 sign would be adequaetly displayed.

SNELLANS CHARTS

Version no. :	Ver_1
Date:	19/08/2018
Done by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

UMDNS name	NA
UMDNS code(s)	NA

GENERAL

1. USE

1.1	Clinical purpose	A Snellen chart is an eye chart that can be used to measure visual acuity.
1.2	Used by clinical department/ward	Ophthalmology Department

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	Technical characteristics (specific to this type of device)	1. Scale: 0 to 20 scale divisions. 2. 0 to 1 Scale division 3. 1 scale division corresponds to stroke of 0.05 mm.
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	Noise (in dBA)	NA
3.4	Heat dissipation	NA
3.5	Mobility, portability	NA

4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)

4.1	Power requirements	NA
4.2	Battery operated	NA
4.3	Protection	NA
4.4	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 CONSIDERATIONS

6.1	Atmosphere/Ambience (air conditioning, humidity, dust ...)	NA
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.

7. STANDARDS AND SAFETY

7.1	Standards	1. Manufacturer should have ISO certification for quality standards.

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	NA
10. DOCUMENTATION		
10.1	Operating manuals, set 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)	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 sign would be adequately displayed.

STADIOMETER

Version no. :	Ver_1
Date:	19/08/2018
Done by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

UMDNS name	NA
UMDNS code(s)	NA

GENERAL

1. USE

1.1	Clinical purpose	A stadiometer is a piece of medical equipment used for measuring human height.
1.2	Used by clinical department/ward	OPD

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	Technical characteristics (specific to this type of device)	1. Should be able to measure 25" - 84" (64 - 214 cm) 2. Should have measurements in Inches and Centimeters 3. Should have 1/4" (0.5cm) graduations 4. Should be wall mountable type 5. Should be made with high quality Aluminium 6. Should be easy to install,
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	Noise (in dBA)	NA
3.4	Heat dissipation	NA
3.5	Mobility, portability	Wall mountable type

4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)

4.1	Power requirements	NA
4.2	Battery operated	NA
4.3	Protection	NA
4.4	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 CONSIDERATIONS

6.1	Atmosphere/Ambience (air conditioning, humidity, dust ...)	NA
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.

7. STANDARDS AND SAFETY

7.1	Standards	Manufacturer should have ISO 13485 certification for quality standards.
	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	NA
	10. DOCUMENTATION	
10.1	Operating manuals, set 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)	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 sign would be adequaetly displayed.

DIGITAL B.P APARATUS

Version no. :		Ver_1
Date:		19/08/2018
Done by: (Name. Institution)		HCT/NHSRC
NAME, CATEGORY AND CODING		
UMDNS name		Sphygmomanometer
UMDNS code(s)		
GENERAL		
1. USE		
1.1	**Clinical purpose**	A sphygmomanometer, also known as a blood pressure meter, blood pressure monitor, or blood pressure gauge, is a device used to measure blood pressure
1.2	**Used by clinical department/ward**	OPD
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Should be able to measure blood pressure and pulse rate in adult as well as pediatric patients. 2. Should have backlight LCD display with easy to view readings in dim light. 3. Pressure measurement range should be 60 to 250 mm Hg systolic, and 4. Pressure measurement range should be 40 to 200mm Hg diastolic. 5. Pressure display accuracy of +/- 3 to 5 mm Hg(Calibration report to be provided) 6. Pulse rate measurement range of 40 to 200 per minute 7. Pulse measurement accuracy of within 5% 8. Single button operation for start and stop functions with auto-inflation of blood pressure cuff.
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	**Noise (in dBA)**	NA
3.4	**Heat dissipation**	NA
3.5	**Mobility, portability**	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Should include AC adapter (input range 100-240V and output voltage DC 6V),
4.2	**Battery operated**	Rechargeable battery (3.6V to 4.8V, 1900 to 2400mAh) and LED display indicating the charging status.
4.3	**Protection**	Yes
4.4	**Power consumption**	To be specified by Vendor
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Should be supplied with standard adult and Pediatric size cuffs
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		

6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1. Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
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/ sterile disposable cover.
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 be US FDA/CE/BIS/CDSCO/ approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer should have ISO 13485 certification for quality standards.
8. TRAINING AND INSTALLATION		
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	i. Supplier to perform installation, safety and operation checks before handover. ii. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years, including for all spares and calibration work.
10. DOCUMENTATION		
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi/Regional 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

ANEROID BLOOD PRESSURE MEASURING DEVICE

Version no. :	Ver_1
Date:	19/08/2018
Done by: (Name. Institution)	HCT/NHSRC
NAME, CATEGORY AND CODING	
UMDNS name	Sphygmomanometer
UMDNS code(s)	
GENERAL	
1. USE	
1.1 Clinical purpose	A sphygmomanometer, also known as a blood pressure meter, blood pressure monitor, or blood pressure gauge, is a device used to measure blood pressure
1.2 Used by clinical department/ward	OPD
TECHNICAL	
2. TECHNICAL CHARACTERISTICS	
2.1 Technical characteristics (specific to this type of device)	1. Should be able to measure blood pressure in adult as well as pediatric patients. 2. Should be based on aneroid measurement technology 3. Should have a dial type display, with a hook which can be attached to the blood pressure cuff. 4. Pressure measurement range should be 0 to 300 mm Hg systolic and and 40 to 200 mm diastolic 5. Pressure measurement accuracy of +/- 3 to 5mm Hg(Calibration Certificate to be provided) 6. Manual inflation of blood pressure cuff. 7. Should be supplied with standard Adult and pediatric size cuff.
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 Noise (in dBA)	NA
3.4 Heat dissipation	NA
3.5 Mobility, portability	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1 Power requirements	NA
4.2 Battery operated	NA
4.3 Protection	NA
4.4 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 supplied with standard adult and Pediatric size cuffs
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	Atmosphere/Ambience (air conditioning, humidity, dust ...)	2. Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	User's care, Cleaning, Disinfection & Sterility issues	2. 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/ sterile disposable cover.
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 US FDA/CE/BIS/CDSCO/ approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) Manufacturer should have ISO 13485 certification for quality standards.
8. TRAINING AND INSTALLATION		
8.1	Pre- installation requirements: nature, values, quality, tolerance	NA
8.2	Requirements for sign-off	iii. Supplier to perform installation, safety and operation checks before handover. iv. Local clinical staff to affirm completion of installation.
8.3	Training of staff (medical, paramedical, technicians)	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	Warranty	3 years, including for all spares and calibration work.
10. DOCUMENTATION		
10.1	Operating manuals, set manuals, other manuals	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi/Regional 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	Other accompanying documents	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

ully automated biochemistry analyzer

Version no. :	1
Date:	5/12/2014
Done by : (name/institution)	Hct/nhsrc

Gmdn name		**Fully automated biochemistry analyzer**
Gmdn code		Na
General		
1. Use		
1.1	**Clinical purpose**	The fully-automated biochemistry analyzer measures biochemical indexes by analyzing blood and other body fluid, then combines with other clinical information, to help diagnose disease, evaluate organs function, identify disease gene and determine the norm for future therapy.
1.2	**Used by clinical department/ ward**	Diagnostic laboratory
Technical		
2. Technical characteristics		
2.1	**Technical characteristics (specific to this type of device)**	1. Fully automated, random access chemistry analyzer;the equipment should be capable all routine stat and special biochemical tests including specific protein, threrapeutic grugs, drugs of abuse and user defined applications. 2. Throughput: 400 tests/hour, up to 200t/hour with ise. 3. Must have dxirect ise unit for na, k and cl measurement. 4. Ise electrode should last for 6 month. 5. Must be open ended system with bare code reading (optional). 6. System should have 12 wavelenths 340 to 700 nm. 7. System should be supplied with pc, windows based interface and bi-directional connection. 8. Minimumreaction volume of 150 µl built in/stand alone. 9. Must have built incooled reagent compartment with minimum 350 ml with sample volume 2- 70 ml. 10 auto diagnosis of machine errors with message and correction steps. 11. Must have on board capacity for permanent and numbered cuvettes. 12. Seperate reagent probe for r1 and r2 and sample. 13. Laundry system with minimum 5 step washing. 14. Sample dead volume maximum100 µl in sample cup and maximum 50 µl in peadiatric cups. 15. Should have external and internal probe cleaning facility. 16. Calibration should be linear factor, 2 point/point to point/multi point and exponential with maximum 8 calibrators per test. 17. Sample type should include serum, plasma, urine, csf, body fluids and supernatant with atleast 70 sample positions for routine and stat test.

		18. Should have light source with minimum 1000 hrs life cycle with bar code facility with option for bar code on/off. 19. Should have 10, 000 patient result storage 20. Online qc tracking with levy and jennings chart for upto 30 diffrent points. 21. The equipment should be fda/european ce/bis certified.
2.2	**User's interface**	Built - in/automatic
2.3	**Software and/or standard of communication (where ever required)**	Built - in/automatic/compatible, window based with data processing management system with complete back up of data base for caliberation, control, patient sample results on daily basis.
	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**	Stationary lab installation.
	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**	No
4.3	**Tolerance (to variations, shutdowns)**	±10%
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. Suitable water plant/purification system on ro or any latest technology. 2. External printer. 3. Ups on line pure sine wave for back up of system with pc and it peripherals for half hour. 4. Open system. 5. One light source.
	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 deg 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 deg 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**	1. Should be fda/ce/bis approved product. 2. Manufacturer and supplier should have iso 13485/us (fda)/eu(ce) certification for quality standards. 3. Shall meet internationally recognised for electromagnetic compatibility (emc) for electromedical equipment: 61326-1 4. Certified to be compliant with iec 61010-1, iec 61010-2-281

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) Ac to be provided
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**	Na
9.3	**Service contract clauses, including prices**	Na
	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)**	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

AUTOMATED 3-PART DIFFERENTIAL HEAMOTOLOGY ANALYZER

VERSION NO. :		1
DATE:		5/12/2014
DONE BY : (NAME/INSTITUTION)		HCT/NHSRC
NAME AND CODING		
GMDN NAME		**AUTOMATED 3-PART DIFFERENTIAL HEAMOTOLOGY ANALYZER**
GMDN CODE(S)		NA
GENERAL		
1. USE		
1.1	**CLINICAL PURPOSE**	AUTOMATED DIFFERENTIAL BLOOD COUNT: AUTOMATED HEMATOLOGY INSTRUMENTS USING MULTIPLE PARAMETERS AND METHODS (SUCH AS IMPEDANCE) ARE USED TO COUNT AND IDENTIFY THE 3 MAJOR WHITE BLOOD CELL TYPES IN BLOOD (SO-CALLED 3-PART DIFFERENTIAL COUNT):, LYMPHOCYTES, MONOCYTES/MIXED POPULATION AND GRANULOCYTES/NEUTROPHILES.
1.2	**USED BY CLINICAL DEPARTMENT/ WARD**	CLINICAL AND ANALYTICAL LABORATORIES
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**TECHNICAL CHARACTERISTICS (SPECIFIC TO THIS TYPE OF DEVICE)**	1. 18 PARAMETERS (WBC, TC, RBC, HB, HEMATOCRIT, MCV, MCH, MCHC, RDW-SD/RDW-CV, PLT, MPV, PT CRIT, PDW, PLCR OPTIONAL), WITH 3-PART WBC DIFFERENTIAL. 2. MAXIMUM SAMPLE VOLUME REQUIRED 50 µL. 3. SCREEN COLOUR TOUCH SCREEN. 4. PRINTER BUILT-IN PRINTER AND EXTERNAL PRINTER OPTION. 5. MEMORY FOR 1000 RESULTS INCL. HISTOGRAMS. 6. PROGRAM BUILT-IN QC PROGRAM FOR. 7. 3 LEVELS/CONTROL 8. BARCODE READER AND EXTERNAL OPTION. 9. EXTERNAL KEYBOARD. 10. AUTOMATIC SAMPLE DILUTION. 11. AUTOMATED START UP AND SHUTDOWN. 12. AUTO PROBE WIPE AND EXTERNAL OPTION. 13. SYSTEM MUST HAVE THROUGHPUT OF ATLEAST 60 SAMPLES PER HOUR. 14. LINEARITY OF 18 PARAMETERS (HEMATOCRIT, PLATELET, WBC, RBC, HB) MIN.
2.2	**USER'S INTERFACE**	TOUCH SCREEN.
2.3	**SOFTWARE AND/OR STANDARD OF COMMUNICATION (WHERE EVER REQUIRED)**	USB PRINTER INTERFACE, HL7.

	3. PHYSICAL CHARACTERISTICS	
3.1	**DIMENSIONS (METRIC)**	N/A
3.2	**WEIGHT (LBS, KG)**	N/A
3.4	**NOISE (IN DBA)**	N/A
3.5	**HEAT DISSIPATION**	HEAT DISSIPATION: SHOULD MAINTAIN NOMINAL TEMP AND THE HEAT SHOULD BE DISBURSED THROUGH AN COOLING MECHANISM.
3.6	**MOBILITY, PORTABILITY**	STATIONARY LABORATORY INSTALLATION.
	4. ENERGY SOURCE (ELECTRICITY, UPS, SOLAR, GAS, WATER, CO2 ....)	
4.1	**POWER REQUIREMENTS**	230/110 VAC, 50/60 HZ, 60 VA, +-10%
4.2	**BATTERY OPERATED**	NO
4.7	**PROTECTION**	N/A
4.8	**POWER CONSUMPTION**	LESS THAN 100 VA
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**ACCESSORIES (MANDATORY, STANDARD, OPTIONAL); SPARE PARTS (MAIN ONES); CONSUMABLES/REAGENTS (OPEN, CLOSED SYSTEM)**	1. 2D-BARCODE SCANNER . 2. REAGENTS: ALL THE REAGENTS REQUIRED FOR 1000 TESTS SHOULD BE SUPPLIED WITH THE EQUIPMENT ALONG WITH ONE SET OF TRI LEVEL CONTROL. 3. CLOSED SYSTEM RATE TO BE DECLARED FOR COST/TEST. 4. ONLINE UPS FOR 30 MINUTES BACK UP. 5. CALIBERATER - 1.
	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 50 DEG 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 DEG 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**	1. Should be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements(or equivalent BIS Standard).
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,**	1) TRAINING OF USERS ON OPERATION AND BASIC MAINTENANCE; 2) ADVANCED MAINTENANCE TASKS REQUIRED SHALL BE DOCUMENTED;

	PARAMEDICAL, TECHNICIANS)	
		9. WARRANTY AND MAINTENANCE
9.1	**WARRANTY**	3 YEARS INCLUDING ALL SPARES AND ANNUAL CALIBERATION.

emi-automated urine strip analyser

Version no. :		1
Date:		5/12/2014
Done by : (name/institution)		Hct/nhsrc
Name and coding		
Gmdn name		**Semi- automated urine strip analyser**
Gmdn code		Na
General		
1. Use		
1.1	**Clinical purpose**	Used in biochemical labs for identification of specific bio-chemical marker in urine like glucose, ketones proteins ph etc. In clinical conditions like diabetes, renal failure acidosis etc.
1.2	**Used by clinical department/ ward**	Biochemistry laboratories
Technical		
2. Technical characteristics		
2.1	Technical characteristics (specific to this type of device)	Type: reflectance photometer throughput of min 50 strips/hour at two. Levels - normal and abnormal. Memory: patient test results: 1000 and qc test results: 50. Display: touch-screen lcd should have flagging facility should be able to analyse 10 parameters: leucocytes, nitrite, urobilinogen, protein, ph, blood specific: gravity, ketones, bilirubin, glucose.
2.2	**User's interface**	Manual: with usb interface/rs 232.
2.3	**Software and/or standard of communication(where ever required)**	Inbuilt
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**	Portable
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**	Less than 50 w

	5. Accessories, spare parts, consumables	
5.1	**Accessories (mandatory, standard, optional); spare parts (main ones); consumables/ reagents (open, closed system)**	1) Thermal paper 10 rolls. 2) Test strips price to be declared and 1000 test strips to be provided. 3) Caliberation strip 2.
	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 50 deg 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 deg 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**	1. Should be fda/ce/bis approved product. 2. Manufacturer and supplier should have iso 13485/us(fda)/eu(ce) certification for quality standards. 3. Shall meet internationally recognised for electromagnetic compatibility(emc) for electromedical equipment: 61326-1. 4. Certified to be compliant with iec 61010-1, iec 61010-2-281, 61010-2-101 for safety.
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. Documentation	
9.1	**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;
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.

Peak flow meter

Version no. :		Ver_1
Date:		15/02/2018
Done by : (name.institution)		HCT/NHSRC
#ERROR!		
UMDNS name		15965
UMDNS code(s)		Flowmeters, Gas, Respiratory, Peak Expiratory Flow
GENERAL		
1. USE		
1.1	**Clinical purpose**	A manual, hand-held instrument designed to measure only the maximum rate of expiratory gas flow [peak expiratory flow (PEF) or peak expiratory flow rate (PEFR)] from the lungs. It typically includes a tube for patient exhalation, an easy-to-grip handle, and a calibrated scale that shows the value of the peak flow. The device helps to discriminate the pulmonary status in routine tests performed in or outside of a clinical setting; it is also intended for periodic self-evaluation of the respiratory status of a patient, and to help in the treatment evaluation of patients suffering from chronic respiratory disorders (e.g., asthma, emphysema).
1.2	**Used by clinical department/ward**	
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1.Range of measurement to include 50 to 400 L/min (paediatric), 100 to 700 L/min (adult) 2.Accuracy of measurement shall be better than ±10%, as per 3.Resetting value for next use to be simple and easy for patients with limited dexterity 4.Supplier should specify if EU or ATS scale is used on charts provided. Wright scale is not acceptable
2.2	**User's interface**	Manual
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)**	NA
3.3	**Noise (in dBA)**	<150 dB
3.4	**Heat dissipation**	Heat Dissipiation: Should maitain nominal Temp and the heat should be disbursed through a exhaust cooling fan.
3.5	**Mobility, portability**	Supplied in protective case for clean storage and safe transport.
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	NA

4.2	Battery operated	NA
4.3	Protection	NA
4.4	Power consumption	NA
4.5	Other energy supplies	NA
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Five replacement sterilizable mouthpieces (if removable type) Chart of normal values for all ages and both genders
	BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	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/ sterile disposable cover.
	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 US FDA/CE/BIS/CDSCO/ approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) Manufacturer should have ISO 13485 certification for quality standards.
	8. TRAINING AND INSTALLATION	
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years, including for all spares and calibration work.
	10. DOCUMENTATION	
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi/Regional 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, 6. Satisfactory certificate for any existing installation from government hospital.

10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

Refrigerator

Version no. :		Ver_1
Date:		15/09/2018
Done by : (name.institution)		HCT/NHSRC
NAME, CATEGORY AND CODING		
UMDNS name		Refrigerators, Laboratory
UMDNS code(s)		17157
GENERAL		
1. USE		
1.1	**Clinical purpose**	Refrigerators designed to store laboratory products, cultures, and samples at temperatures typically between 2 and 10 degrees Celsius (35 and 50 degrees Fahrenheit).
1.2	**Used by clinical department/ward**	Clinical Lab
TECHNICAL		
2. TECHNICAL CHARACTERISTICS		
2.1	**Technical characteristics (specific to this type of device)**	1. Vertical, 2. capacity 300 lts or more (up to 450L), 3. frost free, 4. CFC free, 5. Single door.
2.2	**User's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required**	Inbuilt
3. PHYSICAL CHARACTERISTICS		
3.1	**Dimensions(metric)**	NA
3.2	**Weight (lbs, kg)**	NA
3.3	**Noise (in dBA)**	Noise-free system
3.4	**Heat dissipation**	Should maintain nominal temp and the heat should be disbursed through a cooling mechanism
3.5	**Mobility, portability**	NA
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)		
4.1	**Power requirements**	Electrical Requirement : 200-230 VAC 50/60 Hz single phase
4.2	**Battery operated**	No
4.3	**Protection**	Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings.
4.4	**Power consumption**	To be specified by vendor.
5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		

6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS		
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1 .Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	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**	1. Should be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements (or equivalent BIS Standard).
8. TRAINING AND INSTALLATION		
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover.Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years, including all spares and calibration.
10. DOCUMENTATION		
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

Laboratory Autoclaves

Version no. :	Ver_1
Date:	15/09/2018
Done by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

UMDNS name	Sterilizing Units, Steam, Tabletop
UMDNS code(s)	16142

GENERAL

1. USE

1.1	**Clinical purpose**	Autoclaves are used for sterilization of infectious or clean materials. - For effective sterilization for smaller work load. - For decontamination of infected material prior to its disposal. - For faster work in the laboratory.
1.2	**Used by clinical department/ward**	Clinical Lab

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	**Technical characteristics (specific to this type of device)**	1. Vertical autoclave, universal basic version for microbiological standard laboratory to sterilize liquids, instruments, glassware, plastic articles or general infectious waste. 2. Triple walled construction; chamber, basket, door lid, doorframe, bolts made of corrosion-resistant material and able to prevent stress cracking preferably made of high grade stainless steel sheet of SS-304 grade. Housing with SS legs 3. Pressure vessel should be Hydraulic tested at factory with minimum Hydrostatic Pressure: 2.5 kg/cm sq. (35 psi) 4. Working Chamber volume: approx. 70 -80 liters. 5. Electrically heated by immersion type heaters bearing ISI mark. 6. Fast safety lid lock with silicone gasket, it may be radial locking, automatic locking, single lever locking, fly nut assembly mechanism and with heat resistant/safety handle. 7. Manual water feed system with water level indicator, pressure gauge, steam release cock, spring loaded safety valve, water inlet and water valves 8. Automatic Water Cut-off Device – To protect the heaters from running dry and to ensure that the machine is automatically switched off in case the desired water level falls below the prescribed level 9. Working temperature: 121°C, Maximum operating temperature: 134 °C (273 °F). 10. Working pressure: 15 PSI, Maximum operating pressure: 2.5 bar or 36 PSI
2.2	**User's interface**	Manual
2.3	**Software and/ or standard of communication(where ever required**	Inbuilt

3. PHYSICAL CHARACTERISTICS

3.1	**Dimensions(metric)**	NA
3.2	**Weight (lbs, kg)**	NA

3.3	**Noise (in dBA)**	Noise-free system
3.4	**Heat dissipation**	Should maintain nominal temp and the heat should be disbursed through a cooling mechanism
3.5	**Mobility, portability**	Stationary Installation
	4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	**Power requirements**	Electrical Requirement : 200-230 VAC 50/60 Hz single phase
4.2	**Battery operated**	No
4.3	**Protection**	Should be provided with a voltage stabilizer (external or inbuilt) of appropriate ratings.
4.4	**Power consumption**	To be specified vendor.
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Stainless steel basket (where 2 fit in autoclave directly plus two spare total 4), Stainless steel wire basket (where 2 fit in autoclave directly plus two spare total 4), Chemical indicator tape for sterilization (2), Biological indicator (100), Spare heating elements (two), Fuses (10) and silicone gaskets (2).
	BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1 .Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	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**	1. Should be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements (or equivalent BIS Standard).
	8. TRAINING AND INSTALLATION	
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years, including all spares and calibration.
	10. DOCUMENTATION	

10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

Incubator - 37°C, 400 L approx

Version no. :	Ver_1
Date:	15/09/2018
Done by : (name.institution)	HCT/NHSRC
NAME, CATEGORY AND CODING	
UMDNS name	Incubators, Laboratory
UMDNS code(s)	27888
GENERAL	
1. USE	
1.1 **Clinical purpose**	Incubators designed to provide the appropriate environmental conditions (e.g., temperature, humidity, gas concentration) necessary for long-term laboratory tests or procedures.
1.2 **Used by clinical department/ward**	Clinical Lab
TECHNICAL	
2. TECHNICAL CHARACTERISTICS	
2.1 **Technical characteristics (specific to this type of device)**	1. Inner chamber made up of Stainless steel make of SS-304 grade, full length inner acrylic security glass door. 2. Housing made of zinc galvanized sheet metal coated with epoxy, hardened by heat treatment, corrosion resistant. 3. Triple wall with special grade glass wool insulation. 4. Temperature range, ambient+5°C to 80°C, ±0.1°C resolution. 5. Controller/Digital indicator for Temperature. 6. Adjustable over-temperature protection controller so as to ensure that the Incubator does not go beyond the set temperature automatically gets cutoff after attaining the set temperature. 7. Programs stored on power failure so that when power is restored, equipment continues to function on the previous programme.
2.2 **User's interface**	Manual
2.3 **Software and/ or standard of communication(where ever required**	In built
3. PHYSICAL CHARACTERISTICS	
3.1 **Dimensions(metric)**	Size in mm approximately (of inner chamber):- 700(W) x 900(H) x650(D), Capacity: 15 cu. ft.(approx. 400 liters) and door swing 65 cms
3.2 **Weight (lbs, kg)**	NA
3.3 **Noise (in dBA)**	Noise-free system
3.4 **Heat dissipation**	Should maintain nominal temp and the heat should be disbursed through a cooling mechanism
3.5 **Mobility, portability**	
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1 **Power requirements**	Power: 230 volts, 50Hz AC, Mains single phase. The line cord / Power cord supplied with the equipment shall be of acceptable durability, length, and current carrying capacity complying with Indian Standards.
4.2 **Battery operated**	No
4.3 **Protection**	Suitable Voltage regulator
4.4 **Power consumption**	To be specified by vendor

5. ACCESSORIES, SPARE PARTS, CONSUMABLES		
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Racks with different sizs, Gloves different sizes, Mercury Thermometer. 2 or 3 shelves, made of stainless steel and inner illumination with sleek fluorescent tubes.
BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS		
6. ENVIRONMENTAL AND DEPAR TMENTAL CONSIDERATIONS		
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1 .Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	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**	1. Should be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer and Supplier should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements(or equivalent BIS Standard).
8. TRAINING AND INSTALLATION		
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
9. WARRANTY AND MAINTENANCE		
9.1	**Warranty**	3 years, including all spares and calibration.
10. DOCUMENTATION		
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number and cost;
11. Notes		
11.1	**Service Support Contact details (Hierarchy Wise;**	Contact details of manufacturer, supplier and local service agent to be provided; Any Contract(AMC/CMC/add-hoc) to be declared by the manufacturer.

	including a toll free/landline number)	
11.2	**Recommendations or warnings**	Any warning sign would be adequately displayed.

Micro Piettes

Version no. :	Ver_1
Date:	15/09/2018
Done by : (name.institution)	HCT/NHSRC

NAME, CATEGORY AND CODING

UMDNS name	Pipettes, Measuring, Serological
UMDNS code(s)	27723

GENERAL

1. USE

1.1	**Clinical purpose**	Measuring pipettes designed to measure and deliver multiple different amounts of liquid whose graduations continue down into the pipette's tip.
1.2	**Used by clinical department/ward**	Clinical Lab

TECHNICAL

2. TECHNICAL CHARACTERISTICS

2.1	**Technical characteristics (specific to this type of device)**	1. Single-channel microlitre pipettes. 2. Fully autoclavable (121 °C); UV-resistant material. Pipette for Range — Increment Accuracy — Precision 0.5 to 10 µL — 0.1 µL — At least ±5.0–1.0% — At least 3.0–0.4% 2 to 20 µL — 0.1 µL ±3.0-1.0% — .5-0.4% 20 to 200 µL — 1 µL ±1.8-0.6% — 0.7 to 0.2% 100 to 1000 µL — 5 µL ±1.0-0.6% — 0.7 to 0.2% In accuracy, first value applies to smallest volume, last one to the largest volume in the stated range and In precision, first value applies to smallest volume, last one to the largest volume in the stated range Three defined stops (single-button operation preferred): - take-up from the first stop - dispensing and blow out - tip ejection. Easy and safe tip ejection mechanism. Fixation of adjusted volume. Slim pipette shaft. Cone for standard tips.
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	**Noise (in dBA)**	Noise-free system

3.4	Heat dissipation	NA
3.5	Mobility, portability	Supplied in protective case for clean storage and safe transport.
	4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1	Power requirements	NA
4.2	Battery operated	NA
4.3	Protection	NA
4.4	Power consumption	NA
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)	Disposable Tips (different volume comparator
	BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	Atmosphere/Ambience (air conditioning, humidity, dust ...)	NA
6.2	User's care, Cleaning, Disinfection & Sterility issues	Sterilization required.
	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 be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements (or equivalent BIS Standard).
	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. Advanced maintenance tasks required shall be documented.
	9. WARRANTY AND MAINTENANCE	
9.1	Warranty	3 years, including all spares and calibration.
	10. DOCUMENTATION	
10.1	Operating manuals, set manuals, other manuals	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should 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,

		6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

SEROLOGY CENTRIFUGE

Version no. :	Ver_1
Date:	15/09/2018
Done by : (name. institution)	HCT/NHSRC
NAME, CATEGORY AND CODING	
UMDNS name	Centrifuges, Floor, Low-Speed, Non refrigerated, Blood Bank
UMDNS code(s)	15115
GENERAL	
1. USE	
1.1 Clinical purpose	Non refrigerated low-speed floor centrifuges used to centrifuge solutions of suspended red blood cells, enhancing agglutination and promoting the formation of packed cells at the bottom of the container (e.g., tubes, bags).
1.2 Used by clinical department/ward	Lab/Blood bank
TECHNICAL	
2. TECHNICAL CHARACTERISTICS	
2.1 Technical characteristics (specific to this type of device)	1. Speed Range 500 to 4500 rpm on load with variable speed regulator. 2. It should be fitted with digital timer 0-59 minutes and digital speed indicator; LED/LCD display 3. The machine should be supplied with angle rotor head having 12 tubes of 15 ml capacity. 4. It should be supplied with stainless steel tube carrier, rubber cushions, graduated glass tubes of 15 ml capacity graduated plastic tubes of 15ml capacity. 5. The lid should be double walled, made of steel sheet/ABS plastic injection moulding for extra safety. 6. It should also be fitted with electronic lid lock which should not open when machins is in running condition. 7. The Motor of machine should be fitted with anti vibration pads. 8. Should be well packed in the thermo-cool box. 9. Can accommodate 12 tubes at a time.
2.2 User's interface	Manual
2.3 Software and/ or standard of communication(where ever required	As Applicable
3. PHYSICAL CHARACTERISTICS	
3.1 Dimensions(metric)	NA
3.2 Weight (lbs, kg)	NA
3.3 Noise (in dBA)	Noise Free System
3.4 Heat dissipation	Should maintain nominal temperature and the heat should disbursed through a cooling mechanism.
3.5 Mobility, portability	Portable
4. ENERGY SOURCE (electricity, UPS, solar, gas, water, CO2 ....)	
4.1 Power requirements	Electrical Requirement : 200-230 VAC 50/60 Hz.
4.2 Battery operated	An UPS with 30 minutes back up shall be provided.
4.3 Protection	Stabilizer to be provided.

4.4	Power consumption	To be specified by service provider
	5. ACCESSORIES, SPARE PARTS, CONSUMABLES	
5.1	**Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system)**	Complete with comprehensive set of spare parts and a suitable capacity voltage stabilizer. Also supplied complete instruction manual, cord and plug, dust cover, 12 spare rubber cushions, 2 spare fuse and 3 sets of carbons of motor. The make, rating, model, description, specifications, price, quantity of each item shall be furnished separately.
	BIDDING/PROCUREMENT TERMS/DONATION REQUIREMENTS	
	6. ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATIONS	
6.1	**Atmosphere/Ambience (air conditioning, humidity, dust ...)**	1 .Operating Condition: Capable of operating continuously in ambient temperature of 5 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.
6.2	**User's care, Cleaning, Disinfection & Sterility issues**	Sterilization is required for hand piece, tips and forceps.
	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 be US FDA/CE/BIS/CDSCO approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) 2. Manufacturer should have ISO 13485 certification for quality standards. 3. Electrical safety conforms to the standards for electrical safety IEC 60601-1-General requirements (or equivalent BIS Standard).
	8. TRAINING AND INSTALLATION	
8.1	**Pre- installation requirements: nature, values, quality, tolerance**	Availability of 5 Amp/15 Amp. Electrical Socket.
8.2	**Requirements for sign-off**	Supplier to perform installation, safety and operation checks before handover. Local clinical staff to affirm completion of installation.
8.3	**Training of staff (medical, paramedical, technicians)**	Training of users in operation and basic maintenance shall be provided. Advanced maintenance tasks required shall be documented.
	9. WARRANTY AND MAINTENANCE	
9.1	**Warranty**	3 years, including for all spares and calibration work.
	10. DOCUMENTATION	
10.1	**Operating manuals, set manuals, other manuals**	Should provide 2 sets(hard copy and soft copy) of: 1. User, technical and maintenance manuals should be supplied in English/Hindi/Regional 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, 6. Satisfactory certificate for any existing installation from government hospital.
10.2	**Other accompanying documents**	List of essential spares and accessories, with their part number 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 sign would be adequately displayed.

Table 2 : List of diagnostic tests at Primary Health Centres / HWC-PHCs and Hubs

S.no.	Diagnostic test	Test to be conducted at PHC or nearest hub laboratory at CHC/SDH/DH (in which case sample transported from PHC to the hub laboratory)	Remarks	Human resource required for conducting the test at sub centre	Product / Equipment Required
1	Hemoglobin^	a) PHC b) Hub lab (CHC/SDH/DH)	The samples for these tests will be transported to the nearest hub laboratory at CHC/SDH/DH. If transportation time of samples from PHC to nearest hub laboratory is high because of large distance or poor road connectivity, then these tests will be carried out at PHC itself and the PHC will then be provided with a hematology analyser.	a) ANM/Lab Tech b) Lab Tech	a) Hemoglobinometer / b) Hematology analyser
2	TLC^	Hub lab (CHC/SDH/DH)		Lab tech	Hematology analyser
3	DLC^	Hub lab (CHC/SDH/DH)		Lab tech	Hematology analyser
4	Platelet count^	Hub lab (CHC/SDH/DH)		Lab tech	Hematology analyser
5	CBC	Hub lab (CHC/SDH/DH)		Lab tech	Hematology analyser
6	ESR^	Hub lab (CHC/SDH/DH)		Lab tech	Manual with reading using ESR analyser.
7	Blood group^	PHC		Lab tech	Blood group kit (manual)
8	Peripheral blood film^	Hub lab (CHC/SDH/DH)		Lab tech	Microscopy
9	Human chorionic gonadotropin (HCG) (Urine test for pregnancy)^	PHC		ANM/Lab tech	Rapid card test
10	Urine test for ph, specific gravity, leucocyte esterase, glucose, bilirubin, urobilinogen, ketone, protein, nitrite^	PHC		Lab tech	Multiparameter urine strip (dipstick)
11	Urine Microscopy	PHC		Lab tech	Microscopy
12	24-hours urinary protein-	PHC		Lab tech	-

^ As per the indicative list under FDSI for PHC

* For endemic areas only

S.no.	Diagnostic test	Test to be conducted at PHC or nearest hub laboratory at CHC/SDH/DH (in which case sample transported from PHC to the hub laboratory)	Remarks	Human resource required for conducting the test at sub centre	Product / Equipment Required
13	Stool for ova and cyst^	PHC		Lab tech	Microscopy
14	Test for Dengue^	PHC		ANM/Lab tech	Rapid card test for combined NS1 antigen, IgM and IgG antibodies
15	Sickling Test for Sickle cell anemia	Hub lab (CHC/SDH/DH)			Manual with microscopy
16	a) MP slide method ^ and b) Malaria rapid test^	PHC		a) Lab tech b) ANM/Lab tech	a) Microscopy b) Rapid card tests for combined P.Falciparum and P.vivax
17	RPR/VDRL test for syphilis^	PHC		ANM/Lab tech	Rapid card test
18	HIV test (Antibodies 1/2 and HIV 1/2)^	PHC	Need to follow guidelines from NACO, and protocol for new-born screening (ICTC centre level)	ANM/Lab tech	Rapid card test
19	Hepatitis B surface antigen test	PHC		ANM/Lab tech	Rapid card test
20	Sputum for AFB^	PHC		Lab tech	Microscopy
21	Typhoid test (IgM)	PHC		ANM/Lab tech	Rapid card test
22	Blood sugar^	a) PHC b) Hub lab	The samples for these tests will be transported to the nearest hub laboratory at CHC/SDH/DH.	a) ANM/Lab tech b) Lab tech	a) Glucometer b) Fully automated Biochemistry analyser

^ As per the indicative list under FDSI for PHC

* For endemic areas only

S.no.	Diagnostic test	Test to be conducted at PHC or nearest hub laboratory at CHC/SDH/DH (in which case sample transported from PHC to the hub laboratory)	Remarks	Human resource required for conducting the test at sub centre	Product / Equipment Required
23	Glucose Tolerance test (GTT)	Hub lab -(CHC/SDH/DH)	If transportation time of samples from PHC to nearest hub laboratory is high because of large distance or poor road connectivity, then these tests will be carried out at the PHC itself and the PHC will then be provided a semi-automated biochemistry analyser.	Lab tech	Fully automated biochemistry analyser
24	S. Bilirubin (T)^	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
25	S. Bilirubin direct and indirect	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
26	Serum creatinine	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
27	Blood Urea	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
28	SGPT	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
29	SGOT	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
30	S. Alkaline Phosphatase	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
31	S.Total Protein	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
32	S. Albumin & AG ratio	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
33	S. Total Cholesterol	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
34	S. Triglycerides	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
35	S.VLDL	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
36	S.HDL	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser

^ As per the indicative list under FDSI for PHC

* For endemic areas only

S.no.	Diagnostic test	Test to be conducted at PHC or nearest hub laboratory at CHC/SDH/DH (in which case sample transported from PHC to the hub laboratory)	Remarks	Human resource required for conducting the test at sub centre	Product / Equipment Required
37	S. LDL	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
38	Stool for Occult Blood	Hub Lab (CHC/SDH/DH)		Lab tech	Manual Kit
39	Serum Sodium & Potassium	Hub Lab (CHC/SDH/DH)		Lab tech	Electrolyte Analyser
40	HCV Antibody Test (Anti HCV)	PHC		ANM/Lab tech	Rapid card test
41	Reticulocyte count and absolute eosinophil	Hub lab (CHC/SDH/DH)		Lab Tech	Manual Method
42	Bleeding time and clotting time^	PHC		ANM/Lab tech	Manual
43	Smear for RTI/STD	Hub lab (CHC/SDH/DH)		Lab tech	Wet mounting, gram staining
44	Smear for leprosy	Hub lab (DH)		Lab tech	Microscopy
45	Gram staining for clinical specimen	Hub lab (CHC/SDH/DH)		Lab tech	Microscopy
46	Throat swab for Diphtheria	Hub lab (DH)		Lab tech	Microscopy
47	Pap smear	Hub lab (DH)		Pathologist	Microscopy
48	Visual Inspection Acetic Acid (VIA)	PHC		ANM	Manual
49	rK39 for Kala Azar*	PHC (endemic areas only)		Lab tech	Rapid card test
50	Filariasis*	Hub lab (CHC/SDH/DH) (if Microscopy) otherwise PHC for Filaria Strip test		Lab tech	Microscopy/Filaria Strip test???
51	TB – Montoux	PHC		Lab tech	Manual
52	Reduction test for screening G6PD deficiency	Hub lab (CHC/SDH/DH)		Lab tech	Manual
53	TSH (including for new-born screening)	Hub lab (DH)		Lab tech	Chemiluminescence immunoassay
54	Urine Culture and antimicrobial sensitivity	Hub lab (DH)		Microbiologist	Manual culture and automated bacterial identification and antimicrobial sensitivity

^ As per the indicative list under FDSI for PHC

* For endemic areas only

55	Prothrombin Time (PT)	Hub lab (CHC/SDH/DH)		Lab tech	Automated coagulation analyser
56	Activated partial thromboplastin time	Hub lab (CHC/SDH/DH)		Lab tech	Automated coagulation analyser
57	RA factor (Quantitative)	Hub lab (CHC/SDH/DH)		Lab tech	Turbidometer
58	CRP(including new born) (Quantitative)	Hub lab (CHC/SDH/DH)		Lab tech	Turbidometer
59	Uric Acid	Hub lab (CHC/SDH/DH)		Lab tech	Fully automated biochemistry analyser
60	Japanese Encephalitis*	Hub lab (DH if ELISA)/PHC (Rapid)		Lab tech	ELISA/Rapid
61	Scrub typhus Test*	Hub lab (DH if ELISA)/PHC (Rapid)		Lab tech	ELISA/Weil Felix
62	Serum Calcium	Hub lab (CHC/SDH/DH)		Lab tech	Electrolyte analyser with Indirect ion selective electrode
63	Cytology	Hub lab (DH)		Pathologist	Microscopy

^ As per the indicative list under FDSI for PHC

* For endemic areas only