

1. Staining jars for slides.

- Slides Staining Jar with ground in glass lid for 30 pieces 25.4 x 76.2 mm (1" x 3") slides. It is available in transparent and amber coloured and suitable
- Use : Used in staining of slides. for stainless steel rack of CG147.

2. Cryostat

1. Freestanding cryostat with encapsulated, splash-proof microtome. Spacious, stainless-steel cryochamber with antiglare illumination. Easy to clean and disinfect.
2. Heated, removable sliding window. Stable, self-contained cryocabinet on casters. Low-maintenance microtome with cross roller guides. Reproducible, high-quality thin sections via stepper motor specimen feed.
3. Handwheel manually lockable in two positions. 5-10° XYZ specimen orientation with zero-point reference.
4. Cryochamber temperature selection from 0 °C to -30 °C, adjustable in 1K increments.
5. Operating temperature range (ambient temperature) 18-35°C.
6. Easy-to-clean, actively cooled specimen preparation zone with quick-freezing shelf for up to 10 specimens with max. temperature -37 °C.
7. Cryochamber may be defrosted manually and via automatic hot-gas defrosting once every 24 hours. The cycle may be programmed in 15-20 minute increments.
8. Defrost cycle: 10-20 minutes. Cryochamber and quick-freezing shelf can be defrosted manually and are equipped with an acoustic warning signal to prevent unintentional defrosting. Manual defrost cycle for chamber and quick-freezing shelf: 10-20 minutes.
9. Section thickness selection from outside the cryochamber. Sectioning thickness range: 2-60 µm, selectable in 0.5 µm increments from 2-5 µm; selectable in 1 µm increments from 5-20 µm; selectable in 5 µm increments from 20-60 µm.
10. Total vertical specimen stroke: 50-60 mm Total horizontal specimen feed: 20-30 mm
11. Motorized coarse feed in 2 speeds: slow is max. 500-600 µm/s and fast is min. 800-900 µm/s.
12. Control panel with membrane-protected buttons and locking function. Self-explanatory symbols for all essential functions and display.
13. LED display for cryochamber temperature, actual time, defrost time, and section thickness selection. Visual indication of specimen stoppositions (Front/Home).
14. Manufactured in compliance with c-CSA-US and CE standards. CFC-free.
15. It should come with 3 sets of anti-roll glass slide, 10 packets of blades, 10 packets of embedding medium and 10 packets of super-frost slides.

16. Cryostat should have at least 10 successful installations including at Govt. State/ Central Institutes of National Importance, list of Installations, performance certificates of quoted or similar model with allocated factory trained service engineer certificate should be attached for technical evaluation.

3.Cold Plate for Modular Tissue Embedding System

- The cooling unit should have large cooling surface for holding LI to 60-80 cassettes.
- The cooling unit should be simple, modular design and a powerful compressor refrigeration unit with precisely controlled cooling performance with eco friendly CFC/ HCFC free ASHRAE recommended refrigerant. with protection class I & pollution degree 2
- The cooling unit should have minimum fixed temperature setting from ambient to minus 6 degree centigrade.
- The cooling unit can be placed either on the right or left side of the dispensing unit as per user comfort
- The cooling unit should have Optimized temperature distribution in the cold plate to prevent dripping condensation
- The instrument should be ergonomically designed to used alongwith Hot embedding module & manufactured to new Advanced latest safety concept and CE or USFDA Registration or CSA Certification Mandatory

4.Automated Tissue Processor –Histokinette

1 Metal / Polypropylene tissue baskets each with a capacity of 160-200 cassettes to be met by either single or double baskets.

2 The tissue baskets should be such that they have a firm bottom and do not get stuck to the sides of the reagent stations.

3 Reagent stations – Number of vessels: 10 (0.5- 1 litres each)

4 Paraffin stations– Number: 2 (0.5- 1 litres each) – Temperature setting range: 45 – 70°C with temperature cut out facility (Temperature should be mentioned)

5 Computerized freely selectable and freely programmable Facility should be available. Easy editing and changing of programmes should be possible even during a processing run Infiltration time for each station should be separately programmable. Program start delay should be selectable without time limit.

6 In-built Vacuum function with fume control device.

7 Safety device for protection for drying of specimen in case of power failure The buckets should go back inside the respective solution when power fails and not hang in mid air.

8 LCD display panel with ergonomic control, fully protected control with full protection key board, audible alarm warning/ error message.

9 Machine should be able to cater to short time / quick process

10 Interrupting an automatic processing for reloading or removing cassettes before the end of a run should be possible

11 Should be an open system capable of using standard cassettes from open markets.

4 System Configuration Accessories, spares and consumables

12 Quote pricing to up gradation to another basket with similar cassettes capacity.

13 Basket Rotor – 01 Nos.

14 Metal tissue basket- 04 Nos.

15 Aluminium reagent vessels of 0.5-1 litre capacity each-10 nos.

16 Beaker covers- 11 Nos.

17 Wax baths complete with thermostat – 02 nos.

5. Fully Automated high throughput Multi-Stainer Workstation

1. High throughput robotic stainer for Multiple staining applications and should run up to 11 racks in parallel.
2. Simultaneous staining of various different staining protocols.
3. Can be programmed for up to 330 slides(11 racks) in one run.
4. Should facilitate loading 1 to 30 slides per batch or higher.
5. Solvent resistant screen to monitor the staining process.
6. Racks should be assigned to the correct Staining Protocol.
7. Total 26 stations with 18 reagent stations and maximum 5 wash stations of 280 to 450ml capacity and slide racks with 20 to 30 specimen slide
8. Programmable for 15 programs of upto 25 steps each with incubation time setting from 0 sec to 99 minutes 59 seconds.
9. Integrated oven with temperature setting C for optimal slide drying. ° to 65° from 30
10. Continuous loading and unloading of slides via rack entry and exit door.
11. Specimen slide throughput of atleast 200 slides per hour upto 600 slides per hour.
12. Agitation programmable from 0 to 20 times or continuous.
13. Programmable up and down movement of robotic arm.
14. Fume extraction fan with charcoal filter to remove hazardous fumes.
15. Gentle vibration to slide rack during lifting to reduce carry over contamination.
16. Audible warning buzzer in case of any error during operation.
17. Should be European CE and USFDA approved.
18. Can be attached to coverslipper.

19. Minimum 10 no. installation base of quoted model or higher model in East region govt. institution.

20. Suppliers should have good after sales service with manufacturer's factory trained engineers with proven track records.

21. Separate Power Back up system should be required in case of power failure.

6.Fully Automated Embedding System (Heated embedding module & cold plate)

Should be in 3 part modular system with separate fully programmable automatic On/Off control for each of them.

I). Paraffin Dispensing Unit

1. Capacity of Paraffin Tank: should be minimum 3-5 litres.

2. Capacity of Thermal Chambers for storage of moulds: min 1.8 liters

3. Temp. range of Paraffin tank: 50-70 degree C

4. Temp. range of Thermal Chamber: 50- 70 degree C

5. Temp. range of Hot plates & forceps wells: 50-70 degree C

6. Should have connection for electrically heated forceps

7. Should have six heated wells for normal forceps, 3 on either side of the wax dispensing line.

8. Should have precisely metered and adjustable gravity feed paraffin dispenser to deliver the right amount of paraffin.

9. Should have both finger touch plate and foot switch for control of paraffin flow.

10. Should have large warm working surface on either side for min 10 cassettes on each side.

11. Should have dot matrix 7 segment display.

12. Should have a Magnifying lens adjustable in any position, large
13. Cold spot & illumination for specimen orientation.
14. Unit should be CE/FDA approved

II) Cold Console

1. Capacity of freezing up to 60 blocks at a time.
2. Temp. range of cold plate: 0-120C, adjustable in steps of 10C.
3. Compressor to be extra quite to reduce noise fatigue.
4. Cold console can work independently without switch –on dispensing console
5. The system should work on 220-240 V, 50 Hz. Should use CFC free gas and manufacturer must have ISO certification.
6. To be supplied with 1000 Nos. Plastic Embedding Rings for making paraffin blocks.
7. Certificate of calibration and inspection from Manufacturer.

7. Fully Automated Flexible Coverslipping Workstation

1. Should produce slides with superior optical quality for reliable long-term storage.
2. Should be capable of cover slipping more than 300 slides per hour
3. Should be able to handle slide racks of various manufacturers and should be adaptable to individual laboratory requirements
4. Should be used with common range of mounting media including mounting with wet mountants
5. Should be equally useful for histopathology and cytopathology slides
6. Should be highly reliable, cause minimum wastage and form a fully automated walk-away system.

7. Should have an inbuilt system for fume extraction so as to minimize exposure of lab personnel 8.

Should be capable of being integrated with automated strainers.

Grossing Station - Stainless steel, with Control panel,

Technical Specifications

The equipment should meet the following specifications:

1. The equipment should be a floor mounted model
2. There should be facility for video, audio recording and photography attachment. The photography attachment should have facility for enlargement. Foot operated switch to take photographs should be available.
3. There should be facility for digital measurement of grossing specimens.
4. There should be IT support for storage and retrieval of data recorded with TFT display and recording system.
5. There should be a formalin tank on top of the station with direct supply system to the work area.
- 6 . Both water and formalin faucets should be available in the work area.
7. The station should be made of noncorrosive high grade stainless steel.
8. Exhaust with filters for formalin vapors should be available.
9. Sink should have removable filters on drain to trap debris/tissue bits.
10. Working area should have good illumination.
11. Magnetic front board should be available to stick instruments for grossing.
12. Approximate size should be- breadth 6ft, depth 3ft, working area height 3ft.
13. Sink with drain board should be available on the right side of the station

Coplin jars

Technical Specifications

- Autoclavable coplin jar air tight,
- water tight dome style screw capped with self standing capability,
- three sides grooved bottom and two sides to protect the glass slides,
- wider mouth provided to put the slides properly,
- unbreakable,
- non reactive with any solvent,
- random grade PPCP (poly-copolymer)

Standalone paraffin dispensing module cold plate holding more than 100 cassettes

Technical Specifications

1. Should be an independent cooling plate with temperature range from ambient to -12 degree C.
2. Should be able to use as independent or with Tissue Embedding Station.
3. Should have digital display of temperature.
4. Capacity to keep atleast 60 blocks at a time.
5. It should have environment friendly refrigerent.
6. Should be compact table top system.
7. Cold plate area to accommodate 60-80 regular size paraffin block.
8. Should be European CE/US FDA

1. Capacity : 120 gm
2. Weighing range
2. Weighing range : <1gm

3. . Readability : 0.01mg.
4. . Linearity : ± 0.02 mg.
5. Repeatability : 0.01mg
6. Stabilization : 4sec.
7. Automatic calibration : Yes
8. Display : LCD.
9. Overload protection : Yes
10. .Tarring range : <1gm
11. Draft shield for the balance with door
12. Operating Voltage : 220 VACS, 50 Hz
13. Optional accessory : Standard calibration weight for external calibration.

Single Pan Digital Balance, Chemical

Specification:

1. Easy to read Large back light GRAPHICAL LCD display with A.E.P.(Advanced Eye protection)
2. Standard RS 232C Interface Ps/2 output
3. Hanger for Below Balance weighing
4. Fully automatic internal Calibration with built in weight
5. Complies GLP/GMP. No change
6. Dye cast aluminum design for long term stability and accurate results.
7. Various weighing units like, mg ,ct. oz, dwt ,mon, GN
8. User selectable Stability and filter level Spacious draft shield interior.
9. Technical data: Capacity 220 gm: Readability 0.1mg: REPEATABILITY (+/-) 0.1mg;linearity (+/-) 0.2mg; PAN Size (mm/inch) 90Ø; response time: 03sec, display Back light LCD graphical display; calibration automatic external units of measure; G,mg, ct, GN, mo, oz, dwt, T are range full operating; temperature 5deg. C to 40 deg.C., housing dimension(342.5mmX212mmX341mm – WDH.
10. Only USFDA /European CE (Issued by Notified body) approved model should be Offred.

Certificates: Notified CE/BIS/FDA and ISO 13485

Trinocular head Microscope

Technical Specifications

Trinocular head Microscope with Bright field, Dark field, Fluorescent & Polarizing Facility, high end Apochromatic lenses with Camera with HDMI Multi output camera Minimum 5MP with Projector & Ultra HD TV > 52 inches & Screen including Software Capable of Brightfield& Immunofluorescence Photographywith connectivity to projector & LED TV (At least 55 inches Ultra HD)

Microscope Frame	Optical System	UIS2 Optical system, Infinity corrected, bright field, Dark field ,Fluorescent and polarization microscopy
	Focus	<ul style="list-style-type: none"> a. Vertical stage movement: 25 mm stage stroke with coarse adjustment limit stopper, b. Torque adjustment for coarse adjustment knobs, Stage mounting position variable, c. High sensitivity fine of focusing knob (minimum adjustment gradations: 1 μm) d. Rotation of 270 degree with stage locks and stage tension adjustment.
	Illuminator	<ul style="list-style-type: none"> a. Built- in Koehler illumination for transmitted light, pre centered, b. High colorreproductively 2 W LED light source. c. Light intensity manager switch to side or centrally.
Revolving Nosepiece		Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded sextuple nosepiece for auto lightadjustment and toggling facility.
Observation Tube	Widefield (FN22)	Widefield tilting, telescopic and lifting binocular, Widefield tilting trinocular, widefield trinocular, Widefield erect image trinocular, Widefield tilting binocular, Widefield tilting binocular, Widefield ergo binocular, Widefield binocular
	Super Widefield (FN26.5)	Super widefield trinocular, Super Wide field erect image tilting trinocular
Stage		Ceramic- coated coaxial stage with left of right-hand low drive control: with rotating mechanism and torque mechanism, optional rubber grips available (Non-stick grooved coaxial, plain, rotatable stages are also available), low drive control with X and Y axis tension adjustment.

Condenser	Abbe (NA 1.1), for 4X100X Swing out Achromatic (NA 0.9), for 1.25X100X (Swing - out: 1.25X4X) Achromatic Aplanatic (NA 1.4), for 10X100X Phase contrast, darkfield (NA 1.1), [phase contrast : for 10X- 100X, darkfield : for 10X-100X(up to NA 0.80)] Universal (NA 0.99), for 1.25X 100X [swing -out: 1.25X4X, with Oil top lens: (NA 1.4)] Low (NA 0.75), for 2X100X(Dry) Ultra low (NA 1.16), for 1.25X4X Darkfield dry (NA 0.8-0.92), for 10X-100X Darkfield Oil (NA 1.30-1.40), for 10X-100X Polarizer adaptor and lens
Objectives	Plan 2.25x, 4x, 10x, 20x(optional), 40x, 100x oil. Anti-fungal treated
Upgradation	Upgradation to fluorescence should be possible
Accessories	Power cable, microscope cover, oil bottle, cleaning cloth, attachment for camera.
Olympus EP50 digital camera	EP5G 5 MP color CMOS WIFI camera, Image Sensor Color CMOS Sensor Size 1/2 inch (7.140 x 4.980 mm) Resolution (max.) 2592 * 1944 pixels (Snap Shot), Pixel Size 2.4 x 2.4 pm, AD Converter (Bit Depth)8 bit Exposure Time From 1 ms to 980 msec, Live Frame Rates 30 fps at 1920 x 1080 pixels (@ full resolution), 60 fps HDMI Output at 1,920 * 1,080 pixels, 20 fps WLAN Output at 1920 x 1080 pixels, Snap Shot only fps at 2,592 x 1944 pixels, Data Transfer HDMI, WLAN (In use of WLAN Adapter), Ethernet (In use of USB -to-Ethernet adapter), storage SD Card. EPview Software full version with PC control and latest windows operating system. 50-inch monitor, 8Gbram, 1TB hard disc, I5 processor.
C mount adaptor	C mount adaptor and video port analyser.
Other	Provision to demonstration before final approval of the equipment Equipment should be USA-FDA/ European CE approved. Documents supporting tract record and satisfactory performance from institution of national importance(minimum one) should be provided. 5-year free service and repair on-site.

**Microscopes - Penta Head Microscope with High end Optics with HDMI Multi
output Photographic Camera (> 5 MP) including Software**

Technical Specifications

- 1 Optical system: Infinity corrected system
- 2 Focus : Vertical stage movement 25mm per coarse stroke
- 3 Vertical stage movement 1micron per fine stroke
- 4 Stage rotation of 200 degrees or better with Stage Lock 5 Stage Tension adjustment
- 6 Illuminator : Built-in-Koehler illumination for transmitted light LED bulb/100W Halogen with 15 spare bulb (pre-centered).
- 7 Revolving nosepiece : Interchangeable/Removable Reversed Coded Quintuple Nosepiece .
- 8 Objectives : Plan 2/2.5x, 4/5x, 10X, 40X, & 100X Oil
- 9 Wide field Trinocular head with FOV 22 or above Observation tube with three light path selection . Addition 4 binocular tube with FOV 22 or more
- 10 Stage: Ceramic-coated coaxial stage with right hand low drive Control with X and Y axis Tension adjustment
- 11 Condenser: APPROPRIATE SWING OUT CONDENSER FOR 2X - 100X
- 12 Digital Camera: Camera attachment capable of handling bright field, dark field images with 1/2.3" CMOS or 2/3" high density CCD Chip, more than 5 Million pixel resolution with 17" or better TFT LCD monitor White Balance adjustment, Image Adjustment (Gamma Correction, shading Adjustment, Black level adjustment Hue Wheel variation, colour saturation adjustment)

13 Software: Image analysis software that include length, width and circle measurements, comparison of images on PC. Branded PC with 4GB RAM, 500GB HDD, Win 8/10, Graphic card 1GB with 17" or better HD monitor, Printer.

14 System should be European CE with notified body number or USFDA approved product

15 LED pointer and oil should be supplied along with microscope

Microscopes - Deca Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software

1 Optical system: Infinity corrected system

2 Focus : Vertical stage movement 25mm per coarse stroke

3 Vertical stage movement 1micron per fine stroke

4 Stage rotation of 200 degrees or better with Stage Lock

5 Stage Tension adjustment

6 Illuminator : Built-in-Koehler illumination for transmitted light LED bulb/100W Halogen with 15 no spare bulb (pre-centered).

7 Revolving nosepiece : Interchangeable/Removable Reversed Coded Quintuple Nosepiece .

8 Objectives : Plan 2/2.5x, 4/5x, 10X, 40X, & 100XOil

9 Wide field Trinocular head with FOV 22 or above Observation tube with three light path selection . Addition 4 binocular tube with FOV 22 or more

10 Stage: Ceramic-coated coaxial stage with right hand low drive Control with X and Y axis Tension adjustment

11 Condenser: APPROPRIATE SWING OUT CONDENSER FOR 2X - 100X

12 Digital Camera: Camera attachment capable of handling bright field, dark field images with 1/2.3" CMOS or 2/3" high density CCD Chip, more than 5 Million pixel resolution with 17" or better TFT LCD monitor White Balance adjustment, Image Adjustment (Gamma Correction, shading Adjustment, Black level adjustment Hue Wheel variation, colour saturation adjustment)

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Coagulometer (Fully automated)

1 FULLY AUTOMATIC COAGULATION ANALYSER as Complete walk away facility.

2 Bench top, Random access

3 Tests available: PT, APTT, Fibrinogen, TT, LA, All Factors, ATIII, Heparin, PC, PS, PLG, AP, APCR, DDI, FDP, vWF, etc.

4 Simultaneous measurement of Clotting, Chromomeric and Immunological assays.

5 Insensitive to LIPEMIC, COLORED, HEMOLYSED plasma and turbid reagent

6 Able to use primary sample tube.

7 Ability of continuous sample & reagent loading i.e. during the run.

8 Ability to add, delete, rerun tests during the run.

9 Have in-built Barcode reader for positive identification of samples and reagents i.e., name, stability, volume, position etc.

- 10 Able to detect automatically positive sample and Regent positions
- 11 Possibility of Auto Rerun and Auto redilution of samples.
- 12 Flexibility to rerun, add a test or delete a test, handling of star sample at any time.
- 13 Should be as availability of on board 300 cuvettes with continuous loading without stopping the instrument.
- 14 Automatic dilution for samples and calibrators.
- 15 Positive sample and reagents level detection.
- 16 Have online sample reagents monitoring.
- 17 Availability of minimum 30 sample positions with continuous loading /STAT facility.
- 18 Availability of minimum 20 reagent positions, all at 15 deg C
- 19 Have data storage capacity of more than 500 patient including 10 or more results per patient.
- 20 Participating company should have direct presence in India with relevant application and service specialist for anytime support
- 21 Applications; multiple free training to users at site
- 22 Suitable UPS with One hr backup
- 23 Installation should include validation as per international standard (eg. Westgard/ CLSI)
- 24 Calibrators should be available when needed i.e Quarterly (3 months in a year) or on failure of QC
- 25 Coefficient of variation of test should be less than 30 % of the recommended total acceptable error as the CLSI
- 26 System should be European CE with notified body number/US FDA approved

Fully Automated Immuno-histo-chemistry Setup with Continuous supply of Important Antibodies, Lymphoma Panel etc.

- 1) System should be fully automated Immuno staining system.
- 2) Should perform on board Baking, Dewaxing, Epitope Retrieval, Staining and Counter stain.
- 3) Should be capable to do ImmunoHisto Chemistry (IHC) and In-situ hybridization(ISH).
- 4) Should be capable of performing IHC and ISH using same DAB detection kit
- 5) System should be open for Primary Antibodies.
- 6) Should be Xylene free.
- 7) It should have 3 or more independent slide racks with the capacity of atleast10 slides per rack which can work independently.
- 8) It should have the capacity to run 30 slides at a time.
- 9) Provide continuous workflow by independent access to each slide tray.
- 10) Should have fast turnaround time (TAT) – Completes 30 slides run in 3 to 4 hours
- 11) It should separate Hazardous and non Hazardous waste.
- 12) It should have on boarding mixing of Chromogens.
- 13) It should read slide labels by Optical Character Recognition (OCR)/Barcode
- 14) System should have total tissue care for frozen, bone marrow and fatty breast tissues.

- 15) Should have liquid level sensor (LLS) for Tracking and monitoring reagents. Alerts when reagents are low or waste is full.
- 16) Reagent dispensing method should be Probe.
- 17) Should be capable to doing Dual IHC (Double staining).
- 18) The Stainer should have the facility for minimum reagent usage as 100 µl / test and the reagent container capacity may be 7ml or 30 ml.
- 19) System should have the facility of LIS connectivity (optional).
- 20) Should have operating temperature from 35°C to 100°C.
- 21) The Stainer should be flexible to permits simultaneous processing of slideracks using different staining protocols (IHC,ISH , Double staining, Her2 FISH).
- 22) Flexible control software with protocol editor.
- 23) System Should be USFDA and CE
- 24) UPS of 2 hours backup and Split Air conditioner of 2 tonne shall be supplied with the instrument.
- 25) The starter kit shall be supplied for atleast 500 reactions at the time of demonstration/installation.
- 26) The rates of consuambles shall be quoted which will be freezed for 5 years
- 27) System should be Bench top.
- 28) The company engineer shall rectify the issues pertaining to the Equipment within 48 hours of breakdown.

Five part Fully Automated Cell Counter

Tender Specification

1 Automated Blood Cell Counter is used to count various types of blood cells in the blood.

2 Automatic blood cell counter that measures 26 parameters including 5part differential of WBC is required complete with printer.

3 Parameters to be measured are -WBC, LYM%, LYM, MON%, MON, GRA%, GRA, RBC, HGB, HCT, MCV, MCH, MCHC, RDW, PLT, MPV, PCT, PDW. Retic, Retic% NE, NE% L4, L4%, MO, MO%, EO, EO%, BA, BA%, Should be reportable parameter

4 Histogram WBC 5-part diff distribution, RBC distribution, PLT distribution. WBC Seatogram

5 Measurement Principle Electrical impedance method (WBC, RBC, HCT, PLT) Cyanmethemoglobin colorimetric method (HGB) /Hydro Dynmic Focusing (DC Detection), flow cytometer method (using a semiconductor laser) Cyanide free SLS hemoglobin method.

6 Low Sample Volume less than 250 μ L

7 Throughput > 70 samples per hour.

8 Linearity Ranges WBC 0 -80.0 * $10^3/\mu$ L RBC 0.20-7.50 * $10^6/\mu$ L HGB 2.0-25.0 g/dL HCT 10.0%-70.0% PLT 10-999 * $10^3/\mu$ L

9 Reproducibility (CV) WBC RBC HGB HCT PLT LYM% MON% GRA%

10 The sampling probe should be automatically cleaned off, so that any blood stack doesn't occur.

Various sensors should check the condition of the instrument. If any abnormality is detected, an error message be displayed so that occurrence of trouble is prevented

13 External Printer.

14 System as specified

15 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%

16 The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.

17 Power input to be 220-240VAC, 50Hz fitted with Indian plug

18 Resettable over current breaker shall be fitted for protection

19 Suitable voltage corrector/stabilizer

20 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

21 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

22 Should be compliant with IEC 61010-1:covering safety requirements for electrical equipment for measurement control and laboratory use.

23 Should be US FDA or European CE from notified body approved product.

Air filtration system, Track mounted adjustable computer

1. Continuous filtration and decontamination modes

2) 7 Layer Multi-stage mechanical filtration to trap particles up to 0.1 microns (installed efficiency not below 99.9%).

3) Washable Pre Filter made of plastic mesh to remove coarse particles minimum size 338 x 240 mm.

4) Electrostatic Charged Plasma Filter to trap allergen, pollen, dust etc. washable metallic grid with long life. Minimum size 335 x 292 x 25mm

5) Activated Carbon filter to remove smell/smoke and gases minimum size 330x275x5 mm.

6) HEPA to take care of bacteria and virus of 0.3 micron @97%, 1 micron @99.97%. HEPA life monitor device to indicate the time of change of HEPA filter.

7) Ti O₂ photo catalyst for removal of organic compounds minimum dimension 330X275X7mm

8) Ultra violet tube big size for germicidal irradiation and photo catalyst air purification effect.

9) Mobile unit for ease of installation and use.

10) User programmable timer for Filtration & Decontamination Modules.

11) ABS Plastic Body for long life. (NonMetallic body)

12)LED Display on the front panel

13) Must have a remote control

14) Safety feature inbuilt – machine should stop automatically when the front panel is opened

15) No Ozone output not even optional as it is harmful for human application

16) Air quality sensors for Odor, Dust, Allergens with indicator LED's

17) Over all size of the unit minimum 605x350x275

18) Weight : 7 Kg (Approx)

19) Electrical : 220/250 Volts, 50 Hz, less than or equal to 80 Watt.

20) 5 FAN SPEEDs including Auto Mode, Fan Air Output on HIGH SPEDD: more than 8 cubic meter per minute

21) HEPA Filter : Efficiency 99.97% @ 0.3 Microns minimum size 330x275x25mm a) Dust Purifying Rate: 99% b) Formaldehyde Purifying Rate: 95% c) Benzene Purifying Rate: 99.8%

22) Area Recommended (3 M Height): 60 m² or 653 sq feet

23) Have a Mains Timer i) Micro-controller & CMOS Quartz ii) Manual modes for temporary override

24) HEPA Monitor indicating when to replace HEPA

25) Machine should be CE, FCC, ROHS certified.

26) Machine should have a front suction with large surface area to purify the Air, it should have 180 degree of suction from front and the sides and the bottom.

27) Noise levels should be less than 53 db on the Highest Speed

28. The inspection certificates of CE, FCC, ROHS are to be submitted along with supply.