

Tender Enquiry Document

for

Design, fabrication, establishing & commissioning of In-Vitro Fertility Centers (IVFCs) along with allied services on Turnkey basis at Gandhi hospital, Secunderabad, MGM Hospital, Warangal & MGMH Petlaburj, Hyd.

Tender Notice No.	: 35 (6)/TSMSIDC/Tech/2022-23, dt: 20.03.2023
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VOLUME-II

Tender document may be downloaded from the following website:

<https://tender.telangana.gov.in>



Tender Inviting Authority:

TELANGANA STATE MEDICAL SERVICES & INFRASTRUCTURE DEVELOPMENT CORPORATION

DM&HS Campus, Sulthan Bazar, Koti, Hyderabad-500095. Telangana State Email ID:

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ESTABLISHMENT OF IVF CENTRE
TECHNICAL DATA SHEET - CRITICAL EQUIPMENT

1. Ovum Aspiration Pumps

- 1.1. Precision built, regulated, vacuum pump for ovum aspiration
- 1.2. Rapid suction response at the needle tip and is able to hold constant vacuum
Settings accurately, for long periods
- 1.3. Dual Display: Actual pump pressure and set pump pressure
- 1.4. Boost feature to clear blockages in Aspiration needle
- 1.5. Ultra-quiet, vibration-free operation.
- 1.6. Foot Pedal allows hands-free operation.
- 1.7. Power Supply: universal input 100-240 V AC, 50/60 Hz
- 1.8. Vacuum : -10 to -500 mm Hg
- 1.9. Dimensions (W x D x H)mm: 200x250x115
- 1.10. FDA approved and Should be compatible to fit with all commercially available oocyte recovery set

2. IVF Test Tube Warmer

- 2.1. IVF test tube warmer ideal for heating of samples in test tubes requiring a stable heating environment
- 2.2. Should have at least 12 chambers either for 14ml or 5ml aspiration tubes
- 2.3. The highly visible digital LED display indicates the temperature level in either Celsius or Fahrenheit
- 2.4. Temperature may be adjusted and is extremely reliable within the range from ambient to 49.9°C.
- 2.5. Digital read out of temperature with control panel for settings
- 2.6. Temperature accuracy $\pm 0.20^{\circ}\text{C}$
- 2.7. Easy to clean
- 2.8. Rectangular warming blocks to hold 10 tubes of 17mm and 12 tubes of 12mm

3. DICOM compatible fully digital, compact portable Colour Doppler Ultrasound Scan machine.

- 3.1. System should be operated for general purpose ultrasound scanner and colour Doppler for Paediatric, Abdomen, OB/GYN, Vascular, Cardiac and small parts, Musculoskeletal uses.
- 3.2. Unit should be of USFDA and European CE approved.
- 3.3. Latest generation Electronic Phased array Colour Doppler system with Minimum 1,00,000 or more Electronic independent channels. System should be DICOM ready and capable of being interfaced with HIS/RIS/PACS.
- 3.4. Should be field upgradable to next generation system on site. All new software should be upgraded free of cost during warranty and CMC period.
- 3.5. Specifications
 - 256 grey shades for sharp contrast resolutions
 - Harmonic Imaging- System should have following modes in harmonic with separate setting for:
 - Tissue Harmonic or equivalent

- Harmonic imaging / Equivalent Technology capability in Convex, Linear, Endocavity and Adult Cardiac.
- 3.6. Gain control in 2D/M Mode/Colour/Doppler with auto adjustment for additional level of flexibility to image quality control.
 - 3.7. Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes
 - 3.8. Frame rate should be 600 or more
 - 3.9. Frequency processing facility for the transducer is 1.0-13.0 MHz +/- 1 MHz.
 - 3.10. Speckle reduction imaging should be available and it should be user configurable setting to obtain better image without reduction in frame rate.
 - 3.11. Steerable PW/CW in all Phased Array probes.
 - 3.12. High-definition acoustic zoom for enlarging sections of 2D and Colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.
 - 3.13. Modes –2D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition Colour flow.
 - 3.14. Monitor should be atleast 17” high-resolution colour Monitor.
 - 3.15. Tilt and Swivel monitor should be able to view in all angles and all light conditions.
 - 3.16. Colour Flow Imaging for
 - 3.17. Increased lateral & spatial resolution.
 - 3.18. Selection of different types of colour maps are required
 - 3.19. Colour flow with capability of automatically picking up colour flow as a function of focal depth
 - 3.20. Cine loop memory should be available, specify the memory available
 - 3.21. High Frame rate review for better clarity of playback images study in slow motion.
 - 3.22. Quad loop with memory for pre and post image comparison.
 - 3.23. Simultaneous display of both live B-Mode and 2D with Color should be possible.
 - 3.24. Speckle reduction imaging user configurable should be possible
 - 3.25. Multiline compounding imaging on convex and linear imaging
 - 3.26. Trapezoidal or panoramic imaging should be possible
 - 3.27. User defined system and application presets for multi-user department.
 - 3.28. Inbuilt/ External CD/DVD and PEN drive for image storage, archiving and retrieval for offline complete analysis. .
 - 3.29. System should have facility for cardiac studies like Tissue Doppler imaging, B Mode , M mode ,Cardiac Measurements for Echo Cardiology.
 - 3.30. Transducer ports - Three or more Application software for abdomen, OBG, Vascular, Cardiac Adult and Pediatric applications. All application packages should be built into the system.
 - 3.31. System should be field upgradable to Real time 3D/4D applications for abdomen and fetal anatomical study.
 - 3.32. Digital Storage and Retrieval – 01
 - 3.33. Colour Doppler System with all application packages and probes should be supplied as mentioned below as standard.
 - a. Broadband Convex probe 2.0-6.0 MHz +/- 1 MHz for abdomen and OBG applications - 01 No.
 - b. Broadband Endocavity probe 3.0-9.0 MHz +/- 1 MHz with more than 120 Degree FOV or more- 02 Nos.

3.34. Accessories as standard :

1. Sony Thermal Printer - 01
2. Latest desktop computer with at least I5 configuration.

3.35. GENERAL INSTRUCTIONS TO VENDORS:

- All information in the tender document must be supported in the product data sheet.
- Compliance statement sheet must quote page number/s as it appears in the product data sheet enclosed the vendor.
- Supplier should be able to demonstrate its quoted model when and where required along with quality control programme for system performance.
- Supplier must attach the list of installation in leading Diagnostics centres hospitals or in institutions inside India (at least 100).
- System should be ISO, CE & FDA certified.

4. Multipurpose electro hydraulic with manual override mobile OT Table with divided leg section suitable for all Gynaecological surgical procedures, complete with 5cm mattress and corded handset.

- 4.1. Should be a Electro Mechanical controlled operating table, working range from floor level: 640-1040mm
- 4.2. Should be adjustable to all essential positions.
- 4.3. Should be equipped with movement controls at side of the table. Should provide wired remote control handset.
- 4.4. Should have Frame and bottom made of Stainless Steel 304 material.
- 4.5. Should have reinforced three section stainless steel top/radiolucent top.
- 4.6. All movements should be adjustable easily. There should be an internal battery backup in the table with auto charging cut off, with battery- charge level indicator.
- 4.7. Should have detachable head rest which can be easily adjustable to any desired position, above or below table top.
- 4.8. Table top can be rotated 360° through base, Trendelenburg: $\geq 25^{\circ}$ - 30° , Reversed Trendelenburg: $\geq 30^{\circ}$
- 4.9. Head Section tilting up from the Horizontal: $\geq 20^{\circ}$ - 30° , Head Section tilting down from the Horizontal: $\geq 28^{\circ}$ - 30°
- 4.10. Back Section Raised from the Horizontal: $\geq 60^{\circ}$ - 70°
- 4.11. Leg Section Lowered from the Horizontal: $\geq 40^{\circ}$ - 50°
- 4.12. Kidney Position should be achievable by breaking the table.
- 4.13. Table-top should be radio-lucent.
- 4.14. User's interface: Automatic by remote control.
- 4.15. Physical Characteristics
 - Dimensions (metric): Table top dimension (1900 mm x 525 mm) \pm 15% Table elevation: (640mm -1040 mm) \pm 10%
 - Weight (lbs, kg) : Should be able to bear patient having weight upto 160 kg
 - Heat dissipation: Should maintain nominal temp and the heat should be disbursed through an cooling mechanism
 - Energy Source: Protection: Should have over charging cut off,
 - Accessories, Spare Parts, Consumables
 - a) S. S. Arm Rest 1 No
 - b) Anaesthetic Screen 1 No.

- c) Lithotomy Leg Holders with Stirr-Ups 1 Set
 - d) Leather Wristlets 1 Set
 - e) Padded Leg Rest (Gutter Type)-2 nos
 - f) Anti static mattress-2 nos
 - g) Additional Poly-urathrene mattress 50mm thick with velcro attachment.
- 4.16. Environmental And Departmental Considerations
- Atmosphere / Ambiance conditioning, humidity, dust ...)
 - 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
Storage condition : capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
 - User's care, Cleaning, Disinfection & Sterility issues
 - 1. 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.
- 4.17. Standards And Safety
- Certificates : FDA(US) /CE(EU) and BIS/ CDSCO /ISO 13485:2003; IEC 60601-1
- 4.18. Pre-installation requirements nature, values, quality, tolerance
- 4.19. Availability of 5amp socket
- 4.20. Safety and operation check before handover
- 4.21. Requirements for sign-off: Certificate of calibration and inspection from the manufacturer
- 4.22. Training And Installation
- Pre-installation requirements nature, values, quality, tolerance
 - Availability of 5amp socket
 - Safety and operation check before handover
 - Requirements for sign-off: Certificate of calibration and inspection from the manufacturer
 - Training of staff (medical, paramedical, technicians) OPTIONAL (Depending upon scope of work order)
 - Training of users on operation and basic maintenance
 - Advanced maintenance tasks required shall be documented.
- 4.23. Additional Points
- Remote control for all the movements
 - Battery backup for 50-60 movements

5. LED Procedure Lights – Double Dome

- 5.1. Double dome
- 5.2. Main dome: 1,60,000 lux , second dome 1,60,000 lux for Uniform intensity and Deeper depth penetration.
- 5.3. Height adjustments : 600mm
- 5.4. Action radius : 1850 mm
- 5.5. Possible movements : Radial , Angular & Axial

- 5.6. Colour temperature : 4500k and above
- 5.7. LED technology minimum 40,000 hours lamp life. The control panel must have a built in digital hour counter to show the number of hours the light has worked.
- 5.8. Intensity, brightness, contrast and power switch to be made available on handle / wall check
- 5.9. Focal distance (d1+d2) =0.8 to 1.2m
- 5.10. Temperature rise on the keep of surgeries to be less than 1 degree
- 5.11. CR +/- approx 95 or more
- 5.12. 360 degree rotation for both arms
- 5.13. User's interface: Manual
- 5.14. Physical Characteristics
- 5.15. Heat dissipation: Should maintain nominal temperature and the heat should be disbursed through an cooling mechanism
- 5.16. Energy Source (electricity, UPS, solar, gas, water, CO2)
- 5.17. Power Requirements: Recharging unit : Input voltage – 220V-240V AC, 50Hz
- 5.18. Battery operated : 6-8 hours of inbuilt battery back up.
- 5.19. Tolerance (to variations, shutdowns) : Voltage +10% , frequency +2%
- 5.20. Protection : Should have over charging cut off with visual symbol.
- 5.21. Environmental And Departmental Considerations
- 5.22. Atmosphere / Ambiance conditioning, humidity, dust ...)
- 5.23. 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
- 5.24. Storage condition : capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
- 5.25. User's care, Cleaning, Disinfection & Sterility issues
- 5.26. 1.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.
- 5.27. 2. Autoclavable Handle should be provided by bidder 4 Pieces.
- 5.28. Standards And Safety
- 5.29. FDA(US) /CE(EU)

6. LED Procedure Light – Single Dome

- 6.1.Single Dome, Major
- 6.2.Intensity control : continuous (1,60,000 Lux)
- 6.3.Height Adjustment : 600mm
- 6.4.Action radius : 1850mm
- 6.5.Possible movements : Radial, Angular and Axial
- 6.6.Colour temperature : 4500 and above
 - 6.7. LED technology minimum 40,000 hours lamp life. The control panel must have a built in digital hour counter to show the number of hours the light has worked. Intensity, brightness, contrast and power switch to be made available on handle /wall check
- 6.8.Temperature rise on the keep of surgeries to be less than 1 degree CR + approx 95 or more
- 6.9.User's interface: Manual

6.10. Physical Characteristics

- Heat Dissipation: Should maintain nominal Temp and the heat should be disbursed through an cooling mechanism
 - Not portable
 - Energy Source (electricity, UPS, solar, gas, water, CO2)
 - Power Requirements : Recharging unit: Input voltage- 220V-240V AC, 50Hz
 - Battery operated : yes
 - Protection: Should have over charging cut off with visual symbol
 - Environmental And Departmental Considerations Atmosphere / Ambiance conditioning, humidity, dust ...)
 - 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
 - Storage condition : capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
 - User's care, Cleaning, Disinfection & Sterility issues
 1. 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. Autoclavable Handle should be provided by bidder 4 Pieces.
- Standards And Safety
- Certifications: FDA(US) /CE(EU) and BIS/ CDSCO / ISO 13485:2003; IEC 60601-1,
 - Training And Installation
 - Pre-installation requirements nature, values, quality, tolerance
 1. Availability of 5amp socket
 2. Safety and operation check before handoverRequirements for sign-off: Certificate of calibration and inspection from the manufacturer
 - Training of staff (medical, paramedical, technicians) OPTIONAL (Depending upon scope of work order)
 1. Training of users on operation and basic maintenance
 2. Advanced maintenance tasks required shall be documented.

7. IVF Work station with Laminar Airflow

- 7.1. 6 x 2 Feet IVF Workstation where both user and product are protected against particle and microbial contamination. IVF workstation should have provision for 2 stereo microscopes, one on left and 1 on right
- 7.2. Camera Set, which includes Camera, TV tuner Card, Cables and Connect providing Stereozoom Microscope due to Compatibility.
- 7.3. Surgical Stainless Steel Heated work surface between 2mm-3m.
- 7.4. Electrical adjusted front glass window
- 7.5. 80-100mm heated glass stage to minimize temperature fluctuations in the media with temperature accuracy $\pm 0.1^{\circ}\text{C}$
- 7.6. Light source preferred is LED
- 7.7. Noise level between 48-52dBA

- 7.8. Programmable auto-start and shut-down functions of all built in features, including air flow
- 7.9. The IVF workstation should have main filters which are high-efficiency HEPA filter class (H14). The filter should system consists of two HEPA filters
- 7.10. Built in 21 inch minimal Medical grade LCD Monitor
- 7.11. Microscope Fittings with Heating Stage Warmer with Microprocessor based Temperature controller
- 7.12. Warming blocks should be part of package
- 7.13. Should be constructed in high density steel
- 7.14. Should be USFDA/European CE certified - 220V/50-60Hz

8. IVF Anti Vibration Table

- 8.1. Air damped Anti-vibration passive table are designed to meet requirements for all models of inverted Microscopes during ICSI procedure
- 8.2. The plate on top should be stainless steel
- 8.3. Should be constructed in high density steel with added mass to the table
- 8.4. Should be USFDA/European CE certified
- 8.5. Dimensions: 780 x 1200 x 790 mm

9. CO2 Incubator (For Human IVF)

- 9.1. 160- 220 liters internal Volume
- 9.2. Stainless steel interior
- 9.3. TC/IR CO2 Sensor Soft touch key pad
- 9.4. Out Door Heating Error Warning
- 9.5. Auto Start Function
- 9.6. Inner Safety glass door
- 9.7. HEPA Filter for CO2
- 9.8. Inner safety glass screen (3-4 pieces)
- 9.9. Microprocessor PID temperature controller
- 9.10. Temperature Sensor made up of Platinum
- 9.11. Temperature range ambient above 5°C to 50°C ($\pm 0.1^\circ\text{C}$ at 37°C)
- 9.12. Air- Jacket direct heating system
- 9.13. Over- Temperature Protection Smooth inner casing with rounded corners on all sides made of stainless steel Dry Or Moist heating disinfect ion at 90°C to 120°C.
- 9.14. Disinfection duration 12-13 hrs
- 9.15. 3-4 sets of shelves. Perforated Shelves for uniform heat distribution/ shelf adjustment.
- 9.16. LED/LCD Display of chamber temp. and CO2 level. CO2 Control range: 0 to 20% Co2 control accuracy: +0.1% Temperature Control; Panel heated interior chamber and door. Intelligent temperature control system for dry inner chamber. Range 30 to 45°C starting 5°C above ambient temperature. Stability /uniformity $\pm 0.1^\circ\text{C} / 0.3^\circ\text{C}$. Over temperature alarm 32°C-47°C.

- 9.17. Humidity: Active sterile humidity control through vaporizing module operating at 120°C Measuring range 0-98% RH /Range 60-95% RH. System should have easy to set high -low humidity levels
- 9.18. System should have built in decontamination cycle for complete elimination of bacteria, fungi, spores, mycoplasma etc. System must have on board graphic capability /data logging to enable user to obtain historical performance. Incubator must have a fully automatic start routine function.
- 9.19. Must be FDA/EU approved

10. Bench Top Incubator for Human Embryo Culture (Tri gas Bench Top Incubator for Human Embryo)

- 10.1. Compact, humidified Pre-Mixed/ TRI-gas incubator designed to maintain optimal environment for development of ova or embryos.
- 10.2. Has two or more chambers to hold dishes, dishes per chamber minimum 4.
- 10.3. The dual chambers have individual temperature control. Heating of both base and lid ensures even distribution of heat.
- 10.4. Direct contact of base with each culture dish ensures heat transfer by Conduction resulting in thermal stability.
- 10.5. Automatic gas purge on lid closure to maintain gas environment.
- 10.6. In built humification system.
- 10.7. Uses pre-mix Gas & Several units can be connected to one source of Supply.
- 10.8. 24 hour digital recording of temperature and gas flow.
- 10.9. Time-stamped alarm notifications include description of event.
- 10.10. Battery backup - For day 1 - day 5 Culturing
- 10.11. Gas Supply: High Purity CO₂/O₂/N₂ mixture. Nominal input pressure 150kPa.
- 10.12. Power: Universal Input 100-240 V AC, 50/60 Hz.
- 10.13. Safety : Designed to conform with AS3200.1 1990, IEC60601.1 and IEC61010.1
- 10.14. Two Stage Regulator
- 10.15. Product should be approved from USFDA/European CE certified.

11. Trinocular Stereozoom Microscope

- 11.1. Microscope body with 5x-500x magnification, and 45 degrees inclination trinocular tube (C- mount)
- 11.2. Eyepiece 10X with ESD capability, F.N. 22, focusable
- 11.3. Focussing mount with coaxial coarse and fine focussing knobs
- 11.4. Power Cord
- 11.5. Should be integrated into IVF Workstation Dust Cover`
- 11.6. Beam splitter for trinocular port
- 11.7. Eyepiece 10x, FN 22
- 11.8. C-mount adapter to be included
- 11.9. Trinocular observation tube with inclination at 30 degree, inter pupillary distance adjustment 48mm -76mm.
- 11.10. Working Distance Up to 92 mm

- 11.11. Plane achromatic objective 1X Resolution of at least 600lp/mm.
- 11.12. Transmitted light stage with halogen illuminator of at least 30 watt.
- 11.13. Scientific Digital Camera for microscopy with control software, progressive scan CMOS/CCD having resolution of 5 M-pixel or better
- 11.14. Coaxial coarse and fine focusing knob mechanism should be built in

12. ICSI Micromanipulator System with Inverted Microscope

- 12.1. Latest Inverted microscope
- 12.2. 3 position light path
- 12.3. Prism preinstalled
- 12.4. Illumination equipped with condenser holder
- 12.5. LED Lamphouse
- 12.6. Sextuple Nosepiece is included.
- 12.7. Binocular Tube Widefield eyepiece 10X, focusable.
- 12.8. Enough travelling range applied for slide glass, 35 mm dish as well as multiwell plate, circle stage inserts included.
- 12.9. Sample holder for slide glass, 35 mm dish, multiwell plate as option. Stage stopper function is implemented for time-lapse or operation on stage.
- 12.10. Long working distance condenser for DIC/RC/NAMC observation
- 12.11. Mechanical or manual or electrical micromanipulator
- 12.12. Digital display of 3D fine control from single level
- 12.13. Heating system of insert should be such that it should avoid cold spots
- 12.14. 1 x Oil Injector
- 12.15. 1 x air injector
- 12.16. For Intracytoplasmic Sperm Injection in IVF.
- 12.17. Micromanipulator should be compatible for the utility of commonly available LASER And Spindle view imaging system.
- 12.18. Must be FDA/ EU approved

13. IVF Laser System

- 13.1. Laser for IVF lab to ablate zona pellucida, hatching, biopsies and blastomere collapse
- 13.2. Moveable laser with biopsy mode
- 13.3. The laser objective should be designed in such a way that it can focus visible light, but also to focus the infra-red beam at the same plane as the visible light, and to maximise the power transmission for efficient drilling
- 13.4. Laser should include both pilot and ablation laser
- 13.5. Laser should have a option to indicate heat safety zone
- 13.6. Laser power should be between 350-425mW
- 13.7. Powerful software should be supplied with laser to ensure that it can have home position setting, measuring tool digital magnification, simulator for training and demo features.

14. IVF Thermometer

- 14.1. Easy to use handheld digital, water proof

- 14.2. To check temperature of heated surface, inside the media droplet, incubators, refrigerators
- 14.3. Operating time at least 200 hours on battery
- 14.4. Ergonomic design and should have digital display
- 14.5. Calibration certificate required.
- 14.6. Certificate: should be CE or FDA or BIS certified

15. CO2 Cylinder and Manifold

- 15.1. Medical grade CO2 cylinder 31 Kg. Accessories like pliers, wrenches to work with each cylinders to be provided, 06 extra regulators for each cylinder.
- 15.2. With two stage regulator calibrated in PSI
- 15.3. With required attachments for manifold. With automatic inline arrangement to ensure steady, nonstop supply

16. CO2 and O2 Analyzer

- 16.1. Hand held with Quick verification of CO2 and O2 incubator levels
- 16.2. Large data storage up to 750 readings
- 16.3. CO2 0-20%; O2 0-100%
- 16.4. Battery Life: 10 Hours (8 hours pumping)
- 16.5. Easy to read
- 16.6. Atleast 2 temperature probes
- 16.7. Built in moisture gas removal and humidity trap

17. pH Meter

- 17.1. Hand held, simple pH meter to read the media drops
- 17.2. pH accuracy ± 0.03 pH
- 17.3. pH calibration atleast 2 points in room temperature
- 17.4. Calibration by pH buffers 7-10
- 17.5. Temperature accuracy ± 0.50 C
- 17.6. Data logging facility

18. VOC Meter for ART Lab

- 18.1. Handheld monitor capable of detecting contamination at 0.1ppm
- 18.2. PID sensor 0-15000ppm
- 18.3. Response time < 5 seconds
- 18.4. Flow rate 400-500cc/min
- 18.5. Data logging facility mandatory
- 18.6. Weight less then 1Kg

19. Sperm Counting Makler Chamber

- 19.1. Counting Chamber with cover Slip(Glass)
- 19.2. Cover Slip with Grid built in with 100 squares

- 19.3. Reusable
- 19.4. No Calibration required
- 19.5. Optimal depth 10 microns
- 19.6. Should be provided with cleaning brush and cleaning paper
- 19.7. 99% accuracy for pre and post wash semen analysis
- 19.8. Valid CE/US FDA/BIS Certification
- 19.9. NO DILUTION REQUIRED FOR SPERM COUNT CALCULATION

20. Binocular Microscope for Semen Analysis

- 20.1. Standard microscope set complete with built-in 6V20W halogen light illuminator with regular power supply
- 20.2. Quadruple ball bearing nosepiece, co-axial coarse and fine focusing controls, high resolution Semi- Plan Achromat objectives 4x, 10x, 20X & 40x (spring)
- 20.3. 360 degree rotatable inclined binocular tube, fungus resistant optics for tropical use, widefield paired eyepiece HWF10x (F.N.18), right hand control co-axial low drive mechanical stage and rack & pinion focusable Abbe condenser 0.9/1.25 N.A with iris diaphragm complete set in thermocole packing

21. Andrology Work station with Laminar Flow Cabinet

- 21.1. 3 Feet LAF where both user and product are protected against particle and microbial contamination. IVF
- 21.2. Quadruple ball bearing nosepiece, co-axial coarse and fine focusing controls, high resolution Semi- Plan Achromat objectives 4x, 10x, 20X & 40x (spring)
- 21.3. 360 degrees rotatable inclined binocular tube, fungus resistant optics for tropical use, widefield paired eyepiece HWF10x (F.N.18), right hand control co-axial low drive mechanical stage and rack & pinion focusable Abbe condenser 0.9/1.25 N.A with iris diaphragm complete set in thermocole packing
- 21.4. Surgical Stainless Steel (2mm) work surface
- 21.5. Toughened glass front window
- 21.6. Adjustable luminosity
- 21.7. Fully operated with a microprocessor control panel.
- 21.8. USB data output
- 21.9. Electrical outlets
- 21.10. Fixed support Stand (80-85cm)
- 21.11. Dimensions: 1000x800x2000 (WxDxH)

22. Clinical Centrifuge for Andrology

- 22.1. Brushless Motor Capacity (6x10ml) with Swing Out Rotor
- 22.2. Max RPM/RCF(xg)-4000RPM/2270g based on the rotor
- 22.3. Speed setting as 500-4000 RPM in steps of 10RPM
- 22.4. User should be able to set and save upto 99 user defined programs (protocols) with a digital display.

23. Dry Incubators for Andrology lab

- 23.1. Capacity 30 to 35 lit
- 23.2. Precise temperature control 37degree \pm 0.5%
- 23.3. Exceptionally stable and accurate
- 23.4. Every corner inside the incubator chamber should be round
- 23.5. Automatic CO2 sensor calibration.
- 23.6. Audible alarms guard specimens against any deviations from the user settings.
- 23.7. Unit should be compact and easy to handle while keeping on bench.
- 23.8. Inner Chamber Dimension should be less than W350 x D350 x H350
- 23.9. Capacity: Calibration facility should be there
- 23.10. Programmable, display of level of co2 and temperature throughout.
- 23.11. Should be provided suitable SS304 grade table adequate for incubator.
- 23.12. Should be European CE/ US FDA certified.

24. Denudation System with Pipettor

- 24.1. Denudation System It should be a medical device for use in Human IVF.
- 24.2. Each system should consist of following items
 - Denudation Pipette Rack Should have slots for placing at least two denudation holder with pipette.
 - Denudation Pipette Holder
 - Adjustable handle to accept all sizes of pipettes
- 24.3. Denudation Pipette
 - Flexible polycarbonate pipettes used for manipulation of oocytes and embryo
Pipette tips should be suitable to get easily attached & detached with holder Size:
135-140 μ m, pack of 10 or 20 (5 Packs)
 - Size: 170-175 μ m, pack of 10 or 20 (5 Packs)
 - Size: 275-300 μ m, pack of 10 or 20 (5 Packs)
- 24.4. Certificate : Should be European CE or US FDA or BIS certified.

25. Pharmaceutical Refrigerator

- 25.1. Capacity of storage 300 liters or more
- 25.2. Temp range-should have adjustable temperature control range from $+1^{\circ}$ to $+8^{\circ}$ C, factory present at 4° C.
- 25.3. Refrigerator system: The system should have high density CFC-free insulation to protect cabinet from ambient temperature fluctuation. The system should have positive, force, air circulation to maintain temperature uniformity at all shelf levels, with quick recovery \pm 1 degree Celsius.
- 25.4. The system should have sensors for activation of automatic/manual defrosts cycle to minimize the frost build up.
- 25.5. Internal construction should be made of high grade stainless steel (minimum 22G)
External construction corrosion resistant sheet at least 1 mm thickness.
- 25.6. Internal temperature control: System should have temperature control range from $+10^{\circ}$ C to $+80^{\circ}$ C. Temperature control resolution should be better than 10° C. Cooling down time of max of 150 min on half load.

- 25.7. External ambient temp should perform in ambient temp up to +43O C.
- 25.8. Door System should lockable double doors with double pane with self closing door for better safety.
- 25.9. Safety System:
 - System should have large and clear Digital displays for the set/run parameters.
 - The system should have chart recorder to record temperature changes with battery back up.
- 25.10. The system should have key operated set point for the added security Alarms.
 - System should have audible/visual warnings for over-temperature under temperature and power failure with visual status reports on critical functions.
 - System should have battery back up and connections for remote alarm contacts.
 - Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
- 25.11. Scratch resistance internal of the cabinet.(stainless steel or aluminum)
- 25.12. Should have 6-10 adjustable drawers of stainless steel of 22G
- 25.13. Power input to be 220-240VAC, 50Hz fitted with Indian Plug.
- 25.14. Voltage corrector/stabilizer of appropriate ratings meeting ISI specifications.
(Input 160- 260V and output 220-240V and 50Hz)
- 25.15. Certificate: Should be European CE or US FDA or BIS certified.
- 25.16. Electrical Safety conforms to standards for electrical Safety.
- 25.17. User/Technical/Maintenance manuals to be supplied in English.
- 25.18. Certificate of Calibration and Inspection.
- 25.19. List of Important spare parts and accessories with their part number.

26. Cryo Can with wheels

- 26.1. For specimen storage - 47 Litres-1 pcs
- 26.2. For Liquid Nitrogen storage - 26 Litres – 1 pcs

27. Defibrillator

- 27.1. Defibrillator should be a low energy Bi-Phasic and truly Portable. Should not weigh more than 6 Kgs (+/- 10% is acceptable)
 - 27.2. Unit should have facility for automatic external defibrillation and manual defibrillation
 - 27.3. Should work on Manual and Automated external defibrillation (AED) in Bi-phasic mode. The maximum energy delivered should be as per AHA (American Heart Association Guidelines) by the device should be 1 J to 200J in manual mode and 150 J in AED mode.
 - 27.4. Should having design protection to avoid passage of current to the user
 - 27.5. The whole system should have an inbuilt recorder ; Telemetry not recommended.
 - 27.6. Settings : Manual and Automatic
 - The monitor should have a TFT color display with a two or more channels display with monitor size of 7 inches or more.
 - Software and/or standard of communication (where ever required) : Inbuilt
- Physical Characteristics
- Dimensions (metric) : Compact

- Noise (in dBA) heat dissipation : <60 dBA ; adjustable heart rate alarm as well as paddies and ECG cable disconnection alarms
- Mobile, portable
- Energy Source
 - a) Power Requirements : 220 to 240V, 50Hz
 - b) Battery operated : Rechargeable battery backup for 100 shocks or more than 3 hours
 - c) Tolerance (to variations, shutdowns) : + 10% of input AC
- Protection : Electrical protection by resettable over current breakers or replaceable fuses, fitted in both live and neutral lines
- Power consumption : Should not be more than 160w
- Accessories AS STANDARD
 - a) Accessories- Chest paddles
 - b) Machine must be supplied with ECG cable, Battery, paddle Adult integrated
 - c) 10 pads for monitoring and defibrillation are standard and price for 100 pads may be quoted optional
 - d) ECG Cable, recording paper rolls ; disposable pads
- Environmental And Departmental Consideratons
 - a) Atmosphere / Ambiance conditioning, humidity, dust ...)
 - b) 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%.
- Standards And SafetyCertificates: FDA (US)/CE (EU) from authorized third party and BIS/ISO 13485.

28. Patient Monitor (7 Para):

- 1.Description of function: Beside monitors are used to monitor the seven vital parameters (ECG,SPO2,NIBP,Respiration ,Temperature ,Dual IBP AND Etc of patient's side inwards ,ICU ,CCU, other intensive care units and all operation theaters.
2. Operational Requirements: patient monitors must be pre-configured with following seven parameters (ECG,SP02,NIBP,Respiration,Temperature ,Dual IBP, and Etc02) easy to use, portable ,wall mounted and operation by single knob control.
- 3.Technical specifications: patient monitor should be of modular design so that software and hardware up gradation can be done on the client location
 - a) patient monitor must have Bidirectional connectivity to central monitoring system with other bed view facility.
 - b)protection: built -in cautery & defibrillator protection
 - c) minimum 72 hours tabular trends must be available for all monitors.
4. Display :
 - 1) Monitors must have at least 12.1 inch or more high resolution TFT colour display screen with flexible user definable settings
 - 2) should have resolution of 800×600 or better with at least 8 traces and numeric values on display
 - 3) combination of single , dual and multi parameters modes
 - 4) should have Ability to change the wave trace color and parameter colour by user
 - 5) Must have special features to adjust and smooth the wave forms for better viewing from from different angle

- 6) must have RJ 45/RS232 interface for CMS (central monitoring system)
5. ECG: Monitoring of ECG (I,II,III,aVR,avL,aVL,aVF and chest lead) and pulse detection ,display of heart rate with low and high heart rate alarm (adjustable between 30-250 bpm, audio visual alarms)
 - 2) HR Range : 20 to 300 BPM (+/-3 3BPM or 2% whichever is greater)
 - 3) Must have 5 lead ECG
 - 4) must have ST Analysis (with Graphical Representation)& pacemaker detection
- Defibrillation protection against electric discharge and Electrostatic potentials.
- 6.spo2: 1) Must show accurate value +/-2% of pulse oxymeter (spo2) / plethysomograph at high (20%) to low (0.05%) perfusion level and motion artifacts
 - 2) Must have Tone variation : tone variation with change in spo2 values: 1-100%
 - 3) patient monitor to have the Accuracy of : 100 -70% (± 2) ;0-69% (± 3)
 - 4) PR Range : 20 to 250 BPM or more
7. NIBP
 - 1) patient monitor must have NIBP measurement is on a proven oscillometric reading on deflation of cuffs NIBP must be possible manually or Automatic mode through time set intervals ranging from 1-120 minutes
 - 2) Alarm Limits : selection possible for systolic ,Diastolic & MAP
 - 3) Modes: manual, start (continuous 5 min. operation) and automatic (time interval 2-90 min. selectable)
- 8.Respiration:
 - 1) Must have Trans -thoracic impedance technique
 - 2)must have the Range of : 5 to 150 breaths /min
 - 3) Accuracy +/-2 or +/-3 breaths /min
- 9.Temperature :
 - 1) must have the Range of : 00 to 50 c or more
 - 2) must have the accuracy of +/-0.1%
- 10.Dual IBP : 1) patient monitor must have the Range from -10 to 300 mm hg
 - 2) patient monitor must have the Accuracy of +/-1mmhg or 2% whichever is greater
- 11.EtcO2 : 1) patient monitor must have side stream EtcO2 measurement
 - 2) Method : infrared Absorption
 - 3) Must have apnea and occlusion error with audio visual alarms
 - 4) Must have the following output EtcO2 ,ico2,RR
12. Accessories , spares and consumables:
 - 1) ECG/Resp cable: 5 Lead ECG cable 1 no. per monitor
 - 2) NIBP: Reusable Adult /Neonatal cuff-1 no. per monitor
 - 3) SPO2: Adult spo2 probe -1 no. per Monitor
 - 4) SPO2: with Reusable Neonatal probe -1 no.per monitor
 - 5) Temperature: 1 no skin Temperature probe ;
 - a) set of EtcO2 sampling line per monitor
 - b) Reusable IBP cable with 5 Disposal lines and one transducer per monitor
- 13.standards & safety :

Monitor should be US-FDA or CE certified product .

Must comply Electrical safety conforms to standards for electrical safety IEC -60601

29. Suction Machine

- 29.1. Portable suction unit: size 38x17x28.5cm, weight 5.1kg
- 29.2. Technical specifications: SUCTION MACHINE with pump:
- Power supply: 230-240V/50Hz
 - Vacuum capacity: 18 litres/min
 - Maximum depression: -75kPa (-563mmHg)
 - Vacuum is created by a plastic piston and cylinder system, with four vacuum-creating modules (QuatroFlex™ technology).
 - The membrane vacuum regulator permits accurate vacuum settings.
 - Double overflow-protection system (bottle and pump).
 - Working temperature range: +5 to +40°C.
 - SAFETY DEVICE: The safety device protects the pump against overflow: suction is interrupted when foam or liquids reach the safety level in the small jar. All components are reusable and can be steam sterilized at 134°C.

30. Anaesthesia Work Station

- I) General Requirement
- 1.a Compact and modular, three gas oxygen, Air & N2O Anaesthesia workstation with an integrated ventilator for adult to infants and integrated airway monitor for pressures and volume.
- 1.b The machine should be suitable for low and minimal flow anaesthesia application with compliance compensation of breathing circuit, fresh gas flow compensation/decoupling.
- 1.c The machine should have 2 or 3 drawers
- 1.d The anaesthesia machine, in built ventilator and vaporizer should be manufactured by same company to maintain uniformity of part and efficient after sale service. Vaporiser should FDA approved. Certificate should be enclosed in the technical bid
- 1.e Dual cascade type flow meter tubes for all three gases O₂, Air & N₂O to be provided. Range 20ml/min to 10 Lit/min calibrated in multiple scales
- 1.f The system should have minimum 2 hrs or more battery backup
- 1.g System should conform to European CE or US FDA/BIS
- 2) Gas delivery system
- 2.a Should have pin index yokes for Oxygen and Nitrous oxide besides separate connection for central gas supply for Oxygen, Nitrous oxide.
- 2.b The machine should have pressure gauges for cylinders and central supply lines mounted on front of Anaesthesia machine for better visibility. The gas connections should be non-interchangeable
- 2.c The system should be suitable to use at minimal flow up to 700 ml fresh gas setting.
- 2.d Automatic cutoff of N₂O by Oxygen pressure failure.
- 2.e Hypoxic guard for linear regulation of minimum oxygen concentration at 25 % volume
- 2.f Audible visual oxygen failure alarm.
- 2.g Emergency oxygen flush at 30-70 l/min by passing the vaporized.

- 2.h In the event of complete power loss and battery failure it shall be possible to manually ventilate and deliver anaesthetic agent.
- 3) Vaporiser
 - 3.a Should be provided with a temperature /pressure compensated and flow independent vaporizer for isoflourane / sevoflurane
 - 3.b Vaporizer should have extended delivery range from 0 to 6 vol. %
 - 3.c The vaporizer should require no calibration in its life time
- 4) Breathing system
 - 4.a Should have fresh gas coupled / de-coupled semi closed circle absorber system
 - 4.b Should have adjustable pressure relief valve from 5 to 70 mbar
 - 4.c Should have change over from spontaneous to bag ventilation with single step.
 - 4.d The system should have leak and compliance test (including patient hoses upto the Y piece)
 - 4.e Should have compact breathing system below 3 ltrs volume capacity
 - 4.f Should have external fresh gas outlet for connecting Magill or Bain's circuit
 - 4.h The device should have port for anaesthesia gas scavenging system
- 5) Anaesthesia ventilator
 - 5.a The system should have inbuilt ventilator with electronically controlled and pneumatic or piston driven technology
 - 5.b Should not require changing of bellows for adult and infants
 - 5.c Should have minimum screen size of 6" or more.
 - 5.d Modes: Manual /spont, volume controlled, pressure controlled, SiMV/PS
 - 5.e The same ventilator should be capable to be upgrade to pressure support
 - 5.f Tidal volume - 20-1500 ml
 - 5.g PEEP – 4-20 cm H₂O
 - 5.h Breathing Frequency - 4 to 60 BPM
 - 5.i I: E Ratio – 4 :1 to 1: 4
 - 5.j Inspiratory pause – 0-50% of TI
- 6) Integrated Airway monitoring and display of following parameters
 - 6.a Expiratory tidal volume
 - 6.b Expiratory minute volume
 - 6.c PEEP, Peak and Mean and Paetau airway pressure
 - 6.d Frequency
 - 6.e Waveform display for Airway pressure,
- 7) Adjustable high/low alarm limits with audio and visual alarms for the following
 - 7.a Minute volume
 - 7.b Airway pressure (incl stenosis and disconnect)
 - 7.c Insp oxygen concentration
 - 7.d Audio power supply fail alarm
 - 7.e Fail to cycle warning
- 8) Options (Mention unit prices in price bid)
 - 8.a Color screen display
- 9) Machine should have RS232 connectivity port
- 10) Scope of supply
 - 10.a 3 gas Anaesthesia Machine
 - 10.b Trolley with 2 or 3 drawers
 - 10.c Writing surface

- 10.d Pin index yokes for O2& N2O
- 10.e Pipeline connections for all three gases
- 10.f Anaesthesia ventilator
- 10.g Patient monitor with ECG, SPO2 , NIBP & ETCO2
- 10.h Semi closed breathing system
- 10.i Adult and paediatric autoclavable patient tubings
- 10.j Anaesthetic mask size- Adult and child
- 10.k Vaporizers for Isoflourane & sevoflourane
- 10.l Central gas supply hoses (Color coded)
- 10.m Instruction for use

31. Autoclave:

- 31.1. High Grade strong stainless steel, Triple walled construction.
- 31.2. Positive radial self-locking safety doors.
- 31.3. Hydrostatically tested to withstand 2.5 times the working pressure.
- 31.4. Sealed with Neoprene/Silicon long-lasting and durable gasket.
- 31.5. Digital display for Jacket and Chamber pressure and temperature.
- 31.6. Outer jacket insulated to prevent heat loss; with a high grade insulation material
- 31.7. Mounted on 304 stainless steel frame with ground leveling flanges.
- 31.8. Temperature and pressure cut-off device.
- 31.9. Auto cut-off at low water level
- 31.10. Rust-proof 304 grade stainless steel.
- 31.11. Cylindrical construction.
- 31.12. Equipment should have separate steam release valve and drainage system.
- 31.13. Minimum of two safety valves with auto-release at 16 and 20.
- 31.14. User's interface : Manual
- 31.15. Physical Characteristics
 - Capacity : 250lts
 - Heat dissipation : Should maintain nominal temperature and the heat should be dissipated through a cooling mechanism
 - Energy Source (electricity, UPS, solar, gas, water, CO2)
 - Operating pressure : Should have operating pressure between 1.2 to 2.1 kg / cm²; 10-20 psl
 - Power consumption : Upto 18kW
 - Accessories, Spare Parts, Consumables
 - Perforate basket(rust-free stainless steel)
 - Biological and chemical indicators-1 set
 - Bins Big size : Seamless bins of Size 15"X 12"
 - Bin Medium size : Seamless bins of Size 11"x9"
 - Bin Small size :Seamless bins of Size 11"X 4 1/2"
- 31.16. Environmental And Departmental Considerations
 - Atmosphere / Ambiance conditioning, humidity, dust ...)
 - 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.

- Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
- 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/disposable cover
- Sterilization not required

31.17. Standards And Safety Certifications : FDA(US) /CE/BIS

32. Hysteroscopy Set:

- 32.1. 2.9 mm hysteroscope
- 32.2. "Hysteroscope sheath for 2.9 mm telescope — operative inner sheath
- 32.3. "Hysteroscope sheath for 2.9 mm telescope — operative outer sheath
- 32.4. Accessories for hysteroscope —
 - Hysteroscopy scissor
 - Hysteroscopy grasper
 - Hysteroscopy biopsy forceps
 - Monopolar electrode
 - Bipolar electrode
 - Monopolar cable
 - Bipolar cable
 - Hysteroscopy pressure bag - 1000ml
 - Hysteromat
 - Vasa Point

Resectoscope Set:

- 32.5. Working Element for 2.9 mm Telescope
- 32.6. Resectoscope Sheath for 2.9mm Working Element
- 32.7. Cutting Electrode
- 32.8. Ball Electrode
- 32.9. Connecting Cable
- 32.10. "Roller Irrigation Machine For Resectoscope"
- 32.11. "Tubing Sets For Irrigation Machine"

33. Laparoscopy Set

- 33.1. "3 Chip CMOS or 3chip CCD Full HD Camera with -Camera Head and ZOOM Coupler-
 - RESOLUTION 1920 *1080 PIXELS"
 - LED LIGHT SOURCE 300W LED Light Source
 - "FIBRE OPTIC CABLE 4.8MM 2.5 MTR or more
 - "MEDICL MONITOR LED 26" WITH POWER ADOPTOR"
 - "40 LTR CO2 INSUFFLATOR WITH INBUILT HEATER"

- CO2 REGULATOR
- 33.2. Telescope
 - 10MM 30 DEG HD TELESCOPE 10MM
 - 5 MM 30 DEG HD TELESCOPE 5 MM 30
 - 10 MM 0 DEG HD TELESCOPE 10 MM 0 DEG

34. Multi-functional Printer

- 34.1. Laserjet 138fnw Monochrome Compact Wi-Fi Printer with Network Support for Reliable, Fast Printing (Print, Copy, Scan, Fax)
- 34.2. HP make

35. Ultrasound Examination Couch

- 35.1. Holes of 1 cm dia to allow fluid drainage.
- 35.2. Lower frame and intermediate frame of steel tubes of rectangular and square sections, multiple pre-treated and epoxy powder coated.
- 35.3. Size (approximate): Length: 2050 mm bed surface, 2125 mm with frame. Width: 750
- 35.4. mm. Bed surface size: 705 mm W x 1950 mm L.
- 35.5. Mattress – High-density foam mattress anti-microbial treated with waterproof flame retardant, antimicrobial, leather like upholstery.
- 35.6. Backrest operated by gas system from horizontal to seated position _15° Trendelenburg
- 35.7. Height adjustable leg rests
- 35.8. Trendelenburg position operated by gas system
- 35.9. Pre acceptance demonstration of furniture is must.
- 35.10. Motorised with 3 functions- Head rest, TR, High/low
- 35.11. Doctor stool
- 35.12. Step stool
- 35.13. Godrej/Feather lite/ Herman Miller makes

36. UPS 20kVA with Battery backup

- 36.1. SMF battery backup with 1 hours battery backup with SNMP and isolation transformer, battery rack inter connection links (42AH*20 nos)
- 36.2. Rectifier & Inverter with IGBT and DSP Technology.
- 36.3. Voltage $400 \pm 15\%$ V, 3 Phase, 4 Wire.
- 36.4. Frequency : 45 to 55 Hz.
- 36.5. Display : Control Panel with LCD Screen
- 36.6. Battery : Sealed Maintenance Free Rechargeable.
- 36.7. Back up : 1 Hr (60 Mts)
- 36.8. Protection : Overload & Short Circuit.
- 36.9. Ventilation: Forced Air Cooling.

37. Laptop – Office Usage

- 37.1. HP Laptop 14s,
- 37.2. AMD Ryzen 5-5500U 14 inches(35cm) FHD, IPS,
- 37.3. Micro-Edge Display Laptop
- 37.4. 8GB RAM/512GB SSD/Radeon Graphics
- 37.5. Windows 11/Alexa/Backlit Keyboard/MS Office

38. Reception Table

- 38.1. C/L shaped
- 38.2. Modular design
- 38.3. Cork: 18mm thick rubberized
- 38.4. Glass Top: 10 mm thick diamond cut edges
- 38.5. Modesty Panel: MS perforated sheet size at least 0.8mm thick
- 38.6. Legs: 1.6 mm MS tube of 50 mm diameter and 600 mm length
- 38.7. Pre acceptance demonstration of furniture is must.
- 38.8. In built storage in form of drawers on sliding rail system (3 on each side)
- 38.9. Reception table should have built in wire management system
- 38.10. Godrej/Feather lite/ Herman Miller makes

39. Reception Chair

- 39.1. Medium back junior executive type chair
- 39.2. Gas height adjustment
- 39.3. PP armrest with nylon base
- 39.4. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm)
- 39.5. Antistatic castors, approx. 75 mm diameters, at least 2 with brakes.
- 39.6. Seat size and backrest size for standard adult
- 39.7. Seamlessly upholstered seat and backrest,
- 39.8. Colour of upholstery – blue / grey
- 39.9. Colour of base – black
- 39.10. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
- 39.11. Godrej/Feather lite/ Herman Miller makes

40. Filing Cabinets

- 40.1. Height approximately 6 feet
- 40.2. Having at least 4 racks with individual doors and locking mechanism for each rack
- 40.3. Vertical filing cabinet
- 40.4. 4DR VFC
- 40.5. 1320H x 470W x 620D
- 40.6. Godrej/Feather lite/ Herman Miller makes

41. Patient Seating - (3 in 1)

- 41.1. 3 in one combi chair – airport model Metal Chair
- 41.2. Shall have tubular Frame made of 19mm dia and 1.6mm thick M.S. E.R.W Tube.
- 41.3. The Seat and back should be puff cushioned and polyester coated.

- 41.4. Color grey/black.
- 41.5. All steel components shall be Epoxy
- 41.6. Without Cushion, with arms
- 41.7. Godrej/Feather lite/ Herman Miller makes

42. Consultant Chair

- 42.1. Gas height adjustment
- 42.2. PP armrest with nylon base
- 42.3. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm.)
- 42.4. Antistatic castors, approx. 75mm diameter, at least 2 with brakes.
- 42.5. Seat size and backrest size for standard adult
- 42.6. Seamlessly upholstered seat and backrest,
- 42.7. Colour of upholstery – blue / grey
- 42.8. Colour of base – black
- 42.9. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
- 42.10. Godrej/Feather lite/ Herman Miller makes

43. Patient Chair

- 43.1. Medium back junior executive type chair
- 43.2. Gas height adjustment
- 43.3. PP armrest with nylon base
- 43.4. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm.)
- 43.5. Antistatic castors, approx 75mm diameter, at least 2 with brakes.
- 43.6. Seat size and backrest size for standard adult
- 43.7. Seamlessly upholstered seat and backrest,
- 43.8. Colour of upholstery – blue / grey
- 43.9. Colour of base – black
- 43.10. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
- 43.11. Godrej/Feather lite/ Herman Miller makes

44. Small Trolley

- 44.1. SS Trolley for Consumables
- 44.2. 2-3 Cabinets on ball bearing slides, full-extension, self-closing
- 44.3. Table top with upraised back and sides edges
- 44.4. manoeuvring handle situated at front side of the trolley
- 44.5. base on four castors with diameter 100 mm, two of them with brakes
- 44.6. all edges rounded and safe
- 44.7. table top dimensions: 650 x 600 mm
- 44.8. Measurements: 690 x 700 x 985 mm
- 44.9. Godrej/Feather lite/ Herman Miller makes

45. Big Trolley

- 45.1. SS Trolley for Consumables
- 45.2. 2-3 Cabinets under the table top, plus one heating drawer for warming infusion fluids at the bottom of the trolley
- 45.3. bottom of the heating drawer perforated to facilitate heat distribution
- 45.4. thermoregulation placed above the heating drawer front, allowing temperature adjusting within the range from +35°C to +45°C
- 45.5. 5. the drawers on ball bearing slides, full-extension, self-closing
- 45.6. manoeuvring handle situated at front side of the trolley
- 45.7. table top with upraised back and sides edges
- 45.8. all edges rounded and safe
- 45.9. base on four castors with diameter 100 mm, two of them with brakes
- 45.10. table top dimensions 650x600 mm
- 45.11. Measurements: 690 x 700 x 985 mm
- 45.12. Godrej/Feather lite/ Herman Miller makes

46. Wall Storage cabinets

- 46.1. Wall mounted wooden cabinets with individual lockable doors (Godrej Store up or equivalent), sturdy, aesthetically appealing color and finish, ergonomic design
- 46.2. To be provided in reception, USG room, semen production room and andrology lab
- 46.3. Size: depth approximately-310 mm, height-750-800 mm, length according to room specification to cover one entire wall
- 46.4. Procurement, installation and work needed for fitting and installation included in the scope of turnkey
- 46.5. Godrej/Feather lite/ Herman Miller makes

47. Office Table

- 47.1. The office table should be made up of steel.
- 47.2. Should be of high quality, aesthetic and ergonomic design
- 47.3. Top made up pre laminated, beige or pine coloured material of high density
- 47.4. Pressed wood, properly treated. Flame and water retardant.
- 47.5. Should be with one drawer and one shelf on right hand side
- 47.6. Size (approx) Height -750 mm Width – 800 mm Length – 1200 mm
- 47.7. Pre-acceptance demonstration of the furniture is must.
- 47.8. Godrej/Feather lite/ Herman Miller makes

48. MEDICAL OXYGEN SYSTEM

A	Oxygen System
1.0	Oxygen Manifold as per NFPA -99 Std / HTM -2022/02-01 of UK
	The oxygen cylinder manifold should comprise of two cylinder Banks which can accommodate 2 cylinders in each Bank (means 1+1) complete with copper tail

	pipes with bull nose fittings of RH External threading suitable for cylinder valves conforming to IS 3234 (Oxygen service) and Cylinder support system.
	Manifold should be suitable to withstand a pressure of 140 Kg/cm ² , along with high pressure copper annealed tail pipes with Brass adapter suitable for Oxygen Cylinder and manifold.
	Top frame comprising of high pressure copper pipes of size 1½" I.D. x 15swg with high pressure brass fittings made of high tensile brass and connections through non-return valves.
	High pressure copper tail pipes, made of high pressure copper pipe of size 1½" I.D. x 15 swg.
	The middle and bottom frame to be provided to fit both round and flat bottom cylinders safely. The manifold should be tested (hydraulically) at 250kg / cm sq.
	The copper tail pipes are fitted to the individual non return valves of the cylinder manifold for easy removal of cylinders without disturbance to system operation.
	Each manifold should be provided with one terminal header and a NPT connection for the Automatic control panel.
2.0	Terminal / Gas Outlet with probes– as per NFPA-99 std / HTM -2022/02-01 of UK (European CE / UL Listed)
	Oxygen
	N ₂ O
	CO ₂
	Surface mount, non-interchangeable, self-sealing outlets, outlets should consist of a roughing in assembly and a finishing assembly. A non-removable positive– pin keying arrangement for each specific gas service. Installed in the mounting box a fully assembled brass secondary check valve.
	Design of outlet should be such that it should have the feature to accept two types of probes & push button mechanism for quick release of adaptor. The secondary check valve automatically should form a positive seal to prevent a gas flow when the finishing assembly is removed. The secondary check valve to include 7" (17.78cm) of 1/2" Type K copper tubing with a label affixed which identifies the specific gas by name and colour
	A plastic cap inserted at the end of the inlet tube. Rotation of the inlet tube should allow gas connection from the top or bottom. the finishing assembly should consists of a die cast chrome plated cover plate , a machined brass housing for the primary check valve, and a positive –pin keying device to prevent accidental installation into a roughing in assembly of a disl gas. The finishing assembly should incorporate a double seal arrangement which automatically engages when a hose adapter or patient treatment device is removed from the outlet. The design of the outlet should be such that it can be easily repaired without disassembly of the outlet.
	The finishing assembly should have a colour coded (specific gas) keying disc to prevent connection of hose adapters or patient treatment device to the wrong gas service. The primary check allows absolutely no gas flow to take place until the keying devices are engaged. It should be manufactured in accordance with all applicable NFPA and CGA standards. The locking device should be in the probe instead of gas outlet.
	Matching probe for outlets – Imported as per NFPA –99 f HTM 02–01 UL Listed f CE Marked Matching probes to the gas outlet mentioned above. That is adapter for Oxygen & vacuum. Each adapter should have suitable barb or threads so that it can

	be connected to tube or flow meter regulator. Adapter should have clear gas service embossed on it.
3.0	Oxygen Flow meter & Humidifier Bottle –for critical area
	The graduated scale should have an oval shape which allows a "lens effect" get the scale values easy-reading in any condition of use. On/OFF switch button of green and red color which allows the operator to quickly identify lock and reactivate the flowmeter gas supply and also keepsn the previous flow preset value unchanged. It should have ADJUSTING KNOB WITH PUSH&LOCK SYSTEM: it keep locked the pre-set flow value. To adjust the flow pull the knob, set the flow value you need to deliver to the patient and push the knob to lock the selected value. The flowmeter should have an integrated pressure reducer for the stabilization of supplied pressure at 2.8bar, to guarantee the flow accuracy of the device. The flowmeter should be useable in any area of hospital with different pressure from the plants and it is not necessary to calibrate it.
	The outlet nipple should have a double thread interchangeable through slide and at one time one thread is visible and second thread should be stored in flowmeter body .The flowmeter should not have less then 50 mm adjusting knob with soft grip inserts for easy handling. The humidifier should be completely made of polycarbonate / polypropylene and should be autoclavable at 121 °C for 15 min. For the inlet connection it should have some snap inserts, identified with color-code, with different threads to be chosen by the end user. An ergonomic and big size rotating nut which allows easy connecting and disconnecting the humidifier to the oxygen supply device. The 360° rolling positioning hose connector ø 6÷9 mm allowing an easy use of the humidifier. The bottle should have hollow shape, besides being a design unique element, offers the operator an easy and safe handling. The humidifier should have an integrated relief valve
B	MEDICAL NITROUS OXIDE SYSTEM
1.0	Nitrous Oxide Manifold as per NFPA -99 Std / HTM -2022/02-01 of UK
	The N2O cylinder manifold should comprise of two cylinder Banks which can accommodate 1 cylinders for cylinder valves conforming to IS 3234 (N2O service) complete with copper tail pipes with fittings.
	Manifold should be suitable to withstand a pressure of 140 Kg/cm ² , along with high pressure copper annealed tail pipes with Brass adapter suitable for Nitrous Cylinders and manifold.
	Top frame comprising of high pressure copper pipes of size 1½" I.D. x 15swg with high pressure brass fittings made of high tensile brass and connections through non-return valves.
	High pressure copper tail pipes, made of high pressure copper pipe of size 1¼" I.D. x 15 swg.
	The middle and bottom frame to be provided to fit both round and flat bottom cylinders safely. The manifold should be tested (hydraulically) at 250kg f cm sq.
	The copper tail pipes are fitted to the individual non return valves of the cylinder manifold for easy removal of cylinders without disturbance to system operation.
	Each manifold should be provided with one terminal header and a NPT connection for the Automatic control panel.
C	Carbon Dioxide System
1.0	CO2 Manifold as per NFPA -99 Std / HTM -2022/02-01 of UK

	The CO2 cylinder manifold should comprise of two cylinder Banks which can accommodate 1 cylinders in each Bank (means 1+1) for cylinder valves conforming to IS 3234 (CO2@ service) complete with copper tail pipes with fittings. Manifold should be suitable to withstand a pressure of 140 Kg/cm ² , along with high pressure copper annealed tail pipes with Brass adapter suitable for Nitrous Cylinders and manifold.
	Top frame comprising of high pressure copper pipes of size 1½" I.D. x 15swg with high pressure brass fittings made of high tensile brass and connections through non-return valves.
	High pressure copper tail pipes, made of high pressure copper pipe of size 1½" I.D. x 15 swg.
	The middle and bottom frame to be provided to fit both round and flat bottom cylinders safely. The manifold should be tested (hydraulically) at 250kg/cm ² .
	The copper tail pipes are fitted to the individual non return valves of the cylinder manifold for easy removal of cylinders without disturbance to system operation.
	Each manifold should be provided with one terminal header and a NPT connection for the Automatic control panel.
D	MEDICAL COPPER PIPE
	Copper Piping :
	<u>Installation:</u>
	Installation of piping should be carried out as per international standards with utmost cleanliness. Only pipes, fittings and valves which have been degreased as per International standards should be used . Pipe fixing clamps for upto 28mm diameter. Pipes should be non ferrous suitable for the diameter of the pipe. For the pipes of the size above 28mm rigid metallic hanging or cemented supports to be used.
	The main lines to the building to be taken overhead through metallic poles or through underground ducts with inspection removable slabs, All pipe joints should be made using inert gas fluxless brazing method. All joints should be of copper to copper and should be brazed by silver brazing filler material without flux while being brazed joints shall be continuously purged with oil free dry nitrogen to prevent the formation of copper oxide on the inside surface of the joint. All pipes should be installed without springing or forcing. All pipes should be protected against mechanical injury in a manner satisfactory to authorities having jurisdiction.
	Test: After erection, all the new pipes cleaned or purged with the help of dry nitrogen gas. Complete system should be tested with dry nitrogen at 2 times of working pressure for 24 hours.
	Painting: All existing and proposed exposed pipes should be painted with two coats of Synthetic enamel paint & color codification as per international standards. All concealed pipes to have gas identification bands labels at appropriate distance. Similarly all pipes which need embedding in the wall should be tested / painted / labeled and properly insulated.
	Certification: To be certified that pipes are suitable for the particular service and complete cross connection (anti-confusion) test will be carried out.
	<u>Distribution piping system:</u>
	<u>MATERIAL (PIPE):</u>

	Solid drawn, seamless, deoxidized, non arsenical, half hard, tempered and degreased materials conforming to BS: EN 13348 Medical Grade Kite Marked Pipe with CE certification
	All copper pipes will be KITE MARKED for medical use before dispatch and the pipe will be delivered plugged or capped at both ends.
	Pipe sizes to be used as under:
	28mmOD X 1.00mm thk
	22mmOD X 1.00mm thk
	15mmOD X 1.00mm thk
	12mmOD X 1.00mm thk
	Fittings will be made of copper conforming to BS 864 and suitable for a steam of working pressure of 35 bar and especially made for brazed socket type connections.
E	MEDICAL AREA LINE PRESSURE ALARM: LCD Touch type
	Medical Gas Alarm –As per NFPA -99 std/HTM -2022/02-01 of UK (European CE / ULListed)
	3 services
	The Area Alarm should be LCD touch type. The panel should be microprocessor controlled and designed to comply with NFPA 99. The panel should be incorporate an individual minimum 2.50” LCD touch screen display for each gas service, which should allow all alarm programming and set up to be done without the use of tools. The panel should be 100% digital and should not require re-calibration. The unit should be enclosed in a steel box and should be designed to accept an electrical input range of 120-240 volts AC – 50-60 hertz. The source voltage should be stepped down with a self-contained transformer. The panel should contain audible and visual alarm indicators. The audible alarm should be silenced by pressing the alarm silence button, but the visual alarm indicator should only be cancelled by fault correction. The alarm should detect and filter out transient (less than 0.6 seconds) . The alarm should be capable of displaying alarm history for all possible alarm conditions. The alarm should be capable of monitoring and displaying up to 10 gases per alarm panel. Gas modules should be arranged in accordance with the customer’s requirements. A security pin code should be required and must be entered in order to access the programming software
	The Area Alarm Panel should digitally displays gas pressure (1 psi increments) and provide alarm conditions as required by the latest edition of NFPA 99 for up to 10 medical gases. The alarm should be ETL listed to UL 1069 and CSA C22.2 # 205 Signal equipment. Transducers should be included. DISS risers are included – transducers should be installed as per requirement.
	A green normal or red alarm condition for each gas service should confirm the condition for each individual gas service which should be easily readable from at least 10 feet. Emergency preparedness instructions - Alarm Panels should allow users to set up customized instructions for each alarm signal which appear when the signal is in alarm. Up to 4 area/gas boards in a two slot box, 8 in a three slot and 16 in a five slot panel.

	<p>Wireless (minimal low voltage wiring) models available</p> <ul style="list-style-type: none"> · Last event history (per gas board /signal point) · NFPA and ISO pre-loaded gas ‘labels’ · English, and English/French pre-loaded languages · Editable text and alarm ‘labels’ · Self-contained unit - Designed for ease of installation and Service · Self-diagnostic error message display for ease of maintenance · Audio and visual alarm indicators · Bright easy to read LCD displays – clearly visible in both day and night lighting conditions · Constant display and monitoring of each sensor input · User programmable high/low set points on transducer and 4 – 20 mA sensor input boards · Dry contacts provided on the CPU module for general fault condition covering entire panel · Hinged frame for easy accessibility · Color coded displays. Should be made in the U.S.A. <p>In addition, each Area Alarm Module should incorporate the following features:</p>
	In addition, each Area Alarm Module should incorporate the following features:
	<p>Does not require re-calibration.</p> <p>Gas specific sensor with DISS nut & nipple.</p> <p>An error message will be displayed if incorrect sensor or no sensor is attached.</p> <p>Should be capable of displaying gas readouts in PSI, kPa, BAR, inHg, or mmHg .</p> <p>Gas alarm repeat feature is factory set at 10 minutes, and is adjustable or may be turned off.</p>
	The alarm should be capable to be connected with the HIS system.
	Line pressure Alarm panel for Medical Gas Piping System should monitor the following indication:–
	3 gas service
	Oxygen Normal <i>f</i> High <i>f</i> Low
	N2O Normal <i>f</i> High <i>f</i> Low
	CO2 Normal <i>f</i> High <i>f</i> Low
F	MEDICAL AREA VALVE SERVICE UNIT (VALVE BOX WITH ISOLATION VALVE) AS PER BSEN 1057 STANDARDS AS PER ENCLOSED TECHNICAL SPECIFICATIONS As per NFPA-99 std / HTM - 2022/02-01 of UK

	ZONE VALVE BOX As per NFPA -99 std / HTM -2022/02-01 of UK
	Bidder must submitted third party CE certification f UL listed along with tender documents. Self-attested certificate not valid.
	(3 Gas)
	Adopter having opening by quarter turn of handle. The valve should be pneumatically tested as per BSEN 1057 for twice the working pressure and degreased for medical gas service before supply. Valve boxes should be equipped with components for shutting off and supervising individual fparts of central systems in hospital, laboratories and the like. They should be allowed the ward staff to allow isolating of the areas for maintenance and repair work. The pressure monitoring of the distribution system is done by pressure gauges. In case of emergency the door can be glass break opened or by un-locking using the key.
G	MEDICAL LINE VALVE, AS PER BS EN 1057 STANDRADS AS PER TECHNICAL SPECIFICATIONS As per NFPA -99 std / HTM -2022/02-01 of UK
	ISOLATING VALVE
	15mm OD
	22mm OD
	28mm OD
	All ball valves as per BS 1057 are rated at 400 psig, as well as full vacuum (29.9" Hg). Valves go from full ON to full OFF by turning the vinyl-gripped valve handle 90 0 Locking-type handles may be ordered separately when required. Copper tubing is factory installed to help prevent valve seat damage during soldering. Main and riser valves are not required to be installed in a box unless specially noted or required.
H	Bedhead panel for Low Equity Ward Areas, 1500mm length, with provision of Gas outlets & provided with electrical sockets & accessories complete as per enclosed tender technical specifications As per NFPA-99 std / HTM -2022/02-01 of UK.
	The system should provide a safe, efficient means of delivering services to patients staff in general ward application.
	The Bed Head Panel should meet the following criteria.
	Robust design in extruded aluminum sections
	Ability to house medical gas terminal units and Electrical Sockets.
	Ease of installation via separate wall mounting plates.
	The system should consist of a number of aluminum extrusions joined together to form a carcass to suit the particular application.
	Each Bed Head Panels will have three extruded section compartments
	. One for MGPS outlets with copper pipe
	. One for electrical receptacles 6, 6/16 Amps receptacles
	. One for low voltage like nurse call, data points & voice points
	Each Bed unit should have
	. Length of panel should be 1500mm.
	. 1 Nurse Call Button – Provision only

	· Gas Outlets as per list attached O2, Air-4 ,Vac (Provision only – Gas outlets calculated separately)
	· Provision for Electricals – 10 nos. (5f15 Amps switched socket)
	· Provision for Electricals – 10 nos. (5f15 Amps switched socket)
I	ICU - Rigid Pendant complete As per NFPA-99 std / HTM -2022/02-01 of UK
	<u>1. Critical Areas:</u>
	<u>Standards:</u> The Products will be UL Listed
	The Weight bearing capacity will be minimum 50 Kg.
	Scope of Medical Supply Unit Equipment
	The supply unit will meet the high standards for a safe and reliable operation in the ICU.
	The supply unit will have upgrading capability of new functions for adaptation to future requirements.
	All surfaces will be resistant against corrosion and disinfectants.
	Colour of painted surfaces: RAL 9002
	The functional units of the supply unit will be completely assembled and tested by the manufacturer.
	Ergonomic, optimized supply unit consisting of the following functional units:
	Ceiling fixture set for installation to concrete ceiling structure.
	Ceiling interface for connection of supply unit with electrics and gases delivered from site.
	Media columns of 800 mm with Provision for terminal units for medical gas supply/gas evacuation,(5nos), high- and low voltage power supply (10Nos)
	Workstation components such as shelves 2 nos (min), drawers (1 No), & one IV rod of 800mm for mounting Syringe pumps
	The above shelf could be adequate enough to mount 15" screen Multiport monitor of 15 Kg
	The below shelf could be adequate enough to mount ventilator
	The drawer will be equivalent to shelf size.
	Will have central rotation facility (Swivel range) at least 3300
	Complete unit including intermediate ceiling construction and installation.

BILL OF QUANTITIES (BOQ)

S. No	DESCRIPTION	Qty	UoM
	Gandhi Hospital, Secunderabad		
1	Ovum Aspiration Pumps at Gandhi Hospital	2	No
2	IVF Test tube Warmers at Gandhi Hospital	2	No
3	DICOM compatible fully digital, compact, portable, Ultrasound Scan Machine Colour Doppler at Gandhi Hospital	2	No
4	Multipurpose Electro hydraulic with manual override mobile OT Table, with divided leg section suitable for all Gynaecological surgical procedures, complete with 5cm Mattress and corded handset at Gandhi Hospital	1	No
5	LED procedure Lights Double dome at Gandhi Hospital	1	No
6	LED procedure Lights Single dome at Gandhi Hospital	1	No
7	IVF Workstation with LAF at Gandhi Hospital	1	No
8	IVF Ant vibration Table for procedure at Gandhi Hospital	1	No
9	CO2 Incubators at Gandhi Hospital	2	No
10	Trigas bench Top Incubators for Human Embryo culture at Gandhi Hospital	1	No
11	Trinocular Stereozoom Microscope at Gandhi Hospital	1	No
12	ICSI Micro manipulator with Inverted Microscope at Gandhi Hospital	1	No
13	IVF Laser System at Gandhi Hospital	1	No
14	IVF Thermometer at Gandhi Hospital	1	No
15	CO2 Cylinder and Manifold at Gandhi Hospital	2	No
16	CO2 and O2 Analyzer at Gandhi Hospital	1	No
17	PH Meter at Gandhi Hospital	1	No
18	VOC Meter for ART Lab at Gandhi Hospital	1	No
19	Sperm Counting Makler Chamber at Gandhi Hospital	1	No
20	Binocular Microscope for Semen Analysis at Gandhi Hospital	1	No
21	Laminar flow cabinet with Andrology Work station at Gandhi Hospital	1	No
22	Clinical Centrifuge machine for Andrology at Gandhi Hospital	1	No
23	Dry Incubators at Gandhi Hospital	1	No
24	Pipetter and Denudation system at Gandhi Hospital	1	No
25	Pharmaceutical Refrigerator at Gandhi Hospital	1	No
26	Cryocans with wheels at Gandhi Hospital	2	No
27	Defibrillator at Gandhi Hospital	1	No
28	7 Para Patient Monitor at Gandhi Hospital	2	No
29	Suction machine at Gandhi Hospital	1	No
30	Anaesthesia Work station at Gandhi Hospital	1	No
31	Autoclave at Gandhi Hospital	1	No
32	Operative Hysteroscopy and Resectoscope Set Machine at Gandhi Hospital	1	No
33	Operative Laparoscopy Set at Gandhi Hospital	1	No
34	Multifunctional Printer at Gandhi Hospital	1	No
35	Ultrasound Examination Couch at Gandhi Hospital	1	No

36	UPS 20KVA with battery backup at Gandhi Hospital	1	No
37	Laptop for Office usage at Gandhi Hospital	2	No
38	Reception Table at Gandhi Hospital	1	No
39	Reception chair at Gandhi Hospital	2	No
40	Filing Cabinet at Gandhi Hospital	2	No
41	Patient Seating 3 in 1 model at Gandhi Hospital	3	No
42	Consultant Chair at Gandhi Hospital	3	No
43	Patient Chair at Gandhi Hospital	6	No
44	Small Trolley at Gandhi Hospital	3	No
45	Big Trolley at Gandhi Hospital	3	No
46	Wall Storage Cabinets at Gandhi Hospital	8	No
47	Office Table at Gandhi Hospital	3	No
48	Consumables and Media for 100 Cycles at Gandhi Hospital	1	Lot
49	Dismantling, clearing away and carefully stacking useful materials for re-use and disposal of unserviceable materials with 100m lead as directed by Executive Engineer duly taking actual premeasurements before dismantling including all labour charges, etc., complete. Brick Masonry at Gandhi Hospital	110	Cum
50	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Not exceeding 3 sqm in area: Doors 1.00x2.60M at Gandhi Hospital	16	No
51	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Exceeding 3 sqm in area: Doors 1.50x2.60M at Gandhi Hospital	5	No
52	Conveyance of un-useful excavated earth to a distance of 21 KM for disposal including hire charges of T and P, labour charges etc., complete for finished item of work. Dismantled Brick masonry at Gandhi Hospital	110	Cum
53	Brick masonry for panel walls in superstructure with CM 1:8 prop: Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 200 mm including cost and conveyance of all materials like cement, screened sand, bricks, water etc., to site, including sales and other taxes on all materials and such as labour charges, like mixing cement mortar, scaffolding charges, constructing masonry, lift charges, curing, etc., complete for finished item of work. TSSS No.501 and 504. 5th Floor at Gandhi Hospital	12	Cum

54	Reinforced Masonry for partition walls 100 mm thick in CM 1:4 prop. Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 100 mm and placing 2Nos. of 6mm M.S plain rods in every third layer with free ends of the reinforcement pegged into mortar joints of main brick walls where applicable including cost and conveyance of all materials like cement, steel, sans, brick, water etc., to site, including sales and other taxes excluding GST on all materials, all operational, incidents charges, constructing masonry, lift charges, curing, complete for finished item of work. TSSS No. of 509.5th Floor at Gandhi Hospital	395	Sqm
55	Providing Mild steel MS steel bars Fe 250 grade as per IS 432 of different diameters including labour charges for straightening, cutting, bending to required sizes and shapes, placing in position with cover blocks of approved materials and size and tying and lap-splicing with binding wire of 18 SWG, forming grills for reinforcement work as per approved designs and drawings, including cost and conveyance of steel bars, including all wastages such as overlaps, couplings, chairs, spacer bars including cost and conveyance of binding wire, cover blocks and all incidental, operational, labour charges such as cutting, bending, placing in position, tying including sales and other taxes on all materials etc. , complete for finished item of work. TSSS No.126 For RBM walls 6mm dia: 5th Floor at Gandhi Hospital	2.15	MT
56	Plastering 20mm thick in two coats using screened sand with base coat of 16mm thick in CM1:6 and top coat of 4mm thick in CM1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., complete for finished item of work .SS 901,903and 904 5th Floor at Gandhi Hospital	45	Sqm
57	Plastering 12mm thick in two coats using screened sand with base coat of 8mm thick in CM 1:6 and top coat of 4mm thick in CM 1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., and complete for finished item of work. SS 901,903 and 904. 5th Floor at Gandhi Hospital	905	Sqm

58	Supply and Installing change room Cubicles, at Gandhi Hospital. GENERAL SPECIFICATIONS: Thickness of Compact Laminate: 12 mm Thick Colour of HPL Boards: In Single Colour, Size of Cubicle : As per DWG, Door Size for Normal Cubicle : As per DWG, Overall Height Of Cubicle : 2105 mm Including bottom gap of 100mm, Accessories: Manufacturers standard makes of Aluminium, SS Accessories. a Aluminium H Top Rail b SS Hinges c SS Privacy Thumb turn c/w Occupancy Indicator d SS Coat Hook e SS Door Knob f Aluminium U channel g Aluminium Door Stopper channel h Rubber Lining i SS Screws and PVC Wall Plugs	19.5	Sqm
59	Providing and laying screed plain cement concrete as per site condition for floor bedding using high quality aggregates including base preparation, compaction, levelling, all lead and lifts, rough finishing at the top surface, curing, shuttering if necessary etc., complete as directed . at Gandhi Hospital	25	Cum
60	Supply and fixing powder coated aluminium fully glazed swing door as per the approved drawing with fixed fan light of 500mm height at top door using aluminium sections of 101.60 mm x44.45mm , 3.18 mm thick for frame and door shutter made of styles , top and middle rail of 47.62mm x 44.45mm, 3.18 mm thick and bottom rail of 96.00mm x 44.45 mm,3.18mm thick, powder coating of aluminium sections 25mm microns thick, 5 mm thick plain glass fitted with suitable aluminium glazing clips and rubber beading in fan light portion, double shutters fitted with 5mm thick frosted glass in the top half and 12mm thick Prelaminated particle board One side choice colour and other side balancing white lamination in the bottom half fitted with suitable aluminium glazing clips and rubber beading, as approved by Engineer-in-Charge including supply and fixing ISI marked powder coated aluminium fixtures of 2 Nos. tower bolts 10mm bolt IS:204 300mm long, 4 Nos. aluminium handles IS:208 150mm dia and 1 Nos. aldrops IS:2681 250mm, 1 No. door closure, Al. Butt hinges 125mm long 6Nos including labour charges for manufacturing door , fixing the door with required No. of screws etc., complete for finished item of work. The Aluminium section used shall be standard make confirming to IS 1948-1961 and as approved by the Engineer 1200mmx2100mm at Gandhi Hospital	5	Sqm

61	Supplying and fixing of Unplasticised Poly Vinyl Chloride UPVC 3 track sliding windows with mesh shutter – 2-glass shutters and 1-mesh shutter duly manufactured using UPVC reinforced profiles Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin of 94mm x 45 mm/80 mm x 52 mm x 2.20 mm for outer frames, 58 mm x 39 mm/54 mm x 38 mm x 2.20mm for sliding shutter frames capable of mounting single glazing system structurally reinforced with hot dip galvanized up to 50 microns of minimum thickness of 1.0/1.2 mm prefabricated and welded through fusion welding. The window sash shall be fitted with 5 mm thick clear float glass of reputed make and mesh shutter frame shall be 42 mm x 25mm/52 mm x 21.5 mm x 2.0 mm fitted with Vinyl Coated Fiber mesh- on rollers/ pulley duly fixed with Grey colour TPV Gasket for sash and Glazing bead shall be co-extruded with Grey colour soft PVC. System shall have single point locking with Touch Lock and the system is to be installed at the site using anchor fasteners, silicon rubber sealant, easy glazing/deglazing at site etc., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site includingetc., complete for finished item of work. at Gandhi Hospital	15	Sqm
62	Providing, supplying and fixing of Fixed Louvered Ventilator made out of multi chambered uPVC sections with Glazing bead shall be co-extruded with Grey colour soft PVC. having isolated drainage and reinforced with Galvanized Iron profiles throughout the window. The outer frame having an overall size of 60 mm x 55 mm x 2.40 with reinforcement of 1 mm thickness and Mullion with overall size of 74 mm x 60 mm x 2.40 mm with reinforcement of 1 mm thickness. Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin. Ventilator shall be provided with 4.5 mm Pin Head glass, standard hardware. Wall thickness of frame and Mullion shall be 2.4 mm., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site etc., complete for finished item of work hinges IS:205 150mm long, 1 No. aldrop IS:2681 300mm long, 1 No. tower bolt IS:204 of 200 mm x 10 mm dia at top, 2 Nos. 150 mm at Gandhi Hospital	5	Sqm
63	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65 mm and ISI marked flush door shutters of 30 mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of teak wood frame, flush shutter including supply and fixing 6 Nos. MS Z hold fasts of size 300 mm x 40 mm x 5mm including cost of ISI marked Aluminium fixtures of 3 Nos. butt long handles IS:208, 1 No. door stopper and 1 No. rubber bush including fixing the fixtures to door with required number of screws, bolt and nuts including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002 The vertical frame of door shall be embedded in flooring for a depth of not less than 10 mm 1000mm x 2100mm at Gandhi Hospital	30	Sqm

64	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65mm and ISI marked flush door shutter of 30mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of medium teak wood door frame, flush shutter, including supply and fixing 6 Nos. MS Z hold fasts of size 300mm x 40mm x 5mm including ISI marked Aluminium fixtures 3 Nos. butt hinges IS:205 of 150mm long, 1 No. aldop IS:2681 250 mm long, 1 No. tower bolt IS:204 of 150 mm x 10mm dia, 2 Nos. 125mm long handles IS:208,1 No. rubber bush including supplying and fixing 1.20mm thick PVC sheet to full height of the shutter inside including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002. The vertical frame of door shall be embedded in flooring for depth of not less than 10mm 750mm x 2100mm. at Gandhi Hospital	12	Sqm
65	Flooring with soluble salt porcelain vitrified tiles screen printed and polished of size 600 x 600 mm and thickness between 8 to 10mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630 Parts 1 to 15 of any colour and finish in all shades and designs with borders and design as per the approved flooring pattern as directed by the Engineer-In -Charge, laying tiles using spacers of 2mm thick, set over a base coat of CM 1:8 prop. 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 kgs per Sqm. and jointed neatly with white cement paste to full depth mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, tiles, white cement etc., to site excluding cost of C.C. bed including cost of base coat and all labour charges for mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in- charge etc., and complete for finished item of work. TSSS No.701 and 707. 5th Floor at Gandhi Hospital	225	Sqm
66	Flooring with non-skid full body ceramic floor tiles of size 300mm x 300mm and thickness between 7 - 8mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630 Part 1 to 15 of any colour and finish in all shades and designs as approved by Engineer-in-charge, set over base coat of cement mortar 1:8, 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 Kgs per Sqm and jointed neatly with white cement paste to full depth mixed with pigment of matching shade, including cost of all materials like cement, screened sand , water and tiles etc., complete for finished item of work. TSSS No.701 and 707 at Gandhi Hospital	15	Sqm

67	Providing and fixing in true horizontal level 14 mm - Mineral Fiber sheet 595 x 595 Square / Tegular Fissura fine model edge tiles with a Humidity Resistance of 90percentage RH, Average NRC 0.50, Light Reflectance greater than80percentage, Thermal Conductivity equal to 0.052 to 0.057 w/mk, Fire Performance Class 0/Class 1 using hot dipped Galvanized Steel section exposed surface with pre-coated capping, main Tee of size 24 x 32 mm at every 1200 mm c/c maximum and rotary stitched cross tee of size 24 x 27 mm at every 600 mm c/c and sub-cross tee of size 24 mm x 25 mm at 1200 mm c/c and wall angle of size 19 x 19 mm fixed to periphery of the wall and the above grid is suspended at every 1200 mm c/c in both directions using 2.0 mm thick pre-straightened GI Wire including cost and conveyance of all materials and labour charges such as cutting , fixing of standing of frame work exposing roof making etc., complete for finished item of work in 5th floor. at Gandhi Hospital	375	Sqm
68	Providing dadoing to walls with glazed full body porcelain wall tiles of size 300 x 600 mm with any type of design texture such as marble finish, wooden, bamboo, stone finishes etc., scratch less, stain free and thickness between 6-8 mm 1st quality conforming to IS:13711, IS:13712, IS:13630 Parts 1 to 15 of any colour and finish in all shades and designs with borders as approved by Engineer-in-Charge set over base coat of CM1:5 12 mm thick using screened sand with cement slurry of honey like consistency spread at the rate of 3.30 kgs per sqm and jointing with white cement paste mixed with pigment of matching shade to full depth, including cost of all materials like tiles, cement, sand and water etc., complete for finished item of work. 5th Floor at Gandhi Hospital	40	Sqm
69	Providing and applying Wall putty of White Cement or Polymer or Cement based of average 1 to 2 mm thickness over plastered surface to prepare the surface even and smooth after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, applying emery paper, Sand the surface, clean and wipe off loose dust, applying knifing paste filler by putty knife / muslin pad, air dry for 2 - 3 hrs, sand with 180 and 320 No., emery paper for the surface preparation including cost and conveyance of all materials to work site and all operational, incidental, labour charges, over heads and etc., complete for finished item of work in 5th floor Internal walls. at Gandhi Hospital	1050	Sqm
70	Painting to new wood work and flush shutters with lappam finish, over a primary coat and painting two coats of synthetic enamel paint Grade-II VOC Volatile Organic Compound content less than 50 grams/litre of approved shade including cost and conveyance of all materials to site cost of primer coat and all labour charges etc. complete including applying sand paper on lappam coats for neat finish including sales and other taxes on cost of all materials etc., complete in all floors APSS No.1200, 1207 and 1211. at Gandhi Hospital	80	Sqm

71	Supply and application of one coat water based cement primer of interior grade I and two coats of water based PU paint having anti-bacterial applications content less than 50 grams/litre for internal walls including cost and conveyance of all materials to site, sales and other taxes, incidental, operational and all labour charges etc., and complete for finished item of work in 5th floor. at Gandhi Hospital	1050	Sqm
72	Painting to old walls with 2 coats of water proof cement paint of shade as approved by the Engineer-In-Charge to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, scaffolding charges, incidental, labour charges etc., and overheads and contractors profit complete for finished item of work as per SS 912 in 5th floor. at Gandhi Hospital	150	Sqm
73	Supplying and fixing 15 mm brass body CP finish bib tap of not less than 300 grams weight screw type full turn with internal/external threaded connection conforming to IS 8931 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges, overheads and contractors profit complete for finished item of work in all floors. at Gandhi Hospital	5	No
74	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing, complete for finished item of work at all floor levels. 15.90mm OD pipe at Gandhi Hospital	75	Rmt
75	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing, complete for finished item of work at all floor levels. 22.20mm OD pipe at Gandhi Hospital	75	Rmt
76	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/ Kisan /Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326 - 75mm dia at Gandhi Hospital	90	Rmt
77	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/Kisan /Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326- 110mm dia at Gandhi Hospital	75	Rmt

78	Supplying and fixing Bronze Gate/ Globe valve as per IS - 778 Class - I, Indian make heavy type including cost and conveyance of all materials , labour charges , overheads and contractors profit complete for finished item of work. 25mm Nominal bore at Gandhi Hospital	5	No
79	Supplying and fixing of 4inches 101.6mm multi floor trap with jali - UPVC/SWR pipe fittings as per site requirements with standard practice for all floors including cost and conveyance of all materials to site, labour charges ,etc., complete for finished item of work. at Gandhi Hospital	10	No
80	Supplying and fixing Indian make Flat Back Wash Hand Basin 1st quality conforming to IS:2556-Part-4:1972 of size 550mm x 400mm with 32 mm nominal size C.P. Fitting with parallel pipe thread conforming to IS:2963-1979 and fitted with 15 mm nominal bore Chromium Plated Pillar Tap of 1st quality Indian make heavy duty complete with standard CI brackets including wooden blocks ,1 No.12.70mm PVC connection with brass union nuts CP coated , angle stop cock 12.70mm dia. first quality Indian make heavy duty, 30mm dia. PVC flexible waste pipe 914.4mm length of 1st quality including cost and conveyance of all materials to site, labour charges , for finished item of work at Gandhi Hospital	5	No
81	Supply, Installation and commissioning approved make floor mounted Anglo Indian wash down EWC conforming to IS:2556 Part 8-2004 suit with P or S trap with dual flush porcelain cistern fixed on wash down EWC with all internal parts of dual flush cistern, ultra solid seat cover of approved make with rubber buffer and cap and 15 mm angle stop cock and 450 mm long PVC inter connection pipe wall flanges all of approved make etc. complete for finished item of work in all respects: TBSP-E.II-03 at Gandhi Hospital	5	No
82	Supplying and fixing Chromium plated finish brass body quarter turn Bibcock cum Health Faucet with 1m long tube and wall hook with necessary fittings etc., complete including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at Gandhi Hospital	5	No
83	Supplying and fixing CP finish brass soap dish of approved make ISI quality including cost and conveyance of all materials, labour charges for fixing, for finished item of work in all floors at Gandhi Hospital	5	No
84	Supplying and fixing TV shape mirror with plastic frame of size 609.6mm x 457.2mm, plywood back with NP screws 1st quality including cost and conveyance of all materials, labour charges, for finished item of work in all floors. at Gandhi Hospital	5	No
85	Supplying and fixing of CP finish brass wall mounted towel ring at Gandhi Hospital	5	No
86	Supplying and fixing 15 mm brass body CP finish self closing tap push type conforming to IS 1711 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at Gandhi Hospital	5	No

87	Supply and installation of 80mm thick double skin modular wall Panels made of 0.8 mm thick powder coated GI on both the sides, with 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, flush on both sides with maximum allowable gap of 3- 4mm filled with food grade silicon sealant and placed on cold rolled galvanised bottom tracks with a recess to provide floor to wall coving flush with the wall panel. This includes all required hardware for completion Panels to be covered with a protective film to avoid any damages during transportation and installation at Gandhi Hospital	125	sqm
88	Supply and installation of 50mm thick double skin ceiling system made of 0.8 mm thick Powder Coated GI sheets on both sides, 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, panels flush towards room side with maximum allowable gap of 3-4mm at panel to panel joints filled with silicon sealant. Ceiling panels are suspended from the RCC slab by using concealed AL ceiling grid with tie rod and adjustable turn buckle arrangement etc. This includes all required hardware for completion. Panels to be covered with a protective film to avoid any damages during transportation and installation at Gandhi Hospital	65	sqm
89	Double leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 1500 X 2100 mm with 300mm X 300mm double glazed view panels at Gandhi Hospital	5	No
90	Single leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 900 X 2100 mm with 300 mm x 300 mm View panel at Gandhi Hospital	1	No

91	Emergency Fire Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 1500 X 2100 mm with 2 hours fire rated and panic push bar and accessories etc. at Gandhi Hospital	1	No
92	Supply and installation of Extruded Aluminium Coving at Gandhi Hospital	120	Rmt
93	Providing, laying of scratch proof PVC/Vinyl flooring of 2mm thickness with proper welded joints air tight, along with leveling compound to match the existing flooring levels as per engineer in charge instructions. Sub floor preparation with self leveling compound. After the sub floor preparation, it should be suitable for ESD flooring. Rate inclusive of sifting of material and labour charges. at Gandhi Hospital	155	Sqm
94	Supply, installation, testing and commissioning of 16 G GI powder coated suitable single person entry air shower as per Technical Specifications at Gandhi Hospital	1	No
95	Supply, installation, Testing and Commissioning of Static Pass Boxes of Size 450X450mm with 1.2mm thick SS 304 Mat finish , with interlock doors, UV light On when doors closed condition. As per clean room standard and requirement. at Gandhi Hospital	3	No
96	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe concealed in wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at Gandhi Hospital	200	Rmt
97	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe surface on wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at Gandhi Hospital	500	Rmt
98	Wiring with 2 runs of 22/0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable ISI MARK in existing pipe with 6A Modular switch, Ceiling rose/BH/SBH Modular switches with cover plate and GI switch box including all labour charges etc., complete. for Non- Residential Building Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at Gandhi Hospital	110	Pts
99	Supply and fixing of 6A ISI Mark 3/2 pin Modular socket with 6A 1way Modular switch, 3 Module box with cover frame and GI switch box on common switch board with connections etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at Gandhi Hospital	12	No

100	Supply and fixing of 16A switches - 1Nos and 6/16A 2 in one socket - 1Nos Modular type with cover plate and GI switch box fixing on separate board including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at Gandhi Hospital	40	No
101	Supply and fixing of 16A/6A, 2 in one socket - 2 Nos with 16A switch control - 2 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at Gandhi Hospital	60	No
102	Supply and fixing of 16A/6A, 2 in one socket - 4 Nos with 16A switch control - 4 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at Gandhi Hospital	10	No
103	Supply and run of 1 of 22 /0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable in existing conduit pipe for earth continuity including all labour charges etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at Gandhi Hospital	350	Rmt
104	Supply and run of 3 of 2.5 sq.mm 36/0.mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe for individual lighting circuits including labour charges etc., complete as required for switch boards. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at Gandhi Hospital	600	Rmt
105	Supply and 3 runs of 4.0 sq mm 56/0.3 mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe including labour charges etc., complete for 16A sockets. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at Gandhi Hospital	1200	Rmt
106	Supply and run of 5 of 6.0 Sqmm 90/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for LDBs Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at Gandhi Hospital	60	Rmt
107	Supply and run of 5 of 10.0 Sqmm 140/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for PDBs Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at Gandhi Hospital	40	Rmt
108	Supply and fixing of DP Metal Enclosure with IP 20 Protection DB Make with 1 No 20A, 10 KA DP MCB Make: Legrand / Schneider including internal connection and labour charges for Flush Mounting etc., complete. Makes: Legrand / Schneider. at Gandhi Hospital	5	No

109	Supply and fixing of 4 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 40A FP 30mA RCCB as incomer and 12 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs at Gandhi Hospital	3	No
110	Supply and fixing of 8 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 63A FP 100mA RCCB as incomer and 24 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs At Gandhi Hospital	2	No
111	Supply and fixing of 8 Way VTPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 100A FP 10KA MCB as incomer and 4 Nos 63 A 10kA TP MCBs, 4 Nos 40 A 10kA TP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For UPS MDB DBs At Gandhi Hospital	1	No
112	Providing and fixing of 125A 25KA TPN Thermal Magnetic Release Based MCCB and Terminal Spreaders in Existing panel board with 1 No. and 1 Set of Indication Lamps, LED type, R,Y,B and breaker ON , OFF, TRIP and spring charged lamps. and replace with above Mentioned with required Drilling Holes, removing and Making Busbar connections etc, as required. Makes: Legrand / Schneider/ABB/LandT/CandS At Gandhi Hospital	1	No
113	Providing and fixing of 100A 10KA FP MCB and Terminal Spreaders in IP 43 isolator Box Making connections etc, as required. Makes: Legrand / Schneider/ABB/LandT/CandS At Gandhi Hospital	2	No
114	Supply, transportation and fixing of 24W edge lit LED Down light Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser Square with Protruded high efficiency diffuser, IP20, with wide operating voltage range, Power factor greater than 0.9, Surge protection: greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than 80, and THD is less than 15percentage etc., with BIS Certification. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells At Gandhi Hospital	50	No
115	Supply and Transportation 36W Edge lit, 2 feet x 2 feet 600mm x 600mm slim panel LED luminaire Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15percentage etc., complete. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells At Gandhi Hospital	30	No

116	Supply and Transportation 42W Clean room Light fixture, 2 feet x2 feet 600mm x600mm LED luminaire CRCA powder coated white after phosphocreatine treatment provided as standard. with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15 percentage etc., complete. MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells At Gandhi Hospital	12	No
117	Supply and fixing of ISI mark batten holder / slanting holder Makes : Anchor / Gold Medal Olive / Million Zoom in lieu of ceiling rose of light point complete with all connections and all labour charges with 5.0W LED Lamp MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells At Gandhi Hospital	5	No
118	Supply, Transportation of energy efficient fan, 1200 mm sweep, aluminium body, consuming 28 W, BEE 5 star rated, ceiling fan with Brush Less Direct Current BLDC motor, class of insulation: B, 3 nos blades, 30 cm long down rod, 2 nos canopies, shackle 'kit, safety rope, copper winding, Power Factor greater than 0.90, Service Value CMMAV greater than 8.5, Air delivery minimum 235 CMM, 350 RPM tolerance as per IS:374-2019, THD less than 10 percentage. with remote or compatible to electronic step type regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise equal to 75 degree Cmax, insulation resistance more than 2 mega ohm, suitable for 230V, 50 HZ, single phase AC supply, earthing etc., including all standard accessories etc., complete. Makes : Atomberg Efficio / Havells / Orient At Gandhi Hospital	12	No
119	Supply and fixing of Modular type Stepped electronic regulator Makes : GM Four-Five / Legrand Arteor / Schneider Zen celo / Honeywell Blenge Plus/ Cabtree Verna/ Million logus / Gold Medal Curve for sweep AC ceiling fans of 1200mm / 1400mm complete with connections. At Gandhi Hospital	12	No
120	Supply and installation of 225mm Light duty exhaust fan with metal blades etc complete Makes: Crompton / Havells Ventilair-DB/ Orient hill air. At Gandhi Hospital	5	No
121	SITC of Hot dip galvanized perforated cable tray of 100 mm Wide sizes for to run the cable from DBs to SBs and sockets and AC panel to Units units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. At Gandhi Hospital	70	Rmt
122	SITC of Hot dip galvanized perforated cable tray of 300 mm Wide sizes for to run the cable from Floor Panel to Lab Panel and electrical room to AC panel and AC panel to Units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. At Gandhi Hospital	80	Rmt

123	Supply and installation of 20KVA 3ph in and 3ph out on line UPS system IGBT based rectifier with input power factor correction 32 bit microprocessor based with isolation transformers double conversion, SNMP controls, LCD display, Pure sine wave output, with auto static switch three phase input / Three phase output and modular structure for better thermal technology / cooling facility, with warranty up to three years.Makes: APC / Numeric / Emerson / Fuji Electric At Gandhi Hospital	1	No
124	Supply and fixing of 12V 65 AH SMF battery including wire leads. Makes: Quanta / Racket / Exide. At Gandhi Hospital	20	No
125	Supply and providing of UPS cum battery rack for 20 batteries At Gandhi Hospital	1	No
126	Providing and Fixing maintenance free earthing which consists of G.I. Earth station, with 600X600X3.15mm GI Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. At Gandhi Hospital	2	No
127	Providing and Fixing maintenance free earthing which consists of copper. Earth station, with 600X600X3.15mm Copper Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. At Gandhi Hospital	2	No
128	Supply and installation of 50x6 GI flat for body earthing of electrical panel and AC Panel which is laid in 300mm cable tray At Gandhi Hospital	200	Rmt
129	Supply and installation of 25x3 GI flat for body earthing of DBs and Cable tray which is laid in 100mm cable tray At Gandhi Hospital	100	Rmt
130	Supply and installation of 25x3 Copper flat for Neutral earthing of UPS and Equipment which is laid in 100mm cable tray At Gandhi Hospital	200	Rmt
131	Supply and installation of 4 sqmm Copper wire for Earthing of DBs Equipment At Gandhi Hospital	80	Rmt
132	Supply, Laying and testing of 3.5Cx95 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commnet/Dowell's At Gandhi Hospital	120	Rmt

133	Supply, Laying and testing of 3.5CX50 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commet/Dowell's At Gandhi Hospital	70	Rmt
134	Supply, Laying and testing of 4Cx16 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commet/Dowell's At Gandhi Hospital	100	Rmt
135	Supply, Laying and testing of 4Cx6 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commet/Dowell's At Gandhi Hospital	120	Rmt
136	Supply, Laying and testing of 4Cx4 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc. Make of Cable: Polycab/ KEI/Universal/ Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at Gandhi Hospital	80	Rmt

137	SITC of IVF Center Main Panel Indoor IP-42 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with /without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective IVF equipment's. Which is including Lighting, power DBs and UPS at Gandhi Hospital	1	No
138	SITC of IVF center AC Panel outdoor IP-54 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with / without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective AC equipment's. Which is including 1nos AHU's stater with VFD by pass, Heater, ODU and VRF system At Gandhi Hospital	1	No
139	Supply and installation of AHUs stater on/off push button station for Remote control for inside IVF center with control wiring from AC panel to on /off push button station with necessary items. at Gandhi Hospital	3	No
140	Supply, installation, testing and commissioning of 20nos LAN points with cat 6 cable and with suitable network rack and 5nos of telephone points with krone box to existing EPABEX. at Gandhi Hospital	1	Job
141	Supply, installation, testing and commissioning of 1 no of Access control system with egress switch, Power Cable, communication cable to control panel with necessary required items Etc. at Gandhi Hospital	1	Job
142	Supply, installation, testing and commissioning of Automatic Fire Alarm System which is including 30 nos of smoke Detectors 1nos manual call point, 1 no of Hooter with fire alarm cable connected to the existing fire control panel with necessary Required items etc.. at Gandhi Hospital	1	Job
143	Supply, installation, testing and commissioning of 5nos IP Based CCTV cameras and Cat 6 Cable with NVR system. at Gandhi Hospital	1	Job
144	Supply, installation, testing and commissioning of Audio and video recording of counseling rooms at Gandhi Hospital	1	Job

145	Supply and installation of Fire Extinguishers of CO2 4.50 Kg at Gandhi Hospital	5	No
146	Supply and installation of ceiling mounted Fire Extinguishers of ABC MAP 90, 5.0 Kg stored pressure type at Gandhi Hospital	5	No
147	Supply and installation of 2.0 Kg clean agent HCFC 123 Fire Extinguishers at Gandhi Hospital	5	No
148	Supply and fixing of Fire escape signage Boards at Gandhi Hospital	1	Job
149	Supply, transportation and installation of split AC unit 1.5 TR inverter type 3 Star capable of delivering 18000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes : Daikin / Thoshiba / O General at Gandhi Hospital	1	No
150	Supply, transportation and installation of split AC unit 1.0 TR inverter type minimum 3 Star capable of delivering 12000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes: Daikin / Thoshiba / O General at Gandhi Hospital	1	No
151	Modular Double skin floor mounted EUROVENT Certified Air Handling Unit 3000CFM / 8.5 TR / 150mm SP made out of 45 plus or minus 2mm thick PUF insulated panels Thermal break aluminium profile frame work with 0.8mm thick pre painted / powder coated inner and outer skins comprising of mixing box with fresh air and return air dampers, pre filters with 10 and 5 microns combination filters in single frame, Interlaced/Intertwined DX Cooling Coil suitable for connecting 2 nos of 8.5TR capacity 1W plus 1S out door condensing units, SS304 drain pan with , blower section with Nicotra / Kruger make direct drive/ Plug type fan, vibration isolators, EFF1 motor and blower section with on/off switches to operate from outside, limit switch for the fan section access door with a view port, fine filter section with 3 microns filters inspection doors for all filter and fan sections and damper at the outlet of unit. Ports for differential pressure gauges across all filters and blower to measure differential pressure. AHU Make : VTS / Systemair, Make - Blower - Nicotra / Kruger ; Motor - Crompton Greaves / Siemens ; Filter - Thermodyne / Freudenberg / Ultrafil at Gandhi Hospital	1	No
152	SITC of filter module made out of heavy duty Aluminium powder coated extrusion with minimum of 13G . and to house 610 mm X 610 mm HEPA Filter at the rate 0.3 microns , 99.9997, H-14 Grade, Filter loading from clean room side with bewel gear arrangement damper with access from clean room suitable to house the following filter sizes pressure drop and Integrity testing ports into room. Includes SS capsule perforated diffuser. This includes all required supports and accessories etc. Capacity 1000 CFM. at Gandhi Hospital	6	No

153	SITC of air cooled condensing units with two scroll compressors, air cooled condenser, power panel, vibration isolating pads, stand for ODU, thermostat, etc. of the following capacities. The nominal capacity of the condensing unit shall be as under. Air cooled condensing unit shall have horizontal discharge. All refrigerant piping accessories sight glass, drier, expansion valve, etc. shall be supplied with the condensing units and suitable to connect above AHUs. Refrigerant shall be R 407C / R 410A. Necessary thermostat, control wiring, etc. shall be included. Derating of the unit shall not be more than 15percentage under 45 deg. C ambient temperature. Condensing unit shall be capable of operating up 50 deg. C ambient temperature. 8.5 TR capacity At Gandhi Hospital	1	No
154	SITC of Flange type, Flame proof FLP duct heaters of 5 kW capacity with Mineral Filled AISI SS304/SS321 Sheathed Tubular Heater with GI Helical fins, Tube dia 8.2mm min and Helical Finn dia 25mm min, enclosed in the frame, FLP Terminal box etc., Nickel Chromium Inner Element, Silicon Sealing to Restrict Moisture pickup, Silver brazed mounting plate etc., and heaters shall be controlled with PID thyrestor controller based on the analog output signal of 0-10 V DC of controller . And this should have saftey thermostat and cutouts and air stat etc. all safety controls. The capacities as follows and sizes of the heaters shall be as per the duct sizes and approved drawing. at Gandhi Hospital	1	No
155	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Liquid Line at Gandhi Hospital	20	Rmt
156	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Suction Line at Gandhi Hospital	20	Rmt
157	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 32mm Dia at Gandhi Hospital	50	Rmt
158	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 25mm Dia at Gandhi Hospital	50	Rmt

159	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulating the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 20G - 1.0 mm Thick at Gandhi Hospital	30	Sqm
160	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulating the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 22G - 0.8 mm Thick at Gandhi Hospital	250	Sqm
161	Aluminium low leakage aerofoil design volume control dampers Suitable for manual and motorised operation At Gandhi Hospital	2	Sqm
162	CBRI approved 16G GI Spring return actuated fire dampers rated for 90 minutes with limit switch. At Gandhi Hospital	2	Sqm
163	SITC of SS perforated return raiser grilles with 10 microns filters with collar dampers At Gandhi Hospital	2	Sqm
164	Extruded Al. powder coated EXHAUST / RETURN discrete grilles At Gandhi Hospital	1	Sqm
165	SITC of Collar Dampers made of Al. extrusions with black powder coating for Grilles / Diffusers At Gandhi Hospital	1	Sqm
166	SITC of Magnehelic gauges across pre and fine filter at AHUs including mounting arrangement, SS nozzles, food grade PVC tubing, etc. At Gandhi Hospital	2	No
167	SITC of Magnehelic gauges to measure the room differential pressures in operation theatres with SS mounting box, SS nozzles, food grade PVC tubing, etc. At Gandhi Hospital	2	No
168	SITC of Aluminium powder coated Fresh air and Exhaust Louvers of non-vision type with nylon mosquito net etc. At Gandhi Hospital	1	Sqm
169	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 32mm Thick for Exposed Supply Air duct and finished with UV Protective Paint. at Gandhi Hospital	130	Sqm
170	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Exposed Return Air Duct and finished with UV Protective Paint. at Gandhi Hospital	130	Sqm
171	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Supply air duct running inside the building. at Gandhi Hospital	40	Sqm
172	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 19mm Thick for Return air running inside the building. at Gandhi Hospital	40	Sqm

173	Condensing units - VRF/VRV System : Supply, Installation, Nitrogen testing , Vacuuming and Commissioning of air cooled variable refrigerant flow modular type condensing units, each comprising of multiple scroll compressors all inverter driven, full charge of refrigerant gas R-410a including additional gas filling , lubricating oil and all accessories as per the specifications. The condensing units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B . The COP of the system shall be greater than 4 under ARI conditions for 100percentage load . The condensing units shall be suitable for operation on 415 plus or minus 10percentage volts, 50Hz, 3 phase AC power supply and , outdoor units to be mounted on MS platform with suitable Vibration Isolation pads to avoid vibrations. All the supports and angle base frame structure to be duly black painted with synthetic epoxy paint. the condensing units shall be of following capacities: The VRF ODU should be capable of working with total capacity of connected indoor units ranging between 100percentage to 140percentage of ODU capacity . COP minimum 3.5. Make : Daikin / LG / O General / Toshiba. 16 HP At Gandhi Hospital	1	Set
174	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 0.8 TR At Gandhi Hospital	2	No
175	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.0 TR At Gandhi Hospital	4	No
176	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.5 TR At Gandhi Hospital	4	No

177	Cassette Units : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 3.0 TR – 4 way At Gandhi Hospital	1	No
178	Supply, Installation, Testing and Commissioning of Hard copper REFRIGERANT PIPING of 16swg various sizes with necessary supports, fittings, interconnecting the liquid and suction lines between the aircooled outdoor units and the indoor units. The piping shall be carried out of Hard drawn copper pipes of type K with soldered / brazed socket fittings. Isolating valves shall be provided to isolate each compressor, strainers, sight glass and any other component requiring proper operation and maintenance. Both the suction and liquid lines shall be insulated with 19mm thick closed cell insulation for above 25mm dia , 13mm thick for pipes below 25mm dia . The insulation finished with treated woven glass fiber reinforced covering for inside Piping and including making required holes in the wall and re finishing and water tight of holes after laying holes as per the specifications and approved drawings. At Gandhi Hospital	1	Lot
179	Supply, Installation , Testing and Commissioning of Refnet joints to be provided in refrigerant pipe line. Material of construction for fittings shall be similar to refrigerant piping. At Gandhi Hospital	10	Set
180	Supply and Installation of control cum transmission wiring of size 3C x 1.5 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories as At Gandhi Hospital	150	Rmt
181	Supply and Installation of cabling of size 2C x 1 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories as per the approved routing. At Gandhi Hospital	100	Rmt
182	SITC of Oxygen Manifold Emergency for 1 plus 1 Cylinders, as per technical specifications. At Gandhi Hospital	1	Set
183	SITC of Oxygen Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported At Gandhi Hospital	4	each
184	SITC of Oxygen Flow meter with Humidifier, CE Certified with four digit number as per enclosed technical specifications - Imported At Gandhi Hospital	4	each
185	SITC of Nitrous Oxide Manifold Emergency for 1 Cylinder, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications At Gandhi Hospital	1	Set
186	SITC of N2O Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported At Gandhi Hospital	4	each
187	SITC of CO2 Manifold for 2 Cylinders, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications At Gandhi Hospital	1	Set

188	SITC of C02 Outlets with matching probes, as per HTM-2022102-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported At Gandhi Hospital	4	each
189	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 12mm COPPER PIPE at Gandhi Hospital	24	Rmt
190	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 15mm COPPER PIPE at Gandhi Hospital	114	Rmt
191	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 22mm COPPER PIPE at Gandhi Hospital	36	Rmt
192	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 28mm COPPER PIPE at Gandhi Hospital	18	Rmt
193	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for 3 gases at Gandhi Hospital	1	each
194	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for Master Main Alarm including all Gases at Gandhi Hospital	1	each
195	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 15mm OD at Gandhi Hospital	3	each
196	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm OD at Gandhi Hospital	3	each
197	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm OD at Gandhi Hospital	4	each
198	SITC of Bed Head Panel - as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications at Gandhi Hospital	2	each
	MGMH Petlaburj Hospital		
199	Ovum Aspiration Pumps at Petlaburj Hospital	2	No
200	IVF Test tube Warmers at Petlaburj Hospital	2	No
201	DICOM compatible fully digital, compact, portable, Ultrasound Scan Machine Colour Doppler at Petlaburj Hospital	2	No
202	Multipurpose Electro hydraulic with manual override mobile OT Table, with divided leg section suitable for all Gynaecological surgical procedures, complete with 5cm Mattress and corded handset at Petlaburj Hospital	1	No
203	LED procedure Lights Double dome at Petlaburj Hospital	1	No
204	LED procedure Lights Single dome at Petlaburj Hospital	1	No
205	IVF Workstation with LAF at Petlaburj Hospital	1	No
206	IVF Ant vibration Table for procedure at Petlaburj Hospital	1	No
207	CO2 Incubators at Petlaburj Hospital	2	No
208	Trigas bench Top Incubators for Human Embryo culture at Petlaburj Hospital	1	No
209	Trinocular Stereozoom Microscope at Petlaburj Hospital	1	No
210	ICSI Micro manipulator with Inverted Microscope at Petlaburj Hospital	1	No
211	IVF Laser System at Petlaburj Hospital	1	No

212	IVF Thermometer at Petlaburj Hospital	1	No
213	CO2 Cylinder and Manifold at Petlaburj Hospital	2	No
214	CO2 and O2 Analyzer at Petlaburj Hospital	1	No
215	PH Meter at Petlaburj Hospital	1	No
216	VOC Meter for ART Lab at Petlaburj Hospital	1	No
217	Sperm Counting Makler Chamber at Petlaburj Hospital	1	No
218	Binocular Microscope for Semen Analysis at Petlaburj Hospital	1	No
219	Laminar flow cabinet with Andrology Work station at Petlaburj Hospital	1	No
220	Clinical Centrifuge machine for Andrology at Petlaburj Hospital	1	No
221	Dry Incubators at Petlaburj Hospital	1	No
222	Pipetter and Denudation system at Petlaburj Hospital	1	No
223	Pharmaceutical Refrigerator at Petlaburj Hospital	1	No
224	Cryocans with wheels at Petlaburj Hospital	2	No
225	Defibrillator at Petlaburj Hospital	1	No
226	7 Para Patient Monitor at Petlaburj Hospital	2	No
227	Suction machine at Petlaburj Hospital	1	No
228	Anaesthesia Work station at Petlaburj Hospital	1	No
229	Autoclave at Petlaburj Hospital	1	No
230	Operative Hysteroscopy and Resectoscope Set Machine at Petlaburj Hospital	1	No
231	Operative Laparoscopy Set at Petlaburj Hospital	1	No
232	Multifunctional Printer at Petlaburj Hospital	1	No
233	Ultrasound Examination Couch at Petlaburj Hospital	1	No
234	UPS 20KVA with battery backup at Petlaburj Hospital	1	No
235	Laptop for Office usage at Petlaburj Hospital	2	No
236	Reception Table at Petlaburj Hospital	1	No
237	Reception chair at Petlaburj Hospital	2	No
238	Filing Cabinet at Petlaburj Hospital	2	No
239	Patient Seating 3 in 1 model at Petlaburj Hospital	3	No
240	Consultant Chair at Petlaburj Hospital	3	No
241	Patient Chair at Petlaburj Hospital	6	No
242	Small Trolley at Petlaburj Hospital	3	No
243	Big Trolley at Petlaburj Hospital	3	No
244	Wall Storage Cabinets at Petlaburj Hospital	8	No
245	Office Table at Petlaburj Hospital	3	No
246	Consumables and Media for 100 Cycles at Petlaburj Hospital	1	Lot
247	Dismantling, clearing away and carefully stacking useful materials for re-use and disposal of unserviceable materials with 100m lead as directed by Executive Engineer duly taking actual premeasurements before dismantling including all labour charges, etc., complete. Brick Masonry at MGMH Petlaburj	80	Cum
248	Dismantling clearing away and carefully stacking useful materials for re use and disposal of unserviceable materials with 100m lead as directed by Executive Engineer duly taking actual premeasurements before dismantling including all labour charges etc complete for Flooring at MGMH Petlaburj	400	Sqm

249	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Not exceeding 3 sqm in area: Doors 1.00x2.60M at MGMH Petlaburj	16	No
250	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Exceeding 3 sqm in area : Doors 1.50x2.60M at MGMH Petlaburj	5	No
251	Conveyance of un-useful excavated earth to a distance of 21 KM for disposal including hire charges of T and P, labour charges etc., complete for finished item of work. Dismantled Brick masonry and existing flooring. at MGMH Petlaburj	120	Cum
252	Brick masonry for panel walls in superstructure with CM 1:8 prop: Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 200 mm including cost and conveyance of all materials like cement, screened sand, bricks, water etc., to site, including sales and other taxes on all materials and such as labour charges, like mixing cement mortar, scaffolding charges, constructing masonry, lift charges, curing, etc., complete for finished item of work. TSSS No.501 and 504. 3rd Floor at MGMH Petlaburj	10.5	Cum
253	Reinforced Masonry for partition walls 100 mm thick in CM 1:4 prop. Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 100 mm and placing 2Nos. of 6mm M.S plain rods in every third layer with free ends of the reinforcement pegged into mortar joints of main brick walls where applicable including cost and conveyance of all materials like cement, steel, sand, brick, water etc., to site, including sales and other taxes excluding GST on all materials, all operational, incidents charges, constructing masonry, lift charges, curing, complete for finished item of work. TSSS No. of 509. 3rd Floor at MGMH Petlaburj	215	Sqm
254	Providing Mild steel MS steel bars Fe 250 grade as per IS 432 of different diameters including labour charges for straightening, cutting, bending to required sizes and shapes, placing in position with cover blocks of approved materials and size and tying and lap-splicing with binding wire of 18 SWG, forming grills for reinforcement work as per approved designs and drawings, including cost and conveyance of steel bars, including all wastages such as overlaps, couplings, chairs, spacer bars including cost and conveyance of binding wire, cover blocks and all incidental, operational, labour charges such as cutting, bending, placing in position, tying including sales and other taxes on all materials etc. , complete for finished item of work. TSSS No.126 For RBM walls 6mm dia: 3rd Floor at MGMH Petlaburj	0.9	MT

255	Plastering 20mm thick in two coats using screened sand with base coat of 16mm thick in CM1:6 and top coat of 4mm thick in CM1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., complete for finished item of work .SS 901,903and 904 3rd Floor at MGMH Petlaburj	45	Sqm
256	Plastering 12mm thick in two coats using screened sand with base coat of 8mm thick in CM 1:6 and top coat of 4mm thick in CM 1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., and complete for finished item of work. SS 901,903 and 904. 3rd Floor at MGMH Petlaburj	430	Sqm
257	Providing and laying screed plain cement concrete as per site condition for floor bedding using high quality aggregates including base preparation, compaction, levelling, all lead and lifts, rough finishing at the top surface, curing, shuttering if necessary etc., complete as directed . at MGMH Petlaburj	20	Sqm
258	Supply and fixing powder coated aluminium fully glazed swing door as per the approved drawing with fixed fan light of 500mm height at top door using aluminium sections of 101.60 mm x44.45mm , 3.18 mm thick for frame and door shutter made of styles , top and middle rail of 47.62mm x 44.45mm, 3.18 mm thick and bottom rail of 96.00mm x 44.45 mm,3.18mm thick, powder coating of aluminium sections 25mm microns thick, 5 mm thick plain glass fitted with suitable aluminium glazing clips and rubber beading in fan light portion, double shutters fitted with 5mm thick frosted glass in the top half and 12mm thick prelaminated particle board One side choice colour and other side balancing white lamination in the bottom half fitted with suitable aluminium glazing clips and rubber beading, as approved by Engineer-in-Charge including supply and fixing ISI marked powder coated aluminium fixtures of 2 Nos. tower bolts 10mm bolt IS:204 300mm long, 4 Nos. aluminium handles IS:208 150mm dia and 1 Nos. aldrops IS:2681 250mm, 1 No. door closure, Al. Butt hinges 125mm long 6Nos including labour charges for manufacturing door , fixing the door with required No. of screws etc., complete for finished item of work. The Aluminium section used shall be standard make confirming to IS 1948-1961 and as approved by the Engineer 1200mmx2100mm at MGMH Petlaburj	5	Sqm

259	Supplying and fixing of Unplasticised Poly Vinyl Chloride UPVC 3 track sliding windows with mesh shutter – 2-glass shutters and 1-mesh shutter duly manufactured using UPVC reinforced profiles Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin of 94mm x 45 mm/80 mm x 52 mm x 2.20 mm for outer frames, 58 mm x 39 mm/54 mm x 38 mm x 2.20mm for sliding shutter frames capable of mounting single glazing system structurally reinforced with hot dip galvanized up to 50 microns of minimum thickness of 1.0/1.2 mm prefabricated and welded through fusion welding. The window sash shall be fitted with 5 mm thick clear float glass of reputed make and mesh shutter frame shall be 42 mm x 25mm/52 mm x 21.5 mm x 2.0 mm fitted with Vinyl Coated Fiber mesh- on rollers/ pulley duly fixed with Grey colour TPV Gasket for sash and Glazing bead shall be co-extruded with Grey colour soft PVC. System shall have single point locking with Touch Lock and the system is to be installed at the site using anchor fasteners, silicon rubber sealant, easy glazing/deglazing at site etc., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site includingetc., complete for finished item of work. at MGMH Petlaburj	15	Sqm
260	Providing, supplying and fixing of Fixed Louvered Ventilator made out of multi chambered uPVC sections with Glazing bead shall be co-extruded with Grey colour soft PVC. having isolated drainage and reinforced with Galvanized Iron profiles throughout the window. The outer frame having an overall size of 60 mm x 55 mm x 2.40 with reinforcement of 1 mm thickness and Mullion with overall size of 74 mm x 60 mm x 2.40 mm with reinforcement of 1 mm thickness. Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin. Ventilator shall be provided with 4.5 mm Pin Head glass, standard hardware. Wall thickness of frame and Mullion shall be 2.4 mm., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site etc., complete for finished item of work hinges IS:205 150mm long, 1 No. aldrop IS:2681 300mm long, 1 No. tower bolt IS:204 of 200 mm x 10 mm dia at top, 2 Nos. 150 mm at MGMH Petlaburj	5	Sqm
261	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65 mm and ISI marked flush door shutters of 30 mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of teak wood frame, flush shutter including supply and fixing 6 Nos. MS Z hold fasts of size 300 mm x 40 mm x 5mm including cost of ISI marked Aluminium fixtures of 3 Nos. butt long handles IS:208, 1 No. door stopper and 1 No. rubber bush including fixing the fixtures to door with required number of screws, bolt and nuts including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002 The vertical frame of door shall be embedded in flooring for a depth of not less than 10 mm 1000mm x 2100mm at MGMH Petlaburj	35	Sqm

262	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65mm and ISI marked flush door shutter of 30mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of medium teak wood door frame, flush shutter, including supply and fixing 6 Nos. MS Z hold fasts of size 300mm x 40mm x 5mm including ISI marked Aluminium fixtures 3 Nos. butt hinges IS:205 of 150mm long, 1 No. aldop IS:2681 250 mm long, 1 No. tower bolt IS:204 of 150 mm x 10mm dia, 2 Nos. 125mm long handles IS:208,1 No. rubber bush including supplying and fixing 1.20mm thick PVC sheet to full height of the shutter inside including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002. The vertical frame of door shall be embedded in flooring for depth of not less than 10mm 750mm x 2100mm. at MGMH Petlaburj	10	Sqm
263	Flooring with soluble salt porcelain vitrified tiles screen printed and polished of size 600 x 600 mm and thickness between 8 to 10mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630Parts 1 to 15 of any colour and finish in all shades and designs with borders and design as per the approved flooring pattern as directed by the Engineer-In -Charge, laying tiles using spacers of 2mm thick, set over a base coat of CM 1:8 prop. 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 kgs per Sqm. and jointed neatly with white cement paste to full depth mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, tiles, white cement etc., to site excluding cost of C.C. bed including cost of base coat and all labour charges for mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in- charge etc., and complete for finished item of work. TSSS No.701 and 707. 3rd Floor at MGMH Petlaburj	360	Sqm
264	Flooring with non-skid full body ceramic floor tiles of size 300mm x 300mm and thickness between 7 - 8mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630Part 1 to 15 of any colour and finish in all shades and designs as approved by Engineer-in-charge, set over base coat of cement mortar 1:8, 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 Kgs per Sqm and jointed neatly with white cement paste to full depth mixed with pigment of matching shade, including cost of all materials like cement, screened sand , water and tiles etc., complete for finished item of work. TSSS No.701 and 707 at MGMH Petlaburj	12	Sqm

265	Providing and fixing in true horizontal level 14 mm - Mineral Fiber sheet 595 x 595 Square / Tegular Fissura fine model edge tiles with a Humidity Resistance of 90percentage RH, Average NRC 0.50, Light Reflectance greater than80percentage, Thermal Conductivity equal to 0.052 to 0.057 w/mk, Fire Performance Class 0/Class 1 using hot dipped Galvanized Steel section exposed surface with pre-coated capping, main Tee of size 24 x 32 mm at every 1200 mm c/c maximum and rotary stitched cross tee of size 24 x 27 mm at every 600 mm c/c and sub-cross tee of size 24 mm x 25 mm at 1200 mm c/c and wall angle of size 19 x 19 mm fixed to periphery of the wall and the above grid is suspended at every 1200 mm c/c in both directions using 2.0 mm thick pre-straightened GI Wire including cost and conveyance of all materials and labour charges such as cutting , fixing of standing of frame work exposing roof making etc., complete for finished item of work in 3rd floor. at MGMH Petlaburj	300	Sqm
266	Providing dadoing to walls with glazed full body porcelain wall tiles of size 300 x 600 mm with any type of design texture such as marble finish, wooden, bamboo, stone finishes etc., scratch less, stain free and thickness between 6-8 mm 1st quality conforming to IS:13711, IS:13712, IS:13630 Parts 1 to 15 of any colour and finish in all shades and designs with borders as approved by Engineer-in-Charge set over base coat of CM1:5 12 mm thick using screened sand with cement slurry of honey like consistency spread at the rate of 3.30 kgs per sqm and jointing with white cement paste mixed with pigment of matching shade to full depth, including cost of all materials like tiles, cement, sand and water etc., complete for finished item of work. 3rd Floor at MGMH Petlaburj	30	Sqm
267	Providing and applying Wall putty of White Cement or Polymer or Cement based of average 1 to 2 mm thickness over plastered surface to prepare the surface even and smooth after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, applying emery paper, Sand the surface, clean and wipe off loose dust, applying knifing paste filler by putty knife / muslin pad, air dry for 2 - 3 hrs, sand with 180 and 320 No., emery paper for the surface preparation including cost and conveyance of all materials to work site and all operational, incidental, labour charges, over heads and etc., complete for finished item of work in 3rd floor Internal walls. at MGMH Petlaburj	975	Sqm
268	Painting to new wood work and flush shutters with lappam finish, over a primary coat and painting two coats of synthetic enamel paint Grade-II VOC Volatile Organic Compound content less than 50 grams/litre of approved shade including cost and conveyance of all materials to site cost of primer coat and all labour charges etc. complete including applying sand paper on lappam coats for neat finish including sales and other taxes on cost of all materials etc., complete in all floors TSSS No.1200, 1207 and 1211. at MGMH Petlaburj	80	Sqm

269	Supply and application of one coat water based cement primer of interior grade I and two coats of water based PU paint having anti bacterial applications content less than 50 grams/litre for internal walls including cost and conveyance of all materials to site, sales and other taxes, incidental, operational and all labour charges etc., and complete for finished item of work in 3rd floor. at MGMH Petlaburj	975	Sqm
270	Painting to old walls with 2 coats of water proof cement paint of shade as approved by the Engineer-In-Charge to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, scaffolding charges, incidental, labour charges etc., and overheads and contractors profit complete for finished item of work as per SS 912 in 3rd floor. at MGMH Petlaburj	100	Sqm
271	Supplying and fixing 15 mm brass body CP finish bib tap of not less than 300 grams weight screw grams weight with quarter turn spindle with internal / external threaded connection conforming to IS 8931 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges , overheads and contractors profit complete for finished item of work in all floors. at MGMH Petlaburj	2	No
272	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing,complete for finished item of work at all floor levels. 15.90mm OD pipe at MGMH Petlaburj	60	Rmt
273	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing,complete for finished item of work at all floor levels. 22.20mm OD pipe at MGMH Petlaburj	60	Rmt
274	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/Kisan/Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326 - 75mm dia at MGMH Petlaburj	90	Rmt

275	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/Kisan/Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326- 110mm dia at MGMH Petlaburj	75	Rmt
276	Supplying and fixing Bronze Gate/ Globe valve as per IS - 778 Class - I, Indian make heavy type including cost and conveyance of all materials , labour charges , overheads and contractors profit complete for finished item of work. 25mm Nominal bore at MGMH Petlaburj	6	No
277	Supplying and fixing of 4inches 101.6mm multi floor trap with jali - UPVC/SWR pipe fittings as per site requirements with standard practice for all floors including cost and conveyance of all materials to site, labour charges ,etc., complete for finished item of work. at MGMH Petlaburj	6	No
278	Supplying and fixing Indian make Flat Back Wash Hand Basin 1st quality conforming to IS:2556-Part-4:1972 of size 550mm x 400mm with 32 mm nominal size C.P. Fitting with parallel pipe thread conforming to IS:2963-1979 and fitted with 15 mm nominal bore Chromium Plated Pillar Tap of 1st quality Indian make heavy duty complete with standard CI brackets including wooden blocks ,1 No.12.70mm PVC connection with brass union nuts CP coated , angle stop cock 12.70mm dia. first quality Indian make heavy duty, 30mm dia. PVC flexible waste pipe 914.4mm length of 1st quality including cost and conveyance of all materials to site, labour charges , for finished item of work at MGMH Petlaburj	6	No
279	Supply, Installation and commissioning approved make floor mounted Anglo Indian wash down EWC conforming to IS:2556 Part 8-2004 suit with P or S trap with dual flush porcelain cistern fixed on wash down EWC with all internal parts of dual flush cistern, ultra solid seat cover of approved make with rubber buffer and cap and 15 mm angle stop cock and 450 mm long PVC inter connection pipe wall flanges all of approved make etc. complete for finished item of work in all respects: TBSP-E.II-03 at MGMH Petlaburj	6	No
280	Supplying and fixing Chromium plated finish brass body quarter turn Bibcock cum Health Faucet with 1m long tube and wall hook with necessary fittings etc., complete including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at MGMH Petlaburj	6	No
281	Supplying and fixing CP finish brass soap dish of approved make ISI quality including cost and conveyance of all materials, labour charges for fixing, for finished item of work in all floors at MGMH Petlaburj	6	No
282	Supplying and fixing TV shape mirror with plastic frame of size 609.6mm x 457.2mm, plywood back with NP screws 1st quality including cost and conveyance of all materials, labour charges, for finished item of work in all floors. at MGMH Petlaburj	6	No
283	Supplying and fixing of CP finish brass wall mounted towel ring at MGMH Petlaburj	6	No

284	Supplying and fixing 15 mm brass body CP finish self closing tap push type conforming to IS 1711 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at MGMH Petlaburj	6	No
285	Supply and installation of 80mm thick double skin modular wall Panels made of 0.8 mm thick powder coated GI on both the sides, with 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, flush on both sides with maximum allowable gap of 3- 4mm filled with food grade silicon sealant and placed on cold rolled galvanised bottom tracks with a recess to provide floor to wall coving flush with the wall panel. This includes all required hardware for completion Panels to be covered with a protective film to avoid any damages during transportation and installation at MGMH Petlaburj	125	sqm
286	Supply and installation of 50mm thick double skin ceiling system made of 0.8 mm thick Powder Coated GI sheets on both sides, 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, panels flush towards room side with maximum allowable gap of 3-4mm at panel to panel joints filled with silicon sealant. Ceiling panels are suspended from the RCC slab by using concealed AL ceiling grid with tie rod and adjustable turn buckle arrangement etc. This includes all required hardware for completion. Panels to be covered with a protective film to avoid any damages during transportation and installation at MGMH Petlaburj	60	sqm
287	Double leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 1500 X 2100 mm with 300mm X 300mm double glazed view panels at MGMH Petlaburj	4	No
288	Single leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 900 X 2100 mm with 300 mm x 300 mm View panel at MGMH Petlaburj	2	No
289	Supply and installation of Extruded Aluminium Coving at MGMH Petlaburj	100	Rmt

290	Providing, laying of scratch proof PVC/Vinyl flooring of 2mm thickness with proper welded joints air tight, along with leveling compound to match the existing flooring levels as per engineer in charge instructions. Sub floor preparation with self leveling compound. After the sub floor preparation, it should be suitable for ESD flooring. Rate inclusive of sifting of material and labour charges. at MGMH Petlaburj	140	Sqm
291	Supply, installation, testing and commissioning of 16 G GI powder coated suitable single person entry air shower as per the Technical Specifications at MGMH Petlaburj	1	No
292	Supply, installation, Testing and Commissioning of Static Pass Boxes of Size 450X450mm with 1.2mm thick SS 304 Mat finish , with interlock doors, UV light On when doors closed condition. As per clean room standard and requirement. at MGMH Petlaburj	3	No
293	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe concealed in wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at MGMH Petlaburj	200	Rmt
294	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe surface on wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at MGMH Petlaburj	450	Rmt
295	Wiring with 2 runs of 22/0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable ISI MARK in existing pipe with 6A Modular switch, Ceiling rose/BH/SBH Modular switches with cover plate and GI switch box including all labour charges etc., complete. for Non- Residential Building Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGMH Petlaburj	100	Pts
296	Supply and fixing of 6A ISI Mark 3/2 pin Modular socket with 6A 1way Modular switch, 3 Module box with cover frame and GI switch box on common switch board with connections etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGMH Petlaburj	12	No
297	Supply and fixing of 16A switches - 1Nos and 6/16A 2 in one socket - 1Nos Modular type with cover plate and GI switch box fixing on separate board including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGMH Petlaburj	40	No
298	Supply and fixing of 16A/6A, 2 in one socket - 2 Nos with 16A switch control - 2 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGMH Petlaburj	60	No

299	Supply and fixing of 16A/6A, 2 in one socket - 4 Nos with 16A switch control - 4 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGMH Petlaburj	10	No
300	Supply and run of 1 of 22 /0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable in existing conduit pipe for earth continuity including all labour charges etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGMH Petlaburj	350	Rmt
301	Supply and run of 3 of 2.5 sq.mm 36/0.3mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe for individual lighting circuits including labour charges etc., complete as required for switch boards. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGMH Petlaburj	600	Rmt
302	Supply and 3 runs of 4.0 sq mm 56/0.3 mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe including labour charges etc., complete for 16A sockets. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGMH Petlaburj	1200	Rmt
303	Supply and run of 5 of 6.0 Sqmm 90/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for LDBs Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGMH Petlaburj	60	Rmt
304	Supply and run of 5 of 10.0 Sqmm 140/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for PDBs Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGMH Petlaburj	40	Rmt
305	Supply and fixing of DP Metal Enclosure with IP 20 Protection DB Make with 1 No 20A, 10 KA DP MCB Make: Legrand / Schneider including internal connection and labour charges for Flush Mounting etc., complete. Makes: Legrand / Schneider. at MGMH Petlaburj	5	No
306	Supply and fixing of 4 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 40A FP 30mA RCCB as incomer and 12 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs at MGMH Petlaburj	3	No
307	Supply and fixing of 8 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 63A FP 100mA RCCB as incomer and 24 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs at MGMH Petlaburj	2	No

308	Supply and fixing of 8 Way VTPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 100A FP 10KA MCB as incomer and 4 Nos 63 A 10kA TP MCBs, 4 Nos 40 A 10kA TP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For UPS MDB DBs at MGMH Petlaburj	1	No
309	Providing and fixing of 125A 25KA TPN Thermal Magnetic Release Based MCCB and Terminal Spreaders in Existing panel board with 1 No. and 1 Set of Indication Lamps, LED type, R,Y,B and breaker ON , OFF, TRIP and spring charged lamps. and replace with above Mentioned with required Drilling Holes, removing and Making Busbar connections etc, as required. Makes: Legrand / Schneider/ABB/LandT/CandS at MGMH Petlaburj	1	No
310	Providing and fixing of 100A 10KA FP MCB and Terminal Spreaders in IP 43 isolator Box Making connections etc, as required. Makes: Legrand / Schneider/ABB/LandT/ CandS at MGMH Petlaburj	2	No
311	Supply, transportation and fixing of 24W edge lit LED Down light Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser Square with Protruded high efficiency diffuser, IP20, with wide operating voltage range, Power factor greater than 0.9, Surge protection: greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than 80, and THD is less than 15percentage etc., with BIS Certification. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells at MGMH Petlaburj	50	No
312	Supply and Transportation 36W Edge lit, 2 feet x2 feet 600mm x600mm slim panel LED luminaire Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15percentage etc., complete. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells at MGMH Petlaburj	30	No
313	Supply and Transportation 42W Clean room Light fixture, 2 feet x2 feet 600mm x600mm LED luminaire CRCA powder coated white after phosphocreatine treatment provided as standard. with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15percentage etc., complete. MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells at MGMH Petlaburj	12	No
314	Supply and fixing of ISI mark batten holder / slanting holder Makes : Anchor / Gold Medal Olive / Million Zoom in lieu of ceiling rose of light point complete with all connections and all labour charges with 5.0W LED Lamp MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells at MGMH Petlaburj	5	No

315	Supply, Transportation of energy efficient fan, 1200 mm sweep, aluminium body, consuming 28 W, BEE 5 star rated, ceiling fan with Brush Less Direct Current BLDC motor, class of insulation: B, 3 nos blades, 30 cm long down rod, 2 nos canopies, shackle kit, safety rope, copper winding, Power Factor greater than 0.90, Service Value CMMAV greater than 8.5, Air delivery minimum 235 CMM, 350 RPM tolerance as per IS:374-2019, THD less than 10 percentage. with remote or compatible to electronic step type regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise equal to 75 degree Cmax, insulation resistance more than 2 mega ohm, suitable for 230V, 50 HZ, single phase AC supply, earthing etc., including all standard accessories etc., complete. Makes : Atomberg Efficio / Havells /Orient at MGMH Petlaburj	12	No
316	Supply and fixing of Modular type Stepped electronic regulator Makes : GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/ Cabtree Verna/ Million logus / Gold Medal Curve for sweep AC ceiling fans of 1200mm / 1400mm complete with connections. at MGMH Petlaburj	12	No
317	Supply and installation of 225mm Light duty exhaust fan with metal blades etc complete Makes: Crompton / Havells Ventilair-DB/ Orient hill air. at MGMH Petlaburj	6	No
318	SITC of Hot dip galvanized perforated cable tray of 100 mm Wide sizes for to run the cable from DBs to SBs and sockets and AC panel to Units units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. at MGMH Petlaburj	70	Rmt
319	SITC of Hot dip galvanized perforated cable tray of 300 mm Wide sizes for to run the cable from Floor Panel to Lab Panel and electrical room to AC panel and AC panel to Units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. at MGMH Petlaburj	80	Rmt
320	Supply and installation of 20KVA 3ph in and 3ph out on line UPS system IGBT based rectifier with input power factor correction 32 bit microprocessor based with isolation transformers double conversion, SNMP controls, LCD display, Pure sine wave output, with auto static switch three phase input / Three phase output and modular structure for better thermal technology / cooling facility, with warranty up to three years. Makes: APC / Numeric / Emerson / Fuji Electric at MGMH Petlaburj	1	No
321	Supply and fixing of 12V 65 AH SMF battery including wire leads. Makes: Quanta / Racket / Exide. at MGMH Petlaburj	20	No
322	Supply and providing of UPS cum battery rack for 20 batteries at MGMH Petlaburj	1	No

323	Providing and Fixing maintenance free earthing which consists of G.I. Earth station, with 600X600X3.15mm GI Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. at MGMH Petlaburj	2	No
324	Providing and Fixing maintenance free earthing which consists of copper. Earth station, with 600X600X3.15mm Copper Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. at MGMH Petlaburj	2	No
325	Supply and installation of 50x6 GI flat for body earthing of electrical panel and AC Panel which is laid in 300mm cable tray at MGMH Petlaburj	200	Rmt
326	Supply and installation of 25x3 GI flat for body earthing of DBs and Cable tray which is laid in 100mm cable tray at MGMH Petlaburj	100	Rmt
327	Supply and installation of 25x3 Copper flat for Neutral earthing of UPS and Equipment which is laid in 100mm cable tray at MGMH Petlaburj	200	Rmt
328	Supply and installation of 4 sqmm Copper wire for Earthing of DBs Equipment at MGMH Petlaburj	80	Rmt
329	Supply, Lying and testing of 3.5Cx95 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/KEI/Universal/Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at MGMH Petlaburj	120	Rmt
330	Supply, Lying and testing of 3.5CX50 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/KEI/Universal/Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at MGMH Petlaburj	70	Rmt
331	Supply, Lying and testing of 4Cx16 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/KEI/Universal/Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at MGMH Petlaburj	100	Rmt

332	Supply, Lying and testing of 4Cx6 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc. Make of Cable: Polycab/ KEI/Universal/ Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at MGMH Petlaburj	120	Rmt
333	Supply, Lying and testing of 4Cx4 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex. Make of gland and Lungs: HMI/Commet/Dowell's at MGMH Petlaburj	80	Rmt
334	SITC of IVF Center Main Panel Indoor IP-42 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with /without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective IVF equipment's. Which is including Lighting, power DBs and UPS at MGMH Petlaburj	1	No
335	SITC of IVF center AC Panel outdoor IP-54 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with / without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective AC equipment's. Which is including 1nos AHU's stater with VFD by pass, Heater, ODU and VRF system at MGMH Petlaburj	1	No

336	Supply and installation of AHUs stater on/off push button station for Remote control for inside IVF center with control wiring from AC panel to on /off push button station with necessary items. at MGMH Petlaburj	3	No
337	Supply, installation, testing and commissioning of 20nos LAN points with cat 6 cable and with suitable network rack and 5nos of telephone points with krone box to existing EPABEX. at MGMH Petlaburj	1	Job
338	Supply, installation, testing and commissioning of 1 no of Access control system with egress switch, Power Cable, communication cable to control panel with necessary required items Etc. at MGMH Petlaburj	1	Job
339	Supply, installation, testing and commissioning of Automatic Fire Alarm System which is including 30 nos of smoke Detectors 1nos manual call point, 1 no of Hooter with fire alarm cable connected to the existing fire control panel with necessary Required items etc.. at MGMH Petlaburj	1	Job
340	Supply, installation, testing and commissioning of 5nos IP Based CCTV cameras and Cat 6 Cable with NVR system. at MGMH Petlaburj	1	Job
341	Supply, installation, testing and commissioning of Audio and video recording of counseling rooms at MGMH Petlaburj	1	Job
342	Supply and installation of Fire Extinguishers of CO2 4.50 Kg at MGMH Petlaburj	5	No
343	Supply and installation of ceiling mounted Fire Extinguishers of ABC MAP 90, 5.0 Kg stored pressure type at MGMH Petlaburj	5	No
344	Supply and installation of 2.0 Kg clean agent HCFC 123 Fire Extinguishers at MGMH Petlaburj	5	No
345	Supply and fixing of Fire escape signage Boards at MGMH Petlaburj	1	Job
346	Supply, transportation and installation of split AC unit 1.5 TR inverter type 3 Star capable of delivering 18000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes : Daikin / Thoshiba / O General at MGMH Petlaburj	1	No
347	Supply, transportation and installation of split AC unit 1.0 TR inverter type minimum 3 Star capable of delivering 12000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes: Daikin / Thoshiba / O General at MGMH Petlaburj	1	No

348	Modular Double skin floor mounted EUROVENT Certified Air Handling Unit 3000CFM / 8.5 TR / 150mm SP made out of 45 plus or minus 2mm thick PUF insulated panels Thermal break aluminium profile frame work with 0.8mm thick pre painted / powder coated inner and outer skins comprising of mixing box with fresh air and return air dampers, pre filters with 10 and 5 microns combination filters in single frame, Interlaced/Intertwined DX Cooling Coil suitable for connecting 2 nos of 8.5TR capacity 1W plus 1S out door condensing units, SS304 drain pan with , blower section with Nicotra / Kruger make direct drive/ Plug type fan, vibration isolators, EFF1 motor and blower section with on/off switches to operate from outside, limit switch for the fan section access door with a view port, fine filter section with 3 microns filters inspection doors for all filter and fan sections and damper at the outlet of unit. Ports for differential pressure gauges across all filters and blower to measure differential pressure. AHU Make : VTS / Systemair, Make - Blower - Nicotra / Kruger ; Motor - Crompton Greaves / Siemens ; Filter - Thermodyne / Freudenberg / Ultrafil at MGMH Petlaburj	1	No
349	SITC of filter module made out of heavy duty Aluminium powder coated extrusion with minimum of 13G . and to house 610 mm X 610 mm HEPA Filter at the rate 0.3 microns , 99.9997, H-14 Grade, Filter loading from clean room side with bewel gear arrangement damper with access from clean room suitable to house the following filter sizes pressure drop and Integrity testing ports into room. Includes SS capsule perforated diffuser. This includes all required supports and accessories etc. Capacity 1000 CFM. at MGMH Petlaburj	6	No
350	SITC of air cooled condensing units with two scroll compressors, air cooled condenser, power panel, vibration isolating pads, stand for ODU, thermostat, etc. of the following capacities. The nominal capacity of the condensing unit shall be as under. Air cooled condensing unit shall have horizontal discharge. All refrigerant piping accessories sight glass, drier, expansion valve, etc. shall be supplied with the condensing units and suitable to connect above AHUs. Refrigerant shall be R 407C / R 410A. Necessary thermostat, control wiring, etc. shall be included. Derating of the unit shall not be more than 15percentage under 45 deg. C ambient temperature. Condensing unit shall be capable of operating up 50 deg. C ambient temperature. 8.5 TR capacity at MGMH Petlaburj	1	No
351	SITC of Flange type, Flame proof FLP duct heaters of 5 kW capacity with Mineral Filled AISI SS304/SS321 Sheathed Tubular Heater with GI Helical fins, Tube dia 8.2mm min and Helical Finn dia 25mm min, enclosed in the frame, FLP Terminal box etc., Nickel Chromium Inner Element, Silicon Sealing to Restrict Moisture pickup, Silver brazed mounting plate etc., and heaters shall be controlled with PID thyrestor controller based on the analog output signal of 0-10 V DC of controller . And this should have saftey thermostat and cutouts and air stat etc. all safety controls. The capacities as follows and sizes of the heaters shall be as per the duct sizes and approved drawing. at MGMH Petlaburj	1	No

352	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Liquid Line at MGMH Petlaburj	20	Rmt
353	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Suction Line at MGMH Petlaburj	20	Rmt
354	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 32mm Dia at MGMH Petlaburj	50	Rmt
355	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 25mm Dia at MGMH Petlaburj	50	Rmt
356	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulatiting the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 20G - 1.0 mm Thick at MGMH Petlaburj	30	Sqm
357	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulatiting the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 22G - 0.8 mm Thick at MGMH Petlaburj	250	Sqm
358	Aluminium low leakage aerofoil design volume control dampers Suitable for manual and motorised operation at MGMH Petlaburj	2	Sqm
359	CBRI approved 16G GI Spring return actuated fire dampers rated for 90 minutes with limit switch at MGMH Petlaburj	2	Sqm
360	SITC of SS perforated return raiser grilles with 10 microns filters with collar dampers at MGMH Petlaburj	2	Sqm

361	Extruded Al. powder coated EXHAUST / RETURN discrete grilles at MGMH Petlaburj	1	Sqm
362	SITC of Collar Dampers made of Al. extrusions with black powder coating for Grilles / Diffusers at MGMH Petlaburj	1	Sqm
363	SITC of Magnehelic gauges across pre and fine filter at AHUs including mounting arrangement, SS nozzles, food grade PVC tubing, etc. at MGMH Petlaburj	2	No
364	SITC of Magnehelic gauges to measure the room differential pressures in operation theatres with SS mounting box, SS nozzles, food grade PVC tubing, etc. at MGMH Petlaburj	2	No
365	SITC of Aluminium powder coated Fresh air and Exhaust Louvers of non-vision type with nylon mosquito net etc. at MGMH Petlaburj	1	Sqm
366	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 32mm Thick for Exposed Supply Air duct and finished with UV Protective Paint. at MGMH Petlaburj	130	Sqm
367	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Exposed Return Air Duct and finished with UV Protective Paint. at MGMH Petlaburj	130	Sqm
368	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Supply air duct running inside the building. at MGMH Petlaburj	40	Sqm
369	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 19mm Thick for Return air running inside the building. at MGMH Petlaburj	40	Sqm
370	Condensing units - VRF/VRV System : Supply, Installation, Nitrogen testing , Vacuuming and Commissioning of air cooled variable refrigerant flow modular type condensing units, each comprising of multiple scroll compressors all inverter driven, full charge of refrigerant gas R-410a including additional gas filling , lubricating oil and all accessories as per the specifications. The condensing units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B . The COP of the system shall be greater than 4 under ARI conditions for 100percentage load . The condensing units shall be suitable for operation on 415 plus or minus 10percentage volts, 50Hz, 3 phase AC power supply and , outdoor units to be mounted on MS platform with suitable Vibration Isolation pads to avoid vibrations. All the supports and angle base frame structure to be duly black painted with synthetic epoxy paint. the condensing units shall be of following capacities: The VRF ODU should be capable of working with total capacity of connected indoor units ranging between 100percentage to 140percentage of ODU capacity . COP minimum 3.5. Make : Daikin / LG / O General / Toshiba at MGMH Petlaburj 16 HP	1	Set

371	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 0.8 TR at MGMH Petlaburj	2	No
372	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.0 TR at MGMH Petlaburj	3	No
373	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.5 TR at MGMH Petlaburj	4	No
374	Cassette Units : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 3.0 TR – 4 way at MGMH Petlaburj	2	No
375	Supply, Installation, Testing and Commissioning of Hard copper REFRIGERANT PIPING of 16swg various sizes with necessary supports, fittings, interconnecting the liquid and suction lines between the aircooled outdoor units and the indoor units. The piping shall be carried out of Hard drawn copper pipes of type K with soldered / brazed socket fittings. Isolating valves shall be provided to isolate each compressor, strainers, sight glass and any other component requiring proper operation and maintenance. Both the suction and liquid lines shall be insulated with 19mm thick closed cell insulation for above 25mm dia , 13mm thick for pipes below 25mm dia . The insulation finished with treated woven glass fiber reinforced covering for inside Piping and including making required holes in the wall and re finishing and water tight of holes after laying holes as per the specifications and approved drawings at MGMH Petlaburj	1	Lot

376	Supply, Installation , Testing and Commissioning of Refnet joints to be provided in refrigerant pipe line. Material of construction for fittings shall be similar to refrigerant piping at MGMH Petlaburj	10	Set
377	Supply and Installation of control cum transmission wiring of size 3C x 1.5 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories at MGMH Petlaburj	150	Rmt
378	Supply and Installation of cabling of size 2C x 1 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories as per the approved routing at MGMH Petlaburj.	100	Rmt
379	SITC of Oxygen Manifold Emergency for 1 plus 1 Cylinders, as per technical specifications. at MGMH Petlaburj	1	Set
380	SITC of Oxygen Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported at MGMH Petlaburj	4	each
381	SITC of Oxygen Flowmeter with Humidifier, CE Certified with four digit number as per enclosed technical specifications - Imported at MGMH Petlaburj	4	each
382	SITC of Nitrous Oxide Manifold Emergency for 1 Cylinder, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications at MGMH Petlaburj	1	Set
383	SITC of N2O Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported at MGMH Petlaburj	4	each
384	SITC of C02 Manifold for 2 Cylinders, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications at MGMH Petlaburj	1	Set
385	SITC of C02 Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported at MGMH Petlaburj	4	each
386	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 12mm COPPER PIPE at MGMH Petlaburj	24	Rmt
387	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 15mm COPPER PIPE at MGMH Petlaburj	114	Rmt
388	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 22mm COPPER PIPE at MGMH Petlaburj	36	Rmt
389	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 28mm COPPER PIPE at MGMH Petlaburj	18	Rmt
390	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for 3 gases at MGMH Petlaburj	1	each
391	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for Master Main Alarm including all Gases at MGMH Petlaburj	1	each
392	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 15mm OD at MGMH Petlaburj	3	each

393	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm OD at MGMH Petlaburj	3	each
394	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm OD at MGMH Petlaburj	4	each
395	SITC of Bed Head Panel - as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications at MGMH Petlaburj	2	each
	MGM Hospital, Warangal		
396	Ovum Aspiration Pumps at MGM Hospital	2	No
397	IVF Test tube Warmers at MGM Hospital	2	No
398	DICOM compatible fully digital, compact, portable, Ultrasound Scan Machine Colour Doppler at MGM Hospital	2	No
399	Multipurpose Electro hydraulic with manual override mobile OT Table, with divided leg section suitable for all Gynaecological surgical procedures, complete with 5cm Mattress and corded handset at MGM Hospital	1	No
400	LED procedure Lights Double dome at MGM Hospital	1	No
401	LED procedure Lights Single dome at MGM Hospital	1	No
402	IVF Workstation with LAF at MGM Hospital	1	No
403	IVF Ant vibration Table for procedure at MGM Hospital	1	No
404	CO2 Incubators at MGM Hospital	2	No
405	Trigas bench Top Incubators for Human Embryo culture at MGM Hospital	1	No
406	Trinocular Stereozoom Microscope at MGM Hospital	1	No
407	ICSI Micro manipulator with Inverted Microscope at MGM Hospital	1	No
408	IVF Laser System at MGM Hospital	1	No
409	IVF Thermometer at MGM Hospital	1	No
410	CO2 Cylinder and Manifold at MGM Hospital	2	No
411	CO2 and O2 Analyzer at MGM Hospital	1	No
412	PH Meter at MGM Hospital	1	No
413	VOC Meter for ART Lab at MGM Hospital	1	No
414	Sperm Counting Makler Chamber at MGM Hospital	1	No
415	Binocular Microscope for Semen Analysis at MGM Hospital	1	No
416	Laminar flow cabinet with Andrology Work station at MGM Hospital	1	No
417	Clinical Centrifuge machine for Andrology at MGM Hospital	1	No
418	Dry Incubators at MGM Hospital	1	No
419	Pipetter and Denudation system at MGM Hospital	1	No
420	Pharmaceutical Refrigerator at MGM Hospital	1	No
421	Cryocans with wheels at MGM Hospital	2	No
422	Defibrillator at MGM Hospital	1	No
423	7 Para Patient Monitor at MGM Hospital	2	No
424	Suction machine at MGM Hospital	1	No
425	Anaesthesia Work station at MGM Hospital	1	No
426	Autoclave at MGM Hospital	1	No
427	Operative Hysteroscopy and Resectoscope Set Machine at MGM Hospital	1	No

428	Operative Laparoscopy Set at MGM Hospital	1	No
429	Multifunctional Printer at MGM Hospital	1	No
430	Ultrasound Examination Couch at MGM Hospital	1	No
431	UPS 20KVA with battery backup at MGM Hospital	1	No
432	Laptop for Office usage at MGM Hospital	2	No
433	Reception Table at MGM Hospital	1	No
434	Reception chair at MGM Hospital	2	No
435	Filing Cabinet at MGM Hospital	2	No
436	Patient Seating 3 in 1 model at MGM Hospital	3	No
437	Consultant Chair at MGM Hospital	3	No
438	Patient Chair at MGM Hospital	6	No
439	Small Trolley at MGM Hospital	3	No
440	Big Trolley at MGM Hospital	3	No
441	Wall Storage Cabinets at MGM Hospital	8	No
442	Office Table at MGM Hospital	3	No
443	Consumables and Media for 100 Cycles at MGM Hospital	1	Lot
444	Dismantling, clearing away and carefully stacking useful materials for re-use and disposal of unserviceable materials with 100m lead as directed by Executive Engineer duly taking actual premeasurements before dismantling including all labour charges, etc., complete. Brick Masonry and Existing flooring at MGM Warangal	80	Cum
445	Dismantling clearing away and carefully stacking useful materials for re use and disposal of unserviceable materials with 100m lead as directed by Executive Engineer duly taking actual premeasurements before dismantling including all labour charges etc complete for Flooring at MGM Warangal	400	Sqm
446	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Not exceeding 3 sqm in area: Doors 1.00x2.60M at MGM Warangal	11	No
447	Dismantling doors, windows and clear storey windows, Ventilators etc., wood or steel shutters including Chowkhats, architraves, hold fasts and other attachments etc., and stacking them within 100m lead including labour charge etc., and complete for finished item of work. Exceeding 3 sqm in area : Doors 1.50x2.60M at MGM Warangal	2	No
448	Conveyance of un-useful excavated earth to a distance of 15 KM for disposal including hire charges of T and P, labour charges etc., complete for finished item of work. Dismantled Brick masonry and Existing flooring at MGM Warangal	120	Cum

449	Brick masonry for panel walls in superstructure with CM 1:8 prop: Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 200 mm including cost and conveyance of all materials like cement, screened sand, bricks, water etc., to site, including sales and other taxes on all materials and such as labour charges, like mixing cement mortar, scaffolding charges, constructing masonry, lift charges, curing, etc., complete for finished item of work. TSSS No.501 and 504. 2nd Floor at MGM Warangal	15	Cum
450	Reinforced Masonry for partition walls 100 mm thick in CM 1:4 prop. Aerated Cellular Autoclaved Concrete Blocks conforming to IS:2185 Part-3 - 1984 and IS:6441-1972 of Compressive strength 3 N/mm ² 600 x 200 x 100 mm and placing 2Nos. of 6mm M.S plain rods in every third layer with free ends of the reinforcement pegged into mortar joints of main brick walls where applicable including cost and conveyance of all materials like cement, steel, sans, brick, water etc., to site, including sales and other taxes excluding GST on all materials, all operational, incidents charges, constructing masonry, lift charges, curing, complete for finished item of work. TSSS No. of 509. 2nd Floor at MGM Warangal	500	Sqm
451	Providing Mild steel MS steel bars Fe 250 grade as per IS 432 of different diameters including labour charges for straightening, cutting, bending to required sizes and shapes, placing in position with cover blocks of approved materials and size and tying and lap-splicing with binding wire of 18 SWG, forming grills for reinforcement work as per approved designs and drawings, including cost and conveyance of steel bars, including all wastages such as overlaps, couplings, chairs, spacer bars including cost and conveyance of binding wire, cover blocks and all incidental, operational, labour charges such as cutting, bending, placing in position, tying including sales and other taxes on all materials etc. , complete for finished item of work. TSSS No.126 For RBM walls 6mm dia: 2nd Floor at MGM Warangal	2.25	MT
452	Plastering 20mm thick in two coats using screened sand with base coat of 16mm thick in CM1:6 and top coat of 4mm thick in CM1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., complete for finished item of work SS 901,903and 904 2ND Floor at MGM Warangal	45	Sqm
453	Plastering 12mm thick in two coats using screened sand with base coat of 8mm thick in CM 1:6 and top coat of 4mm thick in CM 1:4 with dubara sponge finishing including cost and conveyance of all materials like cement, sand, water etc., to site, including sales and other taxes on all materials, and all operational, incidental charges on materials and including cost of all labour charges for mixing mortar, finishing, scaffolding, lift charges, curing, including cutting grooves as directed by Engineer-in-charge etc., and complete for finished item of work. SS 901,903 and 904. 2ND Floor at MGM Warangal	930	Sqm

454	Supply and Installing change room Cubicles, at MGM Warangal GENERAL SPECIFICATIONS: Thickness of Compact Laminate : 12 mm Thick Colour of HPL Boards : In Single Colour, Size of Cubicle : As per DWG, Door Size for Normal Cubicle : As per DWG, Overall Height Of Cubicle : 2105 mm Including bottom gap of 100mm, Accessories: Manufacturers standard makes of Aluminium, SS Accessories. a Aluminium H Top Rail b SS Hinges c SS Privacy Thumb turn c/w Occupancy Indicator d SS Coat Hook e SS Door Knob f Aluminium U channel g Aluminium Door Stopper channel h Rubber Lining i SS Screws and PVC Wall Plugs	18	Sqm
455	Providing and laying screed plain cement concrete as per site condition for floor bedding using high quality aggregates including base preparation, compaction, levelling, all lead and lifts, rough finishing at the top surface, curing, shuttering if necessary etc., complete as directed . at MGM Warangal	20	Sqm
456	Supply and fixing powder coated aluminium fully glazed swing door as per the approved drawing with fixed fan light of 500mm height at top door using aluminium sections of 101.60 mm x44.45mm , 3.18 mm thick for frame and door shutter made of styles , top and middle rail of 47.62mm x 44.45mm, 3.18 mm thick and bottom rail of 96.00mm x 44.45 mm,3.18mm thick, powder coating of alluminium sections 25mm microns thick, 5 mm thick plain glass fitted with suitable aluminium glazing clips and rubber beading in fan light portion, double shutters fitted with 5mm thick frosted glass in the top half and 12mm thick prelaminated particle board One side choice colour and other side balancing white lamination in the bottom half fitted with suitable aluminium glazing clips and rubber beading, as approved by Engineer-in-Charge including supply and fixing ISI marked powder coated aluminium fixtures of 2 Nos. tower bolts 10mm bolt IS:204 300mm long, 4 Nos. alluminium handles IS:208 150mm dia and 1 Nos. aldrops IS:2681 250mm, 1 No. door closure, Al. Butt hinges 125mm long 6Nos including labour charges for manufacturing door , fixing the door with required No. of screws etc., complete for finished item of work. The Aluminium section used shall be standard make confirming to IS 1948-1961 and as approved by the Engineer 1200mmx2100mm at MGM Warangal	5	Sqm

457	Supplying and fixing of Unplasticised Poly Vinyl Chloride UPVC 3 track sliding windows with mesh shutter – 2-glass shutters and 1-mesh shutter duly manufactured using UPVC reinforced profiles Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin of 94mm x 45 mm/80 mm x 52 mm x 2.20 mm for outer frames, 58 mm x 39 mm/54 mm x 38 mm x 2.20mm for sliding shutter frames capable of mounting single glazing system structurally reinforced with hot dip galvanized up to 50 microns of minimum thickness of 1.0/1.2 mm prefabricated and welded through fusion welding. The window sash shall be fitted with 5 mm thick clear float glass of reputed make and mesh shutter frame shall be 42 mm x 25mm/52 mm x 21.5 mm x 2.0 mm fitted with Vinyl Coated Fiber mesh- on rollers/ pulley duly fixed with Grey colour TPV Gasket for sash and Glazing bead shall be co-extruded with Grey colour soft PVC. System shall have single point locking with Touch Lock and the system is to be installed at the site using anchor fasteners, silicon rubber sealant, easy glazing/deglazing at site etc., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site includingetc., complete for finished item of work at MGM Warangal	15	Sqm
458	Providing, supplying and fixing of Fixed Louvered Ventilator made out of multi chambered uPVC sections with Glazing bead shall be co-extruded with Grey colour soft PVC. having isolated drainage and reinforced with Galvanized Iron profiles throughout the window. The outer frame having an overall size of 60 mm x 55 mm x 2.40 with reinforcement of 1 mm thickness and Mullion with overall size of 74 mm x 60 mm x 2.40 mm with reinforcement of 1 mm thickness. Composition of profile shall consists a minimum of 5.5 PHR of TiO ₂ and not more than 12 PHR of CaCo ₃ for every 100 parts of PVC resin. Ventilator shall be provided with 4.5 mm Pin Head glass, standard hardware. Wall thickness of frame and Mullion shall be 2.4 mm., including cost and conveyance of all materials, accessories, labour charges for transportation, erection at site etc., complete for finished item of work hinges IS:205 150mm long, 1 No. aldrops IS:2681 300mm long, 1 No. tower bolt IS:204 of 200 mm x 10 mm dia at top, 2 Nos. 150 mm at MGM Warangal	3.25	Sqm
459	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65 mm and ISI marked flush door shutters of 30 mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of teak wood frame, flush shutter including supply and fixing 6 Nos. MS Z hold fasts of size 300 mm x 40 mm x 5mm including cost of ISI marked Aluminium fixtures of 3 Nos. butt long handles IS:208, 1 No. door stopper and 1 No. rubber bush including fixing the fixtures to door with required number of screws, bolt and nuts including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002 The vertical frame of door shall be embedded in flooring for a depth of not less than 10 mm 1000mm x 2100mm at MGM Warangal	29.5	Sqm

460	Supply and fixing doors as per drawings with medium teak wood frame of section 100mm x 65mm and ISI marked flush door shutter of 30mm thick single shutter with bond wood solid block board type Core having cross bands and face veneers, hot pressed bonded with water proof phenol formaldehyde synthetic resin factory made conforming to IS 2202-1991 Part-I both sides commercial ply with internal lipping on all sides including cost and conveyance to site of medium teak wood door frame, flush shutter, including supply and fixing 6 Nos. MS Z hold fasts of size 300mm x 40mm x 5mm including ISI marked Aluminium fixtures 3 Nos. butt hinges IS:205 of 150mm long, 1 No. aldrop IS:2681 250 mm long, 1 No. tower bolt IS:204 of 150 mm x 10mm dia, 2 Nos. 125mm long handles IS:208,1 No. rubber bush including supplying and fixing 1.20mm thick PVC sheet to full height of the shutter inside including labour charges for fixing the frame in position, fixing the shutter to the frame etc., complete for finished item of work as per APSS 1001 and 1002. The vertical frame of door shall be embedded in flooring for depth of not less than 10mm 750mm x 2100mm. at MGM Warangal	6.3	Sqm
461	Flooring with soluble salt porcelain vitrified tiles screen printed and polished of size 600 x 600 mm and thickness between 8 to 10mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630Parts 1 to 15 of any colour and finish in all shades and designs with borders and design as per the approved flooring pattern as directed by the Engineer-In -Charge, laying tiles using spacers of 2mm thick, set over a base coat of CM 1:8 prop. 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 kgs per Sqm. and jointed neatly with white cement paste to full depth mixed with pigment of matching shade including cost and conveyance of all materials like cement, sand, water, tiles, white cement etc., to site excluding cost of C.C. bed including cost of base coat and all labour charges for mixing of cement mortar, laying tiles to required slope as directed by the Engineer-in- charge etc., and complete for finished item of work. APSS No.701 and 707. 2nd Floor at MGM Warangal	265	Sqm
462	Flooring with non-skid full body ceramic floor tiles of size 300mm x 300mm and thickness between 7 - 8mm 1st quality conforming to IS: 13711, IS: 13712, IS: 13630Part 1 to 15 of any colour and finish in all shades and designs as approved by Engineer-in-charge, set over base coat of cement mortar 1:8, 12mm thick using screened sand over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread at the rate 3.3 Kgs per Sqm and jointed neatly with white cement paste to full depth mixed with pigment of matching shade, including cost of all materials like cement, screened sand , water and tiles etc., complete for finished item of work. TSSS No.701 and 707 at MGM Warangal	12	Sqm

463	Providing and fixing in true horizontal level 14 mm - Mineral Fiber sheet 595 x 595 Square / Tegular Fissura fine model edge tiles with a Humidity Resistance of 90percentage RH, Average NRC 0.50, Light Reflectance greater than80percentage, Thermal Conductivity equal to 0.052 to 0.057 w/mk, Fire Performance Class 0/Class 1 using hot dipped Galvanized Steel section exposed surface with pre-coated capping, main Tee of size 24 x 32 mm at every 1200 mm c/c maximum and rotary stitched cross tee of size 24 x 27 mm at every 600 mm c/c and sub-cross tee of size 24 mm x 25 mm at 1200 mm c/c and wall angle of size 19 x 19 mm fixed to periphery of the wall and the above grid is suspended at every 1200 mm c/c in both directions using 2.0 mm thick pre-straightened GI Wire including cost and conveyance of all materials and labour charges such as cutting , fixing of standing of frame work exposing roof making etc., complete for finished item of work in 2nd floor. at MGM Warangal	300	Sqm
464	Providing dadoing to walls with glazed full body porcelain wall tiles of size 300 x 600 mm with any type of design texture such as marble finish, wooden, bamboo, stone finishes etc., scratch less, stain free and thickness between 6-8 mm 1st quality conforming to IS:13711, IS:13712, IS:13630 Parts 1 to 15 of any colour and finish in all shades and designs with borders as approved by Engineer-in-Charge set over base coat of CM1:5 12 mm thick using screened sand with cement slurry of honey like consistency spread at the rate of 3.30 kgs per sqm and jointing with white cement paste mixed with pigment of matching shade to full depth, including cost of all materials like tiles, cement, sand and water etc., complete for finished item of work. 2nd Floor at MGM Warangal	70	Sqm
465	Providing and applying Wall putty of White Cement or Polymer or Cement based of average 1 to 2 mm thickness over plastered surface to prepare the surface even and smooth after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, applying emery paper, Sand the surface, clean and wipe off loose dust, applying knifing paste filler by putty knife / muslin pad, air dry for 2 - 3 hrs, sand with 180 and 320 No., emery paper for the surface preparation including cost and conveyance of all materials to work site and all operational, incidental, labour charges, over heads and etc., complete for finished item of work in 2nd floor Internal walls. at MGM Warangal	800	Sqm
466	Painting to new wood work and flush shutters with lappam finish, over a primary coat and painting two coats of synthetic enamel paint Grade-II VOC Volatile Organic Compound content less than 50 grams/litre of approved shade including cost and conveyance of all materials to site cost of primer coat and all labour charges etc. complete including applying sand paper on lappam coats for neat finish including sales and other taxes on cost of all materials etc., complete in all floors TSSS No.1200, 1207 and 1211. at MGM Warangal	65	Sqm

467	Supply and application of one coat water based cement primer of interior grade I and two coats of water based PU paint having anti bacterial applications content less than 50 grams/litre for internal walls including cost and conveyance of all materials to site, sales and other taxes, incidental, operational and all labour charges etc., and complete for finished item of work in 2nd floor. at MGM Warangal	600	Sqm
468	Painting to old walls with 2 coats of water proof cement paint of shade as approved by the Engineer-In-Charge to give an even shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to work site and all operational, scaffolding charges, incidental, labour charges etc., and overheads and contractors profit complete for finished item of work as per SS 912 in 2nd floor. at MGM Warangal	300	Sqm
469	Supplying and fixing 15 mm brass body CP finish bib tap of not less than 300 grams weight screw type full turn with internal / external threaded connection conforming to IS 8931 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges , overheads and contractors profit complete for finished item of work in all floors. at MGM Warangal	4	No
470	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing,complete for finished item of work at all floor levels. 15.90mm OD pipe at MGM Warangal	50	Rmt
471	Supply and fixing of Ashirvad/ Ajay/ Astral Flowguard or equivalent CPVC Pipes and Fittings SDR 13.5 to meet the requirement of ASTM-D 2846 and are produced in CTS Copper Tube Sizes 1/2inches to 2inches for hot and cold water IS 15778:2007 including cost and conveyance of all materials to site, labour charges for fixing,complete for finished item of work at all floor levels. 22.20mm OD pipe at MGM Warangal	50	Rmt
472	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/Kisan/Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326 - 75mm dia at MGM Warangal	75	Rmt
473	Supplying and fixing of SWR PVC pipes Prince/Sudhakar/Kisan/Supreme or any ISI brand 4 Kg/Sq.cm. and fixing all special such as plain bends, off sets, door bends, single junctions, double junctions as per site requirement, fixing with PVC clamps if necessary with required number of Bombay nails including cost and conveyance of all materials to site, labour charges, complete for finished item of work at all floor levels. APSS No. 1302 1319 and 1326- 110mm dia at MGM Warangal	60	Rmt

474	Supplying and fixing Bronze Gate/ Globe valve as per IS - 778 Class - I, Indian make heavy type including cost and conveyance of all materials , labour charges , overheads and contractors profit complete for finished item of work. 25mm Nominal bore at MGM Warangal	4	No
475	Supplying and fixing of 4inches 101.6mm multi floor trap with jali - UPVC/SWR pipe fittings as per site requirements with standard practice for all floors including cost and conveyance of all materials to site, labour charges , etc., complete for finished item of work. at MGM Warangal	8	No
476	Supplying and fixing Indian make Flat Back Wash Hand Basin 1st quality conforming to IS:2556-Part-4:1972 of size 550mm x 400mm with 32 mm nominal size C.P. Fitting with parallel pipe thread conforming to IS:2963-1979 and fitted with 15 mm nominal bore Chromium Plated Pillar Tap of 1st quality Indian make heavy duty complete with standard CI brackets including wooden blocks ,1 No.12.70mm PVC connection with brass union nuts CP coated , angle stop cock 12.70mm dia. first quality Indian make heavy duty, 30mm dia. PVC flexible waste pipe 914.4mm length of 1st quality including cost and conveyance of all materials to site, labour charges , for finished item of work at MGM Warangal	4	No
477	Supply, Installation and commissioning approved make floor mounted Anglo Indian wash down EWC conforming to IS:2556 Part 8-2004 suit with P or S trap with dual flush porcelain cistern fixed on wash down EWC with all internal parts of dual flush cistern, ultra solid seat cover of approved make with rubber buffer and cap and 15 mm angle stop cock and 450 mm long PVC inter connection pipe wall flanges all of approved make etc. complete for finished item of work in all respects: TBSP-E.II-03 at MGM Warangal	4	No
478	Supplying and fixing Chromium plated finish brass body quarter turn Bibcock cum Health Faucet with 1m long tube and wall hook with necessary fittings etc., complete including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at MGM Warangal	4	No
479	Supplying and fixing CP finish brass soap dish of approved make ISI quality including cost and conveyance of all materials, labour charges for fixing, for finished item of work in all floors at MGM Warangal	4	No
480	Supplying and fixing TV shape mirror with plastic frame of size 609.6mm x 457.2mm, plywood back with NP screws 1st quality including cost and conveyance of all materials, labour charges, for finished item of work in all floors. at MGM Warangal	4	No
481	Supplying and fixing of CP finish brass wall mounted towel ring at MGM Warangal	4	No
482	Supplying and fixing 15 mm brass body CP finish self closing tap push type conforming to IS 1711 as approved by the Engineer-In-Charge including cost and conveyance of all materials, labour charges, complete for finished item of work in all floors. at MGM Warangal	4	No

483	Supply and installation of 80mm thick double skin modular wall Panels made of 0.8 mm thick powder coated GI on both the sides, with 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, flush on both sides with maximum allowable gap of 3- 4mm filled with food grade silicon sealant and placed on cold rolled galvanised bottom tracks with a recess to provide floor to wall coving flush with the wall panel. This includes all required hardware for completion Panels to be covered with a protective film to avoid any damages during transportation and installation at MGM Warangal	130	sqm
484	Supply and installation of 50mm thick double skin ceiling system made of 0.8 mm thick Powder Coated GI sheets on both sides, 40 plus or minus 2 kg/m ³ density PUF as infill, GI profiles all along the periphery, panels flush towards room side with maximum allowable gap of 3-4mm at panel to panel joints filled with silicon sealant. Ceiling panels are suspended from the RCC slab by using concealed AL ceiling grid with tie rod and adjustable turn buckle arrangement etc. This includes all required hardware for completion. Panels to be covered with a protective film to avoid any damages during transportation and installation at MGM Warangal	65	sqm
485	Double leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 1500 X 2100 mm with 300mm X 300mm double glazed view panels at MGM Warangal	5	No
486	Single leaf clean room Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 900 X 2100 mm with 300 mm x 300 mm View panel at MGM Warangal	1	No

487	Emergency Fire Doors : 46mm thick flush doors made of 0.8mm thick Powder coated GI sheets on both sides, 90 plus or minus 2 kg/m ³ density Honeycomb with stand upto 220 Deg.C Temperature, and compressible strength upto 400 Kg/Sqm, 1.2 mm thick GPSP . door frames, double glazed vision panel with necessary adhesive tapes and silicon sealant, necessary hardware like SS304 ball bearing butt hinges, D- handles, push plates, Dorma make door closure, concealed tower bolt, drop seals for the double leaf door and provision for fixing magnetic type door interlocking system and automatic door bottoms, Both side lock and keys etc. complete. Size 1500 X 2100 mm with 2 hours fire rated and panic push bar and accessories etc. at MGM Warangal	1	No
488	Supply and installation of Extruded Aluminium Coving at MGM Warangal	100	Rmt
489	Providing, laying of scratch proof PVC/Vinyl flooring of 2mm thickness with proper welded joints air tight, along with leveling compound to match the existing flooring levels as per engineer in charge instructions. Sub floor preparation with self leveling compound. After the sub floor preparation, it should be suitable for ESD flooring. Rate inclusive of sifting of material and labour charges. at MGM Warangal	120	Sqm
490	Supply, installation, testing and commissioning of 16 G GI powder coated suitable single person entry air shower as per the technical Specifications at MGM Warangal	1	No
491	Supply, installation, Testing and Commissioning of Static Pass Boxes of Size 450X450mm with 1.2mm thick SS 304 Mat finish , with interlock doors, UV light On when doors closed condition. As per clean room standard and requirement. at MGM Warangal	3	No
492	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe concealed in wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at MGM Warangal	220	Rmt
493	Supply and laying of ISI 25mm outer dia medium grade with IS:9537-part 3 rigid PVC pipe surface on wall with all required PVC / Metallic Junction Boxes including masonry work and labour charges etc., Makes: Sudhakar / Precision /Universal/ Modi / Million Plast. at MGM Warangal	500	Rmt
494	Wiring with 2 runs of 22/0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable ISI MARK in existing pipe with 6A Modular switch, Ceiling rose/BH/SBH Modular switches with cover plate and GI switch box including all labour charges etc., complete. for Non- Residential Building Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGM Warangal	105	Pts
495	Supply and fixing of 6A ISI Mark 3/2 pin Modular socket with 6A 1way Modular switch, 3 Module box with cover frame and GI switch box on common switch board with connections etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGM Warangal	12	No

496	Supply and fixing of 16A switches - 1Nos and 6/16A 2 in one socket - 1Nos Modular type with cover plate and GI switch box fixing on separate board including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGM Warangal	40	No
497	Supply and fixing of 16A/6A, 2 in one socket - 2 Nos with 16A switch control - 2 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGM Warangal	60	No
498	Supply and fixing of 16A/6A, 2 in one socket - 4 Nos with 16A switch control - 4 Nos modular type with and GI switch box with front cover plate including all labour charges etc., complete. Makes of switches: - GM Four-Five / Legrand Arteor / Schneider Zen celo /Honeywell Blenge Plus/Gold Medal curve. at MGM Warangal	10	No
499	Supply and run of 1 of 22 /0.3mm 1.5 Sq.mm FRLS / HFFR P.V.C. insulated flexible copper cable in existing conduit pipe for earth continuity including all labour charges etc., complete. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGM Warangal	375	Rmt
500	Supply and run of 3 of 2.5 sq.mm 36/0.mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe for individual lighting circuits including labour charges etc., complete as required for switch boards. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGM Warangal	600	Rmt
501	Supply and 3 runs of 4.0 sq mm 56/0.3 mm phase neutral and earth FRLS / HFFR PVC insulated flexible copper cable in existing conduit pipe including labour charges etc., complete for 16A sockets. Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGM Warangal	1200	Rmt
502	Supply and run of 5 of 6.0 Sqmm 90/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for LDBs Makes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL. at MGM Warangal	60	Rmt
503	Supply and run of 5 of 10.0 Sqmm 140/0.3 mm 3 phases, neutral and earth FRLS / HFFR PVC insulated flexible copper cable in the existing conduit pipe for run of mains from Power panel board to TPN DBs with pin type lugs and connections etc., complete. for PDBsMakes of wires: Finolex/ RR Cable/ Havells/ Polycab/ HPL at MGM Warangal	40	Rmt
504	Supply and fixing of DP Metal Enclosure with IP 20 Protection DB Make with 1 No 20A, 10 KA DP MCB Make: Legrand / Schneider including internal connection and labour charges for Flush Mounting etc., complete. Makes: Legrand / Schneider. at MGM Warangal	5	No

505	Supply and fixing of 4 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 40A FP 30mA RCCB as incomer and 12 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs at MGM Warangal	3	No
506	Supply and fixing of 8 Way TPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 63A FP 100mA RCCB as incomer and 24 Nos 6-32 A 10kA SP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For Lighting DBs at MGM Warangal	2	No
507	Supply and fixing of 8 Way VTPN DB Horizontal with IP 43 Protection as per IS:13032 Makes: Legrand / Schneider and Supply and Fixing of 1 No., of 100A FP 10KA MCB as incomer and 4 Nos 63 A 10kA TP MCBs, 4 Nos 40 A 10kA TP MCBs Makes: Legrand-DX3 / Schneider-Acti9 as out goings including internal connections and labour charges for FLUSH Mounting etc., complete. For UPS MDB DBs at MGM Warangal	1	No
508	Providing and fixing of 125A 25KA TPN Thermal Magnetic Release Based MCCB and Terminal Spreaders in Existing panel board with 1 No. and 1 Set of Indication Lamps, LED type, R,Y,B and breaker ON , OFF, TRIP and spring charged lamps. and replace with above Mentioned with required Drilling Holes, removing and Making Busbar connections etc, as required. Makes: Legrand / Schneider/ABB/ LandT/CandS at MGM Warangal	1	No
509	Providing and fixing of 100A 10KA FP MCB and Terminal Spreaders in IP 43 isolator Box Making connections etc, as required. Makes: Legrand / Schneider/ ABB/LandT/CandS at MGM Warangal	2	No
510	Supply, transportation and fixing of 24W edge lit LED Down light Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser Square with Protruded high efficiency diffuser, IP20, with wide operating voltage range, Power factor greater than 0.9, Surge protection: greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than 80, and THD is less than 15percentage etc., with BIS Certification. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells at MGM Warangal	56	No
511	Supply and Transportation 36W Edge lit, 2 feet x2 feet 600mm x600mm slim panel LED luminaire Square Housing Made of Aluminum alloy with corrosion resistant powder coat, with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15percentage etc., complete. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells at MGM Warangal	36	No

512	Supply and Transportation 42W Clean room Light fixture, 2 feet x2 feet 600mm x600mm LED luminaire CRCA powder coated white after phosphocreatine treatment provided as standard. with high efficiency acrylic wide diffuser, with wide operating voltage range, Power factor greater than 0.9, Surge protection greater than 2KV, System efficacy of greater than 100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than 80, and THD is less than 15 percentage etc., complete. MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells at MGM Warangal	12	No
513	Supply and fixing of ISI mark batten holder / slanting holder Makes : Anchor / Gold Medal Olive / Million Zoom in lieu of ceiling rose of light point complete with all connections and all labour charges with 5.0W LED Lamp MAKE: OSRAM / Wipro / Crompton / Bajaj / Havells at MGM Warangal	5	No
514	Supply, Transportation of energy efficient fan, 1200 mm sweep, aluminium body, consuming 28 W, BEE 5 star rated, ceiling fan with Brush Less Direct Current BLDC motor, class of insulation: B, 3 nos blades, 30 cm long down rod, 2 nos canopies, shackle kit, safety rope, copper winding, Power Factor greater than 0.90, Service Value CMMAV greater than 8.5, Air delivery minimum 235 CMM, 350 RPM tolerance as per IS:374-2019, THD less than 10 percentage. with remote or compatible to electronic step type regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise equal to 75 degree Cmax, insulation resistance more than 2 mega ohm, suitable for 230V, 50 HZ, single phase AC supply, earthing etc., including all standard accessories etc., complete. Makes : Atomberg Efficio / Havells / Orient at MGM Warangal	12	No
515	Supply and fixing of Modular type Stepped electronic regulator Makes : GM Four-Five / Legrand Arteor / Schneider Zen celo / Honeywell Blenge Plus/ Cabtree Verna/ Million logus / Gold Medal Curve for sweep AC ceiling fans of 1200mm / 1400mm complete with connections. at MGM Warangal	12	No
516	Supply and installation of 225mm Light duty exhaust fan with metal blades etc complete Makes: Crompton / Havells Ventilair-DB/ Orient hill air. at MGM Warangal	5	No
517	SITC of Hot dip galvanized perforated cable tray of 100 mm Wide sizes for to run the cable from DBs to SBs and sockets and AC panel to Units units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. at MGM Warangal	70	Rmt
518	SITC of Hot dip galvanized perforated cable tray of 300 mm Wide sizes for to run the cable from Floor Panel to Lab Panel and electrical room to AC panel and AC panel to Units. All necessary supports and accessories are included. Cable tray for cables alone shall be included here Thickness shall be 1.6 mm. at MGM Warangal	80	Rmt

519	Supply and installation of 20KVA 3ph in and 3ph out on line UPS system IGBT based rectifier with input power factor correction 32 bit microprocessor based with isolation transformers double conversion, SNMP controls, LCD display, Pure sine wave output, with auto static switch three phase input / Three phase output and modular structure for better thermal technology / cooling facility, with warranty up to three years. Makes: APC / Numeric / Emerson / Fuji Electric at MGM Warangal	1	No
520	Supply and fixing of 12V 65 AH SMF battery including wire leads. Makes: Quanta / Racket / Exide. at MGM Warangal	20	No
521	Supply and providing of UPS cum battery rack for 20 batteries at MGM Warangal	1	No
522	Providing and Fixing maintenance free earthing which consists of G.I. Earth station, with 600X600X3.15mm GI Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. at MGM Warangal	2	No
523	Providing and Fixing maintenance free earthing which consists of copper. Earth station, with 600X600X3.15mm Copper Plate at 2500mm Depth including construction of brick pedestal, providing meshed funnel, GI cover and other civil Engineering works, spreading a homogenous mixture of salt, charcoal around the pipe etc., completely as per IS 3043, 1987 or latest revision. Earthing testing should be done as per IE Rules like Earth valve test Etc. at MGM Warangal	2	No
524	Supply and installation of 50x6 GI flat for body earthing of electrical panel and AC Panel which is laid in 300mm cable tray at MGM Warangal	200	Rmt
525	Supply and installation of 25x3 GI flat for body earthing of DBs and Cable tray which is laid in 100mm cable tray at MGM Warangal	100	Rmt
526	Supply and installation of 25x3 Copper flat for Neutral earthing of UPS and Equipment which is laid in 100mm cable tray at MGM Warangal	200	Rmt
527	Supply and installation of 4 sqmm Copper wire for Earthing of DBs Equipment at MGM Warangal	80	Rmt
528	Supply, Lying and testing of 3.5Cx95 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commnet/Dowell's at MGM Warangal	120	Rmt

529	Supply, Lying and testing of 3.5CX50 sqmm XLPE Insulated Cable 1100V grade armoured aluminium cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commet/Dowell's at MGM Warangal	70	Rmt
530	Supply, Lying and testing of 4Cx16 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc.. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex Make of gland and Lungs: HMI/Commet/Dowell's at MGM Warangal	100	Rmt
531	Supply, Lying and testing of 4Cx6 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex, Make of gland and Lungs: HMI/Commet/Dowell's at MGM Warangal	120	Rmt
532	Supply, Lying and testing of 4Cx4 sqmm PVC Insulated Cable 1100V grade armoured Copper cable with ISI mark as per specification confirming to IS:7098 Part - I with heavy duty type double compression weather proof type brass cable glands duly nickel plated as per BS 6121 and IP66 complete with brass checknut, outer sheath sealing gasket heavy duty long barrel aluminium lugs confirming to I.S specifications with complete nut, bolt and washer etc. Make of Cable: Polycab/ KEI/Universal/Glostar/Finolex, Make of gland and Lungs: HMI/Commet/Dowell's at MGM Warangal	80	Rmt

533	SITC of IVF Center Main Panel Indoor IP-42 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with /without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective IVF equipment's. Which is including Lighting, power DBs and UPS at MGM Warangal	1	No
534	SITC of IVF center AC Panel outdoor IP-54 wall/ free standing floor mounted dust and vermin proof compartmentalized cubical panel made out of CRCA sheet, required hardware, duly treated for de-rusting in 7 tank process with de-phosphate and with powder coating on both side of panel in desired shade. The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness, separate detachable gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required. Side walls and cable alley compartments having bolted type doors with / without detachable extension type structure with all type of suitable switching accessories and bus-bar as per load requirement of respective AC equipment's. Which is including 1nos AHU's stater with VFD by pass, Heater, ODU and VRF system at MGM Warangal	1	No
535	Supply and installation of AHUs stater on/off push button station for Remote control for inside IVF center with control wiring from AC panel to on /off push button station with necessary items. at MGM Warangal	3	No
536	Supply, installation, testing and commissioning of 20nos LAN points with cat 6 cable and with suitable network rack and 5nos of telephone points with krone box to existing EPABEX. at MGM Warangal	1	Job
537	Supply, installation, testing and commissioning of 1 no of Access control system with egress switch, Power Cable, communication cable to control panel with necessary required items Etc. at MGM Warangal	1	Job
538	Supply, installation, testing and commissioning of Automatic Fire Alarm System which is including 30 nos of smoke Detectors 1nos manual call point, 1 no of Hooter with fire alarm cable connected to the existing fire control panel with necessary Required items etc.. at MGM Warangal	1	Job
539	Supply, installation, testing and commissioning of 5nos IP Based CCTV cameras and Cat 6 Cable with NVR system. at MGM Warangal	1	Job
540	Supply, installation, testing and commissioning of Audio and video recording of counseling rooms at MGM Warangal	1	Job

541	Supply and installation of Fire Extinguishers of CO2 4.50 Kg at MGM Warangal	5	No
542	Supply and installation of ceiling mounted Fire Extinguishers of ABC MAP 90, 5.0 Kg stored pressure type at MGM Warangal	5	No
543	Supply and installation of 2.0 Kg clean agent HCFC 123 Fire Extinguishers at MGM Warangal	5	No
544	Supply and fixing of Fire escape signage Boards at MGM Warangal	1	Job
545	Supply, transportation and installation of split AC unit 1.5 TR inverter type 3 Star capable of delivering 18000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes : Daikin / Thoshiba / O General at MGM Warangal	1	No
546	Supply, transportation and installation of split AC unit 1.0 TR inverter type minimum 3 Star capable of delivering 12000 BTU/hr and above with high wall mounted indoor unit and outdoor condensing unit Hermetically sealed compressor suitable for operation on 230V, 50Hz, 1Phase AC supply capable of performing cooling dehumidifying air circulating and filtering with cooling and condensing units with 3.5 mts of copper piping, insulation kit and 4 mts of 3 core copper flexible chord , built-in stabilizer Voltage range 160- 264 volts and cordless remote control. Makes: Daikin / Thoshiba / O General at MGM Warangal	1	No
547	Modular Double skin floor mounted EUROVENT Certified Air Handling Unit 3000CFM / 8.5 TR / 150mm SP made out of 45 plus or minus 2mm thick PUF insulated panels Thermal break aluminium profile frame work with 0.8mm thick pre painted / powder coated inner and outer skins comprising of mixing box with fresh air and return air dampers, pre filters with 10 and 5 microns combination filters in single frame, Interlaced/Intertwined DX Cooling Coil suitable for connecting 2 nos of 8.5TR capacity 1W plus 1S out door condensing units, SS304 drain pan with , blower section with Nicotra / Kruger make direct drive/ Plug type fan, vibration isolators, EFF1 motor and blower section with on/off switches to operate from outside, limit switch for the fan section access door with a view port, fine filter section with 3 microns filters inspection doors for all filter and fan sections and damper at the outlet of unit. Ports for differential pressure gauges across all filters and blower to measure differential pressure. AHU Make : VTS / Systemair, Make - Blower - Nicotra / Kruger ; Motor - Crompton Greaves / Siemens ; Filter - Thermodyne / Freudenberg / Ultrafil at MGM Warangal	1	No
548	SITC of filter module made out of heavy duty Aluminium powder coated extrusion with minimum of 13G . and to house 610 mm X 610 mm HEPA Filter at the rate 0.3 microns , 99.9997, H-14 Grade, Filter loading from clean room side with bewel gear arrangement damper with access from clean room suitable to house the following filter sizes pressure drop and Integrity testing ports into room. Includes SS capsule perforated diffuser. This includes all required supports and accessories etc. Capacity 1000 CFM. at MGM Warangal	6	No

549	SITC of air cooled condensing units with two scroll compressors, air cooled condenser, power panel, vibration isolating pads, stand for ODU, thermostat, etc. of the following capacities. The nominal capacity of the condensing unit shall be as under. Air cooled condensing unit shall have horizontal discharge. All refrigerant piping accessories sight glass, drier, expansion valve, etc. shall be supplied with the condensing units and suitable to connect above AHUs. Refrigerant shall be R 407C / R 410A. Necessary thermostat, control wiring, etc. shall be included. Derating of the unit shall not be more than 15percentage under 45 deg. C ambient temperature. Condensing unit shall be capable of operating up 50 deg. C ambient temperature. 8.5 TR capacity at MGM Warangal	1	No
550	SITC of Flange type, Flame proof FLP duct heaters of 5 kW capacity with Mineral Filled AISI SS304/SS321 Sheathed Tubular Heater with GI Helical fins, Tube dia 8.2mm min and Helical Finn dia 25mm min, enclosed in the frame, FLP Terminal box etc., Nickel Chromium Inner Element, Silicon Sealing to Restrict Moisture pickup, Silver brazed mounting plate etc., and heaters shall be controlled with PID thyresistor controller based on the analog output signal of 0-10 V DC of controller . And this should have saftey thermostat and cutouts and air stat etc. all safety controls. The capacities as follows and sizes of the heaters shall be as per the duct sizes and approved drawing. at MGM Warangal	1	No
551	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Liquid Line at MGM Warangal	20	Rmt
552	SITC of 20/21 G hard drawn copper refrigerant piping with all fittings, supports, insulation with 19 mm thk class O nitrile rubber insulation with factory laminated glass cloth for physical protection and UV protection etc. Quality of copper piping fittings shall be suitable for 18 G piping. Copper piping shall be clamped at every 1.5 mt. distance. copper piping shall be laid on inverted GI perforated cable trays and clamps as per specification inside the building. Copper piping on the terrace shall be laid with bottom and top cable tray. Thickness of the tray shall be 1.6 mm. Copper pipe size shall be as per OEM standards. Suction Line at MGM Warangal	20	Rmt
553	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 32mm Dia at MGM Warangal	50	Rmt
554	SITC of CPVC drain ping with supports, clamps and 9 mm thk. Nitrile rubber tube insulation of the following sizes. Insulation shall have factory laminated glass cloth. 25mm Dia at MGM Warangal	50	Rmt

555	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulating the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 20G - 1.0 mm Thick at MGM Warangal	30	Sqm
556	SITC of Factory fabricated and boxed ducting using Aluminium Sheets / coils, should be fabricated as per SMACNA, galvanised hardware and supports, silicon sealant at all longitudinal joints, Galvanized /GI Electroplated iron angle flanges for all the joints, bracing angles and minimum 5mm thick neoprene rubber gasket.- Duct pressure testing at 75mm to be carried out before insulating the duct. pressure testing to be done as per SMACNA. Procedure to be approved by consultant. 22G - 0.8 mm Thick at MGM Warangal	250	Sqm
557	Aluminium low leakage aerofoil design volume control dampers Suitable for manual and motorised operation at MGM Warangal	2	Sqm
558	CBRI approved 16G GI Spring return actuated fire dampers rated for 90 minutes with limit switch. at MGM Warangal	2	Sqm
559	SITC of SS perforated return raiser grilles with 10 microns filters with collar dampers at MGM Warangal	2	Sqm
560	Extruded Al. powder coated EXHAUST / RETURN discrete grilles at MGM Warangal	1	Sqm
561	SITC of Collar Dampers made of Al. extrusions with black powder coating for Grilles / Diffusers at MGM Warangal	1	Sqm
562	SITC of Magnehelic gauges across pre and fine filter at AHUs including mounting arrangement, SS nozzles, food grade PVC tubing, etc. at MGM Warangal	2	No
563	SITC of Magnehelic gauges to measure the room differential pressures in operation theatres with SS mounting box, SS nozzles, food grade PVC tubing, etc. at MGM Warangal	2	No
564	SITC of Aluminium powder coated Fresh air and Exhaust Louvers of non-vision type with nylon mosquito net etc. at MGM Warangal	1	Sqm
565	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 32mm Thick for Exposed Supply Air duct and finished with UV Protective Paint. at MGM Warangal	130	Sqm
566	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Exposed Return Air Duct and finished with UV Protective Paint.at MGM Warangal	130	Sqm
567	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 25mm Thick for Supply air duct running inside the building. at MGM Warangal	40	Sqm
568	Supply, laying of Class O Nitrile rubber with factory laminated Glass cloth, all joints shall be covered with self-adhesive tapes 19mm Thick for Return air running inside the building. at MGM Warangal	40	Sqm

569	Condensing units - VRF/VRV System : Supply, Installation, Nitrogen testing , Vacuuming and Commissioning of air cooled variable refrigerant flow modular type condensing units, each comprising of multiple scroll compressors all inverter driven, full charge of refrigerant gas R-410a including additional gas filling , lubricating oil and all accessories as per the specifications. The condensing units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B . The COP of the system shall be greater than 4 under ARI conditions for 100percentage load . The condensing units shall be suitable for operation on 415 plus or minus 10percentage volts, 50Hz, 3 phase AC power supply and , outdoor units to be mounted on MS platform with suitable Vibration Isolation pads to avoid vibrations. All the supports and angle base frame structure to be duly black painted with synthetic epoxy paint. the condensing units shall be of following capacities: The VRF ODU should be capable of working with total capacity of connected indoor units ranging between 100percentage to 140percentage of ODU capacity . COP minimum 3.5. Make : Daikin / LG / O General / Toshiba at MGM Warangal 14 HP	1	Set
570	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 0.8 TR at MGM Warangal	2	No
571	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.0 TR at MGM Warangal	2	No
572	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling.The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.25 TR at MGM Warangal	2	No

573	VRF Indoor Units : Hi wall Splits : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 1.50 TR at MGM Warangal	4	No
574	Cassette Units : Supply, Installation, Testing and Commissioning of variable refrigerant flow modular type indoor units wired/wireless remote suitable for R410a refrigerant comprising of all accessories as per the specifications. The indoor units shall be suitable to work on cooling mode. The minimum Energy Efficiency Ratio shall be as per ASHRAE STANDARDS 90.1 -2001 table 6.2.1B. The indoor units shall be suitable for operation on 220 plus or minus 6percentage volts, 50Hz, 1 phase AC power supply. 3.0 TR – 4 way at MGM Warangal	1	No
575	Supply, Installation, Testing and Commissioning of Hard copper REFRIGERANT PIPING of 16swg various sizes with necessary supports, fittings, interconnecting the liquid and suction lines between the aircooled outdoor units and the indoor units. The piping shall be carried out of Hard drawn copper pipes of type K with soldered / brazed socket fittings. Isolating valves shall be provided to isolate each compressor, strainers, sight glass and any other component requiring proper operation and maintenance. Both the suction and liquid lines shall be insulated with 19mm thick closed cell insulation for above 25mm dia , 13mm thick for pipes below 25mm dia . The insulation finished with treated woven glass fiber reinforced covering for inside Piping and including making required holes in the wall and re finishing and water tight of holes after laying holes as per the specifications and approved drawings at MGM Warangal	1	Lot
576	Supply, Installation , Testing and Commissioning of Refnet joints to be provided in refrigerant pipe line. Material of construction for fittings shall be similar to refrigerant piping. at MGM Warangal	10	Set
577	Supply and Installation of control cum transmission wiring of size 3C x 1.5 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories as at MGM Warangal	150	Rmt
578	Supply and Installation of cabling of size 2C x 1 Sqmm copper wire to be laid in heavy grade PVC conduit including all fixing and accessories as per the approved routing. at MGM Warangal	100	Rmt
579	SITC of Oxygen Manifold Emergency for 1 plus 1 Cylinders, as per technical specifications.	1	Set
580	SITC of Oxygen Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported	4	each
581	SITC of Oxygen Flowmeter with Humidifier, CE Certified with four digit number as per enclosed technical specifications - Imported	4	each

582	SITC of Nitrous Oxide Manifold Emergency for 1 Cylinder, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications	1	Set
583	SITC of N2O Outlets with matching probes, as per HTM-2022/02-01 of UK/NFPA99C of USA as per enclosed technical specifications - Imported	4	each
584	SITC of C02 Manifold for 2 Cylinders, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications	1	Set
585	SITC of C02 Outlets with matching probes, as per HTM-2022102-01ofUK/NFPA99C of USA as per enclosed technical specifications - Imported	4	each
586	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 12mm COPPER PIPE at MGM Warangal	24	Rmt
587	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 15mm COPPER PIPE at MGM Warangal	114	Rmt
588	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 22mm COPPER PIPE at MGM Warangal	36	Rmt
589	SITC of MEDICAL Grade BS EN: 13348 Kite Marked 28mm COPPER PIPE at MGM Warangal	18	Rmt
590	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for 3 gases at MGM Warangal	1	each
591	SITC of Touch type LCD Area Alarm and Zonal Valve box- as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications imported for Master Main Alarm including all Gases at MGM Warangal	1	each
592	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 15mm OD at MGM Warangal	3	each
593	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm OD at MGM Warangal	3	each
594	SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm OD at MGM Warangal	4	each
595	SITC of Bed Head Panel - as per HTM 2022/02-01/ NFPA99C as per enclosed technical specifications at MGM Warangal	2	each

Indicative Measurements:

A. IVF Centre in 5th Floor MCH Building at Gandhi Hospital, Secunderabad.

1.Details of Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	OT-1	6.48	4.5	1	29.160
2	Embryology Lab	6.48	4.50	1	29.160
3	OT-2	6.48	4.30	1	27.864
4	Autoclave	5.97	3.00	1	17.895
5	Andrology Lab	6.48	3.21	1	20.801
6	Cryo Room	2.87	1.60	1	4.592
	Grand Total	34.755	21.110		129.472

2.STERILE AREA -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	OT-1	6.48	4.5	3.60	79.06	0.00	3.15	75.91
2	Embryology Lab	6.48	4.50	3.60	79.06	0.00	3.15	75.91
3	OT-2	6.48	4.30	3.60	77.62	0.00	3.15	74.47
5	Autoclave	5.97	3.00	3.60	64.55	0.00	2.10	62.45
6	Andrology Lab	6.48	3.21	3.60	69.77	0.00	8.19	61.58
7	Cryo Room	2.87	1.60	3.60	32.18	0.00	2.10	30.08
	Grand Total	34.755	21.110		402.228	0.000	21.840	380.388

3.Details of Semi Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	Sperm Collection	3.985	2.35	1	9.365
2	Toilet	1.88	1.15	1	2.162
3	Blood Collection & Injection Room	4.60	2.45	1	11.270
4	Room	2.50	2.75	1	6.875
5	Toilet	1.88	1.15	1	2.162
6	Change Rooms	2.44	2.01	2	9.789
7	Toilet	1.39	2.01	1	2.784
	Grand Total	18.665	13.870		44.406

4.Semi-Sterile Area -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	Sperm Collection	3.985	2.35	3.60	45.61	0	2.1	43.512
2	Toilet	1.88	1.15	3.60	21.82	0.40	1.57	20.246
3	Blood Collection & Injection Room	4.60	2.45	3.60	50.76	0.00	2.10	48.66
4	Room	2.50	2.75	3.60	37.80	0.00	1.57	36.23
5	Toilet	1.88	1.15	3.60	21.82	0.00	1.57	20.246
6	Change Rooms	2.44	2.01	3.60	64.01	0.00	3.14	60.868
7	Toilet	1.39	2.01	3.60	24.44	0.00	1.57	22.874
	Grand Total	18.665	13.870		266.256	0.400	13.620	252.636

5.Details of Non- Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	UPS Room	2.745	2.1	1	5.765
2	Electrical Room			1	0.000
3	Store Room	2.42	2.18	1	5.265
4	Reception Area	3.40	3.00	1	10.200
5	Record Room	3.20	3.00	1	9.600
6	Counseling Room-1	1.98	2.18	1	4.316
7	Counseling Room-2	1.98	2.18	1	4.316
8	Ultrasound	4.51	2.45	1	11.046
9	Toilet	1.50	1.20	1	1.805
10	Manifold	1.98	2.45	1	4.855
11	Pre/Post Operative	6.60	6.82	1	44.979
12	Toilet	1.20	2.00	1	2.400
	Grand Total	31.505	29.562		104.547

6. Details of Non- Sterile Area Dimensions for walls:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net Wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	UPS Room	2.745	2.1	3.60	34.88	0.00	2.10	32.78
2	Electrical Room							
3	Store Room	2.42	2.18	3.60	33.08	0.00	2.10	30.98
4	Reception Area	3.40	3.00	3.60	46.08	0.00	2.10	43.98
5	Record Room	3.20	3.00	3.60	44.64	2.16	2.10	40.38
6	Counseling Room-1	1.98	2.18	3.60	29.95	0.00	2.10	27.85
7	Counseling Room-2	1.98	2.18	3.60	29.95	0.00	2.10	27.85
8	Ultrasound	4.51	2.45	3.60	50.09	2.16	2.10	45.83
9	Toilet	1.50	1.20	3.60	19.46	0.40	1.57	17.49
10	Manifold	1.98	2.45	3.60	31.91	2.16	2.10	27.65
11	Pre/Post Operative	6.60	6.82	3.60	96.59	2.16	2.10	92.33
12	Toilet	1.20	2.00	3.60	23.04	0.40	1.57	21.07
	Grand Total	31.505	29.562		439.682	9.440	22.040	408.202

B. IVF Centre in 3rd floor at MGMH, Petlaburj, Hyderabad :

1.Details of Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	OT-1	5.755	6.35	1	36.544
2	Embryology Lab	3.58	8.98	1	32.148
3	OT-2	5.00	6.35	1	31.750
5	Andrology Lab	3.66	6.46	1	23.611
6	Cryo Room	2.17	2.50	1	5.425
	Grand Total	20.160	30.640		129.479

2. Sterile Area -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)			
1	OT-1	5.755	6.35	3.6	87.16	0.00	3.15	84.006
2	Embryology Lab	3.58	8.98	3.60	90.43	0.00	3.15	87.28
3	OT-2	5.00	6.35	3.60	81.72	0.00	2.10	79.62
5	Andrology Lab	3.66	6.46	3.60	72.83	0.00	8.19	64.64
6	Cryo Room	2.17	2.50	3.60	33.62	0.00	2.10	31.52
	Grand Total	20.160	30.640		365.760	0.000	18.690	347.070

3.Details of Semi Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	Sperm Collection	3.585	3.85	1	13.802
2	Toilet	1.20	1.80	3	6.480
3	Autoclave	3.59	3.35	1	12.010
4	Store Room	2.27	2.50	1	5.675
5	Manifold Room	2.09	3.00	1	6.255
6	Pre/Post Operative Ward	5.00	6.35	1	31.750
7	Blood Collection	2.27	3.20	1	7.264
8	Nurse Change Room	2.27	3.20	1	7.264
	Grand Total	22.265	27.250		90.500

4.Semi-Sterile Area -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	Sperm Collection	3.585	3.85	3.6	53.53	0	2.1	51.432
2	Toilet	1.20	1.80	3.60	64.80	1.20	4.71	58.89
3	Autoclave	3.59	3.35	3.60	49.93	2.16	2.10	45.67
4	Store Room	2.27	2.50	3.60	34.34	0.00	2.10	32.24
5	Manifold Room	2.09	3.00	3.60	36.61	2.16	2.10	32.35
6	Pre/Post Operative Ward	5.00	6.35	3.60	81.72	2.16	2.10	77.46
7	Blood Collection	2.27	3.20	3.60	39.38	0.40	1.57	37.41
8	Nurse Change Room	2.27	3.20	3.60	39.38	0.40	1.57	37.41
	Grand Total	22.265	27.250		399.708	8.480	18.350	372.878

5.Details of Non- Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	UPS & Electrical Room	3.40	3.045	1	10.353
2	Change Room -1 (Doctors)	2.17	3.20	1	6.944
3	Change Room -2 (Doctors)	2.17	3.20	1	6.944
4	Change Room -3 (Class IV)	2.09	3.20	1	6.672
5	Change Room -4 (Class IV)	2.09	3.20	1	6.672
6	Reception Area	3.14	3.46	1	10.864
7	Record Room	3.14	3.00	1	9.420
8	Counseling Room-1	2.96	3.00	1	8.880
9	Counseling Room-2	2.96	3.00	1	8.880
10	Ultrasound	6.04	3.35	1	20.234
11	Toilet	1.20	1.80	1	2.160
	Grand Total	31.350	33.455		98.023

6.Details of Non- Sterile Area Dimensions for walls:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	UPS & Electrical Room	3.40	3.045	3.60	46.40	2.16	2.10	42.14
2	Change Room -1 (Doctors)	2.17	3.20	3.60	38.66	0.00	1.57	37.09
3	Change Room -2 (Doctors)	2.17	3.20	3.60	38.66	0.00	1.57	37.09
4	Change Room -3 (Class IV)	2.09	3.20	3.60	38.05	0.00	1.57	36.48
5	Change Room -4 (Class IV)	2.09	3.20	3.60	38.05	0.00	1.57	36.48
6	Reception Area	3.14	3.46	3.60	47.52	0.00	2.10	45.42
7	Record Room	3.14	3.00	3.60	44.21	2.16	2.10	39.95
8	Counseling Room-1	2.96	3.00	3.60	42.91	0.00	2.10	40.81
9	Counseling Room-2	2.96	3.00	3.60	42.91	0.00	4.20	38.71
10	Ultrasound	6.04	3.35	3.60	67.61	4.32	4.20	59.09
11	Toilet	1.20	1.80	3.60	21.60	0.40	1.57	19.63
	Grand Total	31.350	33.455		466.596	9.040	24.650	432.906

C. IVF Centre in 2nd floor, MCH Building at MGM Hospital, Warangal

1.Details of Sterile Area Dimensions for walls:					
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)
1	OT-1	6.9	4.44	1	30.636
2	Embryology Lab	7.02	4.44	1	31.147
	Grand Total	13.915	8.880		61.783

2.STERILE AREA -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	OT-1	6.9	4.44	3.6	81.65	0	3.15	78.50
2	Embryology Lab	7.02	4.44	3.60	78.55	0.00	3.15	75.40
	Grand Total	13.915	8.880		160.198	0.000	6.300	153.898

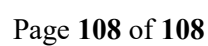
3. Details of Semi Sterile Area Dimensions for walls:						
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)	
1	OT-2	7.02	4.44	1	31.147	
2	Autoclave	1.95	4.80	1	9.360	
3	IUI Room	3.15	4.80	1	15.120	
4	Andrology Lab	3.27	4.80	1	15.672	
5	Cryo Room	3.04	2.00	1	6.080	
6	Sperm Collection	4.36	2.69	1	11.693	
7	Toilet	1.20	2.00	1	2.400	
8	Change Room -1	1.92	2.00	1	3.830	
9	Change Room -2	1.92	2.00	1	3.830	
10	Blood Collection & Injection Room	4.35	2.00	1	8.708	
11	Embryologist Room	3.04	2.69	1	8.162	
	Grand Total	35.199	34.210		116.002	

4.STERILE AREA -Indicative Wall Areas:								
Sl. No.	Room Name	Room Dimensions(m)		Height	Wall Area	Win A	Door A	Net wall Area
				(m)	(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	OT-2	7.02	4.44	3.6	82.48	0	3.15	79.33
2	Autoclave	1.95	4.80	3.60	48.60	0.00	2.10	46.50
3	IUI Room	3.15	4.80	3.60	57.24	0.00	2.10	55.14
4	Andrology Lab	3.27	4.80	3.60	58.07	0.00	2.10	55.97
5	Cryo Room	3.04	2.00	3.60	36.29	0.00	2.10	34.19
6	Sperm Collection	4.36	2.69	3.60	50.69	0.00	1.57	49.12
7	Toilet	1.20	2.00	3.60	23.04	0.40	2.10	20.54
8	Change Room -1	1.92	2.00	3.60	28.19	0.00	1.57	26.62
9	Change Room -2	1.92	2.00	3.60	28.19	0.00	1.57	26.62
10	Blood Collection & Injection Room	4.35	2.00	3.60	45.75	0.00	2.10	43.65
11	Embryologist Room	3.04	2.69	3.60	41.22	0.00	2.10	39.12
	Grand Total	35.199	34.210		499.745	0.400	22.560	476.785

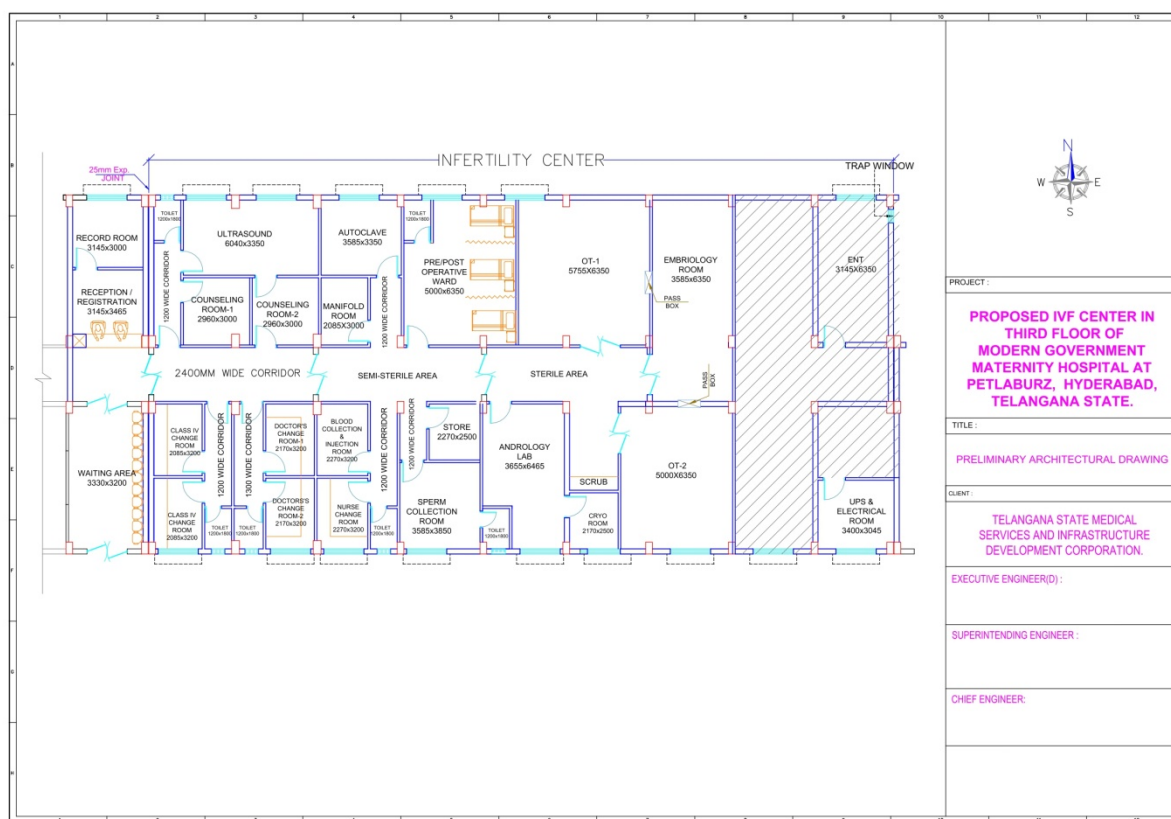
5.Details of Non- Sterile Area Dimensions for walls:						
Sl. No.	Room Name	Room Dimensions		Nos	Area (Sqm)	
1	UPS Room	2.16	3.45	1	7.452	
2	Electrical Room	2.16	3.45	1	7.452	
3	Store	1.92	2.22	1	4.251	
4	Manifold Room	3.55	2.00	1	7.090	
5	Reception Area	4.67	2.25	1	10.508	
6	Record Room	2.44	3.55	1	8.650	
7	Counseling Room-1	4.55	3.36	1	15.288	
8	Counseling Room-2	4.55	3.45	1	15.698	
9	Ultrasound	3.24	3.45	1	11.178	
10	Toilet	1.67	1.20	1	1.998	
11	Toilet	1.67	1.20	1	1.998	
12	Pre/Post Operative Ward	6.89	4.92	1	33.864	
13	Toilet	1.20	2.22	1	2.666	
	Grand Total	40.650	36.712		128.093	

6. Details of Non- Sterile Area Dimensions for walls:								
Sl. No.	Room Name	Room Dimensions(m)		Height (m)	Wall Area	Win A	Door A	Net Wall Area
					(sq.m)	(sq.m)	(sq.m)	(sq.m)
1	UPS Room	2.16	3.45	3.6	40.39	2.16	2.10	36.13
2	Electrical Room	2.16	3.45	3.60	40.39	0.00	2.10	38.29
3	Store	1.92	2.22	3.60	29.77	0.00	2.10	27.67
4	Manifold Room	3.55	2.00	3.60	39.92	2.16	2.10	35.66
5	Reception Area	4.67	2.25	3.60	49.82	2.16	2.10	45.56
6	Record Room	2.44	3.55	3.60	43.09	0.00	2.10	40.99
7	Counseling Room-1	4.55	3.36	3.60	56.95	2.16	2.10	52.69
8	Counseling Room-2	4.55	3.45	3.60	57.60	2.16	2.10	53.34
9	Ultrasound	3.24	3.45	3.60	48.17	0.00	2.10	46.07
10	Toilet	1.67	1.20	3.60	20.63	0.40	1.57	18.66
11	Toilet	1.67	1.20	3.60	20.63	0.40	1.57	18.66
12	Pre/Post Operative Ward	6.89	4.92	3.60	85.00	2.16	2.10	80.74
13	Toilet	1.20	2.22	3.60	24.64	0.40	1.57	22.67
	Grand Total	40.650	36.712		557.006	14.160	25.710	517.136

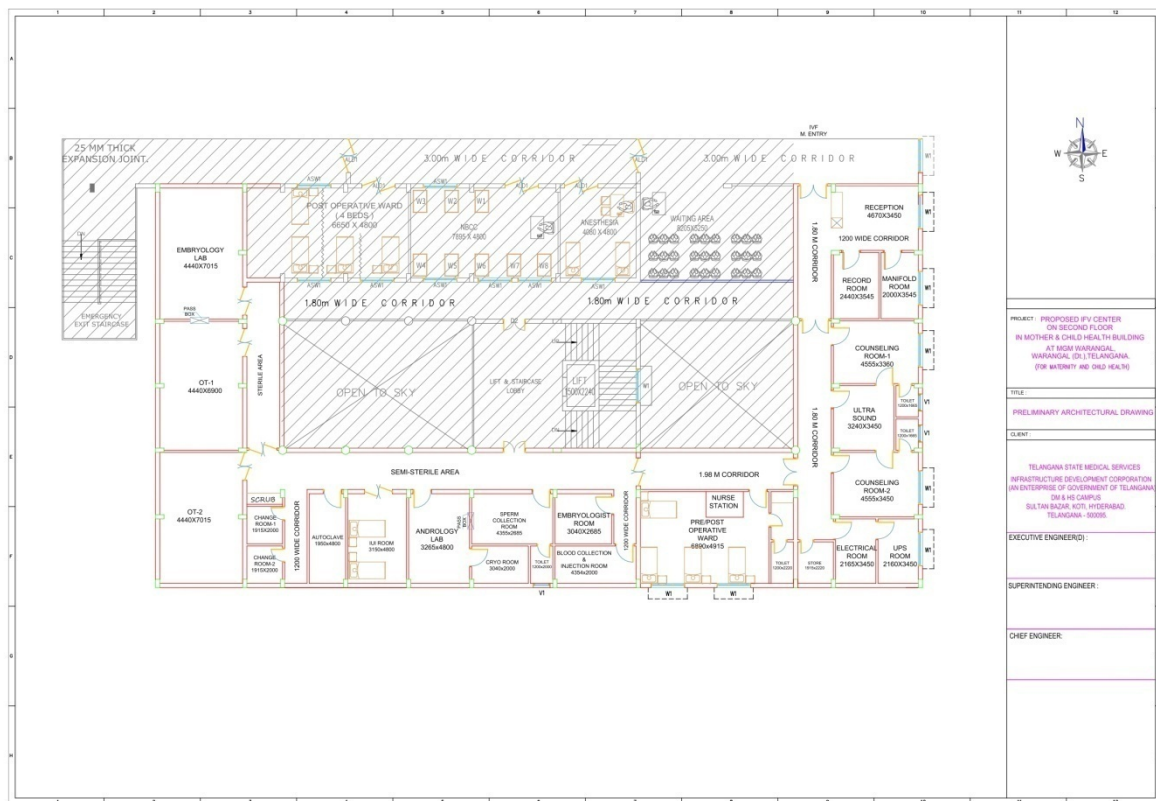
A. IVF Centre in 5th Floor MCH Building at Gandhi Hospital, Secunderabad



B. IVF Centre in 3rd floor at MGMH, Petlaburj, Hyderabad



C. IVF Centre in 2nd floor, MCH Building at MGM Hospital, Warangal



-----END OF THE DOCUMENT-----

//The Tender Enquiry Document (TED) VOL. II consisting of (110) pages is Approved.//

Sd/-
Managing Director