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**

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**ESTABLISHMENT OF IVF CENTRE TECHNICAL DATA SHEET - CRITICAL EQUIPMENT**

## Ovum Aspiration Pumps

* 1. Precision built, regulated, vacuum pump for ovum aspiration.
  2. Rapid suction response at the needle tip and is able to hold constant vacuum Settings accurately, for long periods.
  3. Dual Display: Actual pump pressure and set pump pressure.
  4. Boost feature to clear blockages in Aspiration needle 1.5. Ultra-quiet, vibration-free operation.
  5. Foot Pedal allows hands-free operation.
  6. Power Supply: universal input 100-240 V AC, 50/60 Hz
  7. 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.

## IVF Test Tube Warmer

2.1.IVF test tube warmer ideal for heating of samples in test tubes requiring a stable heating environment

* 1. Should have at least 12 chambers either for 14ml or 5ml aspiration tubes
  2. The highly visible digital LED display indicates the temperature level in either Celsius or Fahrenheit
  3. Temperature may be adjusted and is extremely reliable within the range from ambient to 49.9°C.
  4. Digital read out of temperature with control panel for settings 2.6.Temperature accuracy ±0.20C
  5. Easy to clean
  6. Rectangular warming blocks to hold 10 tubes of 17mm and 12 tubes of 12mm

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

* 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.
  2. Unit should be of USFDA and European CE approved.
  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.
  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.
  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.
  6. Gain control in 2D/M Mode/Colour/Doppler with auto adjustment for additional level of flexibility to image quality control.
  7. Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes
  8. Frame rate should be 600 or more
  9. Frequency processing facility for the transducer is 1.0-13.0 MHz +/- 1 MHz.
  10. Speckle reduction imaging should be available and it should be user configurable setting to obtain better image without reduction in frame rate.
  11. Steerable PW/CW in all Phased Array probes.
  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.
  13. Modes –2D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition Colour flow.
  14. Monitor should be atleast 17” high-resolution colour Monitor.
  15. Tilt and Swivel monitor should be able to view in all angles and all light conditions.
  16. Colour Flow Imaging for
  17. Increased lateral & spatial resolution.
  18. Selection of different types of colour maps are required
  19. Colour flow with capability of automatically picking up colour flow as a function of focal depth
  20. Cine loop memory should be available, specify the memory available
  21. High Frame rate review for better clarity of playback images study in slow motion.
  22. Quad loop with memory for pre and post image comparison.
  23. Simultaneous display of both live B-Mode and 2D with Color should be possible.
  24. Speckle reduction imaging user configurable should be possible
  25. Multiline compounding imaging on convex and linear imaging
  26. Trapezoidal or panoramic imaging should be possible
  27. User defined system and application presets for multi-user department.
  28. Inbuilt/ External CD/DVD and PEN drive for image storage, archiving and retrieval for offline complete analysis. .
  29. System should have facility for cardiac studies like Tissue Doppler imaging, B Mode , M mode ,Cardiac Measurements for Echo Cardiography.
  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.
  31. System should be field upgradable to Real time 3D/4D applications for abdomen and fetal anatomical study.
  32. Digital Storage and Retrieval – 01
  33. Colour Doppler System with all application packages and probes should be supplied as mentioned below as standard.

1. Broadband Convex probe 2.0-6.0 MHz +/- 1 MHz for abdomen and OBG applications

- 01 No.

1. Broadband Endocavity probe 3.0-9.0 MHz +/- 1 MHz with more than 120 Degree FOV or more- 02 Nos.
   1. Accessories as standard :
2. Sony Thermal Printer - 01
3. Latest desktop computer with at least I5 configuration.
   1. GENERAL INSTRUCITONS 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.

## 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.

* 1. Should be a Electro Mechanical controlled operating table, working range from floor level: 640-1040mm
  2. Should be adjustable to all essential positions.
  3. Should be equipped with movement controls at side of the table. Should provide wired remote control handset.
  4. Should have Frame and bottom made of Stainless Steel 304 material.
  5. Should have reinforced three section stainless steel top/radiolucent top.
  6. All movements should be adjustable easily. There should be an internal battery backup in the table with auto charging cut off, with batten- charge level indicator.
  7. Should have detachable head rest which can be easily adjustable to any desired position, above or below table top.
  8. Table top can be rotated 360° through base, Trendelenburg: ≥25°-30°, Reversed Trendelenburg: ≥30°
  9. Head Section tilting up from the Horizontal: ≥20°-30°, Head Section tilting down from the Horizontal: ≥28°-30°
  10. Back Section Raised from the Horizontal: ≥60°-70 °
  11. Leg Section Lowered from the Horizontal: ≥40°-50°
  12. Kidney Position should be achievable by breaking the table.
  13. Table-top should be radio-lucent.
  14. User's interface: Automatic by remote control.
  15. Physical Characteristics
      + Dimensions (metric): Table top dimension (1900 mm x 525 mm) ± 15% Table elevation: (640mm -1040 mm) ± 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
        1. S. S. Arm Rest 1 No
        2. Anaesthetic Screen 1 No.
        3. Lithotomy Leg Holders with Stirr-Ups 1 Set
        4. Leather Wristlets 1 Set
        5. Padded Leg Rest (Gutter Type)-2 nos
        6. Anti static mattress-2 nos
        7. Additional Poly-urathrene mattress 50mm thick with velcro attchment.
  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.
   1. Standards And Safety
      * Certificates : FDA(US) /CE(EU) and BIS/ CDSCO /ISO 13485:2003; IEC 60601-1
   2. Pre-installation requirements nature, values, quality, tolerance
   3. Availability of 5amp socket
   4. Safety and operation check before handover
   5. Requirements for sign-off: Certificate of calibration and inspection from the manufacturer
   6. 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.
   7. Additional Points
      * Remote control for all the movements
      * Battery backup for 50-60 movements

## LED Procedure Lights – Double Dome

* 1. Double dome
  2. Main dome: 1,60,000 lux , second dome 1,60,000 lux for Uniform intensity and Deeper depth penetration.
  3. Height adjustments : 600mm
  4. Action radius : 1850 mm
  5. Possible movements : Radial , Angular & Axial
  6. Colour temperature : 4500k and above
  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.
  8. Intensity, brightness, contrast and power switch to be made available on handle

/ wall check

* 1. Focal distance (d1+d2) =0.8 to 1.2m
  2. Temperature rise on the keep of surgeries to be less than 1 degree
  3. CR +- approx 95 or more
  4. 360 degree rotation for both arms
  5. User’s interface: Manual
  6. Physical Characteristics
  7. Heat dissipation: Should maintain nominal temperature and the heat should be disbursed through an cooling mechanism
  8. Energy Source (electricity, UPS, solar, gas, water, CO2 )
  9. Power Requirements: Recharging unit : Input voltage – 220V-240V AC, 50Hz
  10. Battery operated : 6-8 hours of inbuilt battery back up.
  11. Tolerance (to variations, shutdowns) : Voltage +10% , frequency +2%
  12. Protection : Should have over charging cut off with visual symbol.
  13. Environmental And Departmental Considerations
  14. Atmosphere / Ambiance conditioning, humidity, dust )
  15. 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
  16. Storage condition : capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%
  17. User’s care, Cleaning, Disinfection & Sterility issues
  18. 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.
  19. 2. Autoclavable Handle should be provided by bidder 4 Pieces.
  20. Standards And Safety
  21. FDA(US) /CE(EU)

## LED Procedure Light – Single Dome

* 1. Single Dome, Major
  2. Intensity control : continuous (1,60,000 Lux)
  3. Height Adjustment : 600mm
  4. Action radius : 1850mm
  5. Possible movements : Radial, Angular and Axial
  6. Colour temperature : 4500 and above
  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
  8. Temperature rise on the keep of surgeries to be less than 1 degree CR + approx 95 or more
  9. User’s interface: Manual
  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 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)

1. Training of users on operation and basic maintenance
2. Advanced maintenance tasks required shall be documented.

## 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 ± 0.1°C

* 1. Light source preferred is LED
  2. Noise level between 48-52dBA
  3. Programmable auto-start and shut-down functions of all built in features, including air flow
  4. The IVF workstation should have main filters which are high-efficiency HEPA filter class (H14). The filter should system consists of two HEPA filters
  5. Built in 21 inch minimal Medical grade LCD Monitor
  6. Microscope Fittings with Heating Stage Warmer with Microprocessor based Temperature controller
  7. Warming blocks should be part of package
  8. Should be constructed in high density steel
  9. Should be USFDA/European CE certified - 220V/50-60Hz

## IVF Anti Vibration Table

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

## CO2 Incubator (For Human IVF)

9.1.160- 220 liters internal Volume 9.2.Stainless steel interior

* 1. TC/IR CO2 Sensor Soft touch key pad
  2. Out Door Heating Error Warning
  3. Auto Start Function
  4. Inner Safety glass door
  5. HEPA Filter for CO2
  6. Inner safety glass screen ( 3-4 pieces) 9.9.Microprocessor PID temperature controller
  7. Temperature Sensor made up of Platinum
  8. Temperature range ambient above 5°C to 50°C ( ± 0.1°C at 37°C)
  9. Air- Jacket direct heating system
  10. 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.
  11. Disinfection duration 12-13 hrs
  12. 3-4 sets of shelves. Perforated Shelves for uniform heat distribution/ shelf adjustment.
  13. 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

+/- 0.1°C /0.3°C.Over temperature alarm 32°C-47°C.

* 1. Humidity: Active sterile humidity control through vaporizing module operating at 120ºC Measuring range 0-98% RH /Range 60-95% RH. System should have easy to set high -low humidity levels
  2. 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.
  3. Must be FDA/EU approved

## Bench Top Incubator for Human Embryo Culture (Tri gas Bench Top Incubator for Human Embryo)

* 1. Compact, humidified Pre-Mixed/ TRI-gas incubator designed to maintain optimal environment for development of ova or embryos.
  2. Has two or more chambers to hold dishes, dishes per chamber minimum 4.
  3. The dual chambers have individual temperature control. Heating of both base and lid ensures even distribution of heat.
  4. Direct contact of base with each culture dish ensures heat transfer by Conduction resulting in thermal stability.
  5. Automatic gas purge on lid closure to maintain gas environment.
  6. In built humification system.
  7. Uses pre-mix Gas & Several units can be connected to one source of Supply.
  8. 24 hour digital recording of temperature and gas flow.
  9. Time-stamped alarm notifications include description of event.
  10. Battery backup - For day 1 - day 5 Culturing
  11. Gas Supply: High Purity CO2/O2/N2 mixture. Nominal input pressure 150kPa.
  12. Power: Universal Input 100-240 V AC, 50/60 Hz.
  13. Safety : Designed to conform with AS3200.1 1990, IEC60601.1 and IEC61010.1
  14. Two Stage Regulator
  15. Product should be approved from USFDA/European CE certified.

## Trinocular Stereozoom Microscope

* 1. Microscope body with 5x-500x magnification, and 45 degrees inclination trinocular tube (C- mount)
  2. Eyepiece 10X with ESD capability, F.N. 22, focusable
  3. Focussing mount with coaxial coarse and fine focussing knobs
  4. Power Cord
  5. Should be integrated into IVF Workstation Dust Cover`
  6. Beam sp,litter for trinocular port
  7. Eyepiece 10x, FN 22
  8. C-mount adapter to be included
  9. Trinocular observation tube with inclination at 30 degree, inter pupillary distance adjustment 48mm -76mm.
  10. Working Distance Up to 92 mm
  11. Plane achromatic objective 1X Resolution of at least 600lp/mm.
  12. Transmitted light stage with halogen illuminator of at least 30 watt.
  13. Scientific Digital Camera for microscopy with control software, progressive scan CMOS/CCD having resolution of 5 M-pixel or better
  14. Coaxial course and fine focusing knob mechanism should be built in

## ICSI Micromanipulator System with Inverted Microscope

* 1. Latest Inverted microscope
  2. 3 position light path
  3. Prism preinstalled
  4. Illumination equipped with condenser holder
  5. LED Lamphouse
  6. Sextuple Nosepiece is included.
  7. Binocular Tube Widefield eyepiece 10X, focusable.
  8. Enough travelling range applied for slide glass, 35 mm dish as well as multiwell plate, circle stage inserts included.
  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.
  10. Long working distance condenser for DIC/RC/NAMC observation
  11. Mechanical or manual or electrical micromanipulator
  12. Digital display of 3D fine control from single level
  13. Heating system of insert should be such that it should avoid cold spots
  14. 1 x Oil Injector
  15. 1 x air injector
  16. For Intracyloplasmic Sperm Injection in IVF.
  17. Micromanipulator should be compatible for the utility of commonly available LASER And Spindle view imaging system.
  18. Must be FDA/ EU approved

## IVF Laser System

* 1. Laser for IVF lab to ablate zona pellucida, hatching, biopsies and blastomere collapse
  2. Moveable laser with biopsy mode
  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
  4. Laser should include both pilot and ablation laser
  5. Laser should have a option to indicate heat safety zone
  6. Laser power should be between 350-425mW
  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.

## IVF Thermometer

* 1. Easy to use handheld digital, water proof
  2. To check temperature of heated surface, inside the media droplet, incubators, refrigerators
  3. Operating time at least 200 hours on battery
  4. Ergonomic design and should have digital display
  5. Calibration certificate required.
  6. Certificate: should be CE or FDA or BIS certified

## CO2 Cylinder and Manifold

* 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.
  2. With two stage regulator calibrated in PSI
  3. With required attachments for manifold. With automatic inline arrangement to ensure steady, nonstop supply

## CO2 and O2 Analyzer

* 1. Hand held with Quick verification of CO2 and O2 incubator levels
  2. Large data storage up to 750 readings
  3. CO2 0-20%; O2 0-100%
  4. Battery Life: 10 Hours (8 hours pumping)
  5. Easy to read
  6. Atleast 2 temperature probes
  7. Built in moisture gas removal and humidity trap

## pH Meter

* 1. Hand held, simple pH meter to read the media drops
  2. pH accuracy ±0.03pH
  3. pH calibration atleast 2 points in room temperature
  4. Calibration by pH buffers 7-10
  5. Temperature accuracy ±0.50C
  6. Data logging facility

## VOC Meter for ART Lab

* 1. Handheld monitor capable of detecting contamination at 0.1ppm
  2. PID sensor 0-15000ppm
  3. Response time < 5 seconds
  4. Flow rate 400-500cc/min
  5. Data logging facility mandatory
  6. Weight less then 1Kg

## Sperm Counting Makler Chamber

* 1. Counting Chamber with cover Slip(Glass)
  2. Cover Slip with Grid built in with 100 squares
  3. Reusable
  4. No Calibration required
  5. Optimal depth 10 microns
  6. Should be provided with cleaning brush and cleaning paper
  7. 99% accuracy for pre and post wash semen analysis
  8. Valid CE/US FDA/BIS Certification
  9. NO DILUTION REQUIRED FOR SPERM COUNT CALCULATION

## Binocular Microscope for Semen Analysis

* 1. Standard microscope set complete with built-in 6V20W halogen light illuminator with regular power supply
  2. Quadruple ball bearing nosepiece, co-axial coarse and fine focusing controls, high resolution Semi- Plan Achromat objectives 4x, 10x, 20X & 40x (spring)
  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

## Andrology Work station with Laminar Flow Cabinet

* 1. 3 Feet LAF where both user and product are protected against particle and microbial contamination. IVF
  2. Quadruple ball bearing nosepiece, co-axial coarse and fine focusing controls, high resolution Semi- Plan Achromat objectives 4x, 10x, 20X & 40x (spring)
  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
  4. Surgical Stainless Steel (2mm) work surface
  5. Toughened glass front window
  6. Adjustable luminosity
  7. Fully operated with a microprocessor control panel.
  8. USB data output
  9. Electrical outlets
  10. Fixed support Stand (80-85cm)
  11. Dimensions: 1000x800x2000 (WxDxH)

## Clinical Centrifuge for Andrology

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

## Dry Incubators for Andrology lab

* 1. Capacity 30 to 35 lit
  2. Precise temperature control 37degree +- 0.5%
  3. Exceptionally stable and accurate
  4. Every corner inside the incubator chamber should be round
  5. Automatic CO2 sensor calibration.
  6. Audible alarms guard specimens against any deviations from the user settings.
  7. Unit should be compact and easy to handle while keeping on bench.
  8. Inner Chamber Dimension should be less than W350 x D350 x H350
  9. Capacity: Calibration facility should be there
  10. Programmable, display of level of co2 and temperature throughout.
  11. Should be provided suitable SS304 grade table adequate for incubator.
  12. Should be European CE/ US FDA certified.

## Denudation System with Pipettor

* 1. Denudation System It should be a medical device for use in Human IVF.
  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
  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 µm, pack of 10 or 20 (5 Packs)
     + Size:170-175 µm, pack of 10 or 20 (5 Packs)
     + Size: 275-300µm, pack of 10 or 20 (5 Packs)
  4. Certificate : Should be European CE or US FDA or BIS certified.

## Pharmaceutical Refrigerator

* 1. Capacity of storage 300 liters or more
  2. Temp range-should have adjustable temperature control range from +1° to +8° C, factory present at 4° C.
  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 +/- 1 degree Celsius.
  4. The system should have sensors for activation of automatic/manual defrosts cycle to minimize the frost build up.
  5. Internal construction should be made of high grade stainless steel (minimum 22G) External construction corrosion resistant sheet at least 1 mm thickness.
  6. Internal temperature control: System should have temperature control range from

+1O C to +8O C. Temperature control resolution should be better than 1O C.Cooling down time of max of 150 min on half load.

* 1. External ambient temp should perform in ambient temp up to +43O C.
  2. Door System should lockable double doors with double pane with self closing door for better safety.
  3. 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.
  4. 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.
  5. Scratch resistance internal of the cabinet.(stainless steel or aluminum)
  6. Should have 6-10 adjustable drawers of stainless steel of 22G
  7. Power input to be 220-240VAC, 50Hz fitted with Indian Plug.
  8. Voltage corrector/stabilizer of appropriate ratings meeting ISI specifications. (Input 160- 260V and output 220-240V and 50Hz)
  9. Certificate: Should be European CE or US FDA or BIS certified.
  10. Electrical Safety conforms to standards for electrical Safety.
  11. User/Technical/Maintenance manuals to be supplied in English.
  12. Certificate of Calibration and Inspection.
  13. List of Important spare parts and accessories with their part number.

## Cryo Can with wheels

* 1. For specimen storage - 47 Litres-1 pcs
  2. For Liquid Nitrogen storage - 26 Litres – 1 pcs

## Defibrillator

* 1. Defibrillator should be a low energy Bi-Phasic and truly Portable. Should not weigh more than 6 Kgs (+/- 10% is acceptable)
  2. Unit should have facility for automatic external defibrillation and manual defibrillation
  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.
  4. Should having design protection to avoid passage of current to the user
  5. The whole system should have an inbuilt recorder ; Telemetry not recommended.
  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

1. Power Requirements : 220 to 240V, 50Hz
2. Battery operated : Rechargeable battery backup for 100 shocks or more than 3 hours
3. 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

1. Accessories- Chest paddles
2. Machine must be supplied with ECG cable, Battery, paddle Adult integrated
3. 10 pads for monitoring and defibrillation are standard and price for 100 pads may be quoted optional
4. ECG Cable, recording paper rolls ; disposable pads

* Environmental And Departmental Consideratons

1. Atmosphere / Ambiance conditioning, humidity, dust ...)
2. 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.

## 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,Temparature ,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
   1. patient monitor must have Bidirectional connectivity to central monitoring system with other bed view facility.
   2. protection: built -in cautery & defibrillator protection
   3. 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
5. should have resolution of 800×600 or better with at least 8 traces and numeric values on display
6. combination of single , dual and multi parameters modes
7. should have Ability to change the wave trace color and parameter colour by user
8. Must have special features to adjust and smooth the wave forms for better viewing from from different angle
9. must have RJ 45/RS232 interface for CMS ( central monitoring system)
10. 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)
11. HR Range : 20 to 300 BPM (+/-3 3BPM or2% whichever is greater )
12. Must have 5 lead ECG
13. must have ST Analysis ( with Graphical Representation )& pacemaker detection Defibrillation protection against electric discharge and Electrostatic potentials.
14. spo2: 1) Must show accurate value +/-2% of pulse oxymeter (spo2) / plethysomograph at high (20%) to low (0.05%) perfusion level and motion artifacts
15. Must have Tone variation : tone variation with change in spo2 values: 1-100%
16. patient monitor to have the Accuracy of : 100 -70% (±2) ;0-69% (±3)
17. PR Range : 20 to 250 BPM or more
18. NIBP
19. 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
20. Alarm Limits : selection possible for systolic ,Diastolic & MAP
21. Modes: manual, start (continuous 5 min. operation) and automatic (time interval 2-90 min. selectable)
22. Respiration:
23. Must have Trans -thoric impedance technique
24. must have the Range of : 5 to 150 breaths /min
25. 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%
26. 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

1. Etc02 : 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
5. 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 ;
      1. set of Etc02 sampling line per monitor
      2. 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

## Suction Machine

* 1. Portable suction unit: size 38x17x28.5cm, weight 5.1kg
  2. Technical specifications: SUCTION MACHINE with pump:
     + Power supply: 230-240V/50Hz
     + Vacuum capacity: 18 litres/mim
     + 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.

## Anaesthesia Work Station

I) General Requirement

* 1. Compact and modular, three gas oxygen, Air & N20 Anaesthesia workstation with an integrated ventilator for adult to infants and integrated airway monitor for pressures and volume.
  2. The machine should be suitable for low and minimal flow anaesthesia application with compliance compensation of breathing circuit, fresh gas flow compensation/ decoupling.
  3. The machine should have 2 or 3 drawers
  4. 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
  5. Dual cascade type flow meter tubes for all three gases 02, Air & N20 to be provided. Range 20ml/min to 10 Lit/min calibrated in multiple scales
  6. The system should have minimum 2 hrs or more battery backup
  7. g System should confirm to European CE or US FDA/BIS

1. Gas delivery system
   1. Should have pin index yokes for Oxygen and Nitrous oxide besides separate connection for central gas supply for Oxygen, Nitrous oxide.
   2. 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
   3. The system should be suitable to use at minimal flow up to 700 ml fresh gas setting.
   4. Automatic cutoff of N2O by Oxygen pressure failure.
   5. Hypoxic guard for linear regulation of minimum oxygen concentration at 25 % volume
   6. Audible visual oxygen failure alarm.
   7. Emergency oxygen flush at 30-70 1/min by passing the vaporized.
   8. In the event of complete power loss and battery failure it shall be possible to manually ventilate and deliver anaesthetic agent.
2. Vaporiser
   1. Should be provided with a temperature /pressure compensated and flow independent vaporizer for isoflourane / sevoflurane
   2. Vaporizer should have extended delivery range from 0 to 6 vol. %
   3. The vaporizer should require no calibration in its life time
3. Breathing system
   1. Should have fresh gas coupled / de-coupled semi closed circle absorber system
   2. Should have adjustable pressure relief valve from 5 to 70 mbar
   3. Should have change over from spontaneous to bag ventilation with single step.
   4. The system should have leak and compliance test (including patient hoses upto the Y piece)
   5. Should have compact breathing system below 3 ltrs volume capacity
   6. 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

1. Anaesthesia ventilator
   1. The system should have inbuilt ventilator with electronically controlled and pneumatic or piston driven technology
   2. Should not require changing of bellows for adult and infants
   3. Should have minimum screen size of 6" or more.
   4. Modes: Manual /spont, volume controlled, pressure controlled, SiMV/PS
   5. The same ventilator should be capable to be upgrade to pressure support
   6. Tidal volume - 20-1500 ml
   7. PEEP – 4-20 cm H2O
   8. Breathing Frequency - 4 to 60 BPM
   9. I: E Ratio – 4 :1 to 1: 4
   10. Inspiratory pause – 0-50% of TI
2. Integrated Airway monitoring and display of following parameters
   1. Expiratory tidal volume
   2. Expiratory minute volume
   3. PEEP, Peak and Mean and Paetau airway pressure
   4. Frequency
   5. Waveform display for Airway pressure,
3. Adjustable high/low alarm limits with audio and visual alarms for the following
   1. Minute volume
   2. Airway pressure (incl stenosis and disconnect)
   3. Insp oxygen concentration
   4. Audio power supply fail alarm
   5. Fail to cycle warning
4. Options (Mention unit prices in price bid)
   1. Color screen display
5. Machine should have RS232 connectivity port
6. Scope of supply
   1. 3 gas Anaesthesia Machine
   2. Trolley with 2 or 3 drawers
   3. Writing surface
   4. Pin index yokes for O2& N2O
   5. Pipeline connections for all three gases
   6. Anaesthesia ventilator
   7. Patient monitor with ECG, SPO2 , NIBP & ETCO2
   8. Semi closed breathing system
   9. Adult and peadiatric autoclavable patient tubings
   10. Anaesthetic mask size- Adult and child
   11. Vaporizers for Isoflourane & sevoflourane
   12. Central gas supply hoses (Color coded)
   13. Instruction for use

## Autoclave:

* 1. High Grade strong stainless steel, Triple walled construction.
  2. Positive radial self-locking safety doors.
  3. Hydrostatically tested to withstand 2.5 times the working pressure.
  4. Sealed with Neoprene/Silicon long-lasting and durable gasket.
  5. Digital display for Jacket and Chamber pressure and temperature.
  6. Outer jacket insulated to prevent heat loss; with a high grade insulation material
  7. Mounted on 304 stainless steel frame with ground leveling flanges.
  8. Temperature and pressure cut-off device.
  9. Auto cut-off at low water level
  10. Rust-proof 304 grade stainless steel.
  11. Cylindrical construction.
  12. Equipment should have separate steam release valve and drainage system.
  13. Minimum of two safety valves with auto-release at 16 and 20.
  14. User’s interface : Manual
  15. Physical Characteristics
      + Capacity : 250lts
      + Heat dissipation : Should maintain nominal temperature and the head should be disbursed 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 41/2"
  1. Environmental And Departmental Consideratons
     + 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
  2. Standards And Safety Certifications : FDA(US) /CE/BIS

## Hysteroscopy Set:

* 1. 2.9 mm hysteroscope
  2. "Hysteroscope sheath for 2.9 mm telescope — operative inner sheath
  3. "Hysteroscope sheath for 2.9 mm telescope — operative outer sheath
  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:

* 1. Working Element for 2.9 mm Telescope
  2. Resectoscope Sheath for 2.9mm Working Element
  3. Cutting Electrode
  4. Ball Electrode
  5. Connecting Cable
  6. "Roller Irrigation Machine For Resectoscope"
  7. "Tubing Sets For Irrigation Machine"

## Laparoscopy Set

* 1. "3 Chip CMOS or 3chip CCD Full HD Camera with -Camera Head and ZOOM Coupler-
     + RESIOLUTION 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
  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

## Multi-functional Printer

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

## Ultrasound Examination Couch

* 1. Holes of 1 cm dia to allow fluid drainage.
  2. Lower frame and intermediate frame of steel tubes of rectangular and square sections, multiple pre-treated and epoxy powder coated.
  3. Size (approximate): Length: 2050 mm bed surface, 2125 mm with frame. Width: 750
  4. mm. Bed surface size: 705 mm W x 1950 mm L.
  5. Mattress – High-density foam mattress anti-microbial treated with waterproof flame retardant, antimicrobial, leather like upholstery.
  6. Backrest operated by gas system from horizontal to seated position \_15º Trendelenburg
  7. Height adjustable leg rests
  8. Trendelenburg position operated by gas system
  9. Pre acceptance demonstration of furniture is must.
  10. Motorised with 3 functions- Head rest, TR, High/low
  11. Doctor stool
  12. Step stool
  13. Godrej/Feather lite/ Herman Miller makes

## UPS 20kVA with Battery backup

* 1. SMF battery backup with 1 hours battery backup with SNMP and isolation transformer, battery rack inter connection links (42AH\*20 nos)
  2. Rectifier & Inverter with IGBT and DSP Technology.
  3. Voltage 400 ± 15% V, 3 Phase, 4 Wire.
  4. Frequency : 45 to 55 Hz.
  5. Display : Control Panel with LCD Screen
  6. Battery : Sealed Maintenance Free Rechargeable.
  7. Back up : 1 Hr (60 Mts)
  8. Protection : Overload & Short Circuit.
  9. Ventilation: Forced Air Cooling.

## Laptop – Office Usage

* 1. HP Laptop 14s,
  2. AMD Ryzen 5-5500U 14 inches(35cm) FHD, IPS,
  3. Micro-Edge Display Laptop
  4. 8GB RAM/512GB SSD/Radeon Graphics
  5. Windows 11/Alexa/Backlit Keyboard/MS Office

## Reception Table

* 1. C/L shaped
  2. Modular design
  3. Cork: 18mm thick rubberized
  4. Glass Top: 10 mm thick diamond cut edges
  5. Modesty Panel: MS perforated sheet size at least 0.8mm thick
  6. Legs: 1.6 mm MS tube of 50 mm diameter and 600 mm length
  7. Pre acceptance demonstration of furniture is must.
  8. In built storage in form of drawers on sliding rail system (3 on each side)
  9. Reception table should have built in wire management system
  10. Godrej/Feather lite/ Herman Miller makes

## Reception Chair

* 1. Medium back junior executive type chair
  2. Gas height adjustment
  3. PP armrest with nylon base
  4. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm)
  5. Antistatic castors, approx. 75 mm diameters, at least 2 with brakes.
  6. Seat size and backrest size for standard adult
  7. Seamlessly upholstered seat and backrest,
  8. Colour of upholstery – blue / grey
  9. Colour of base – black
  10. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
  11. Godrej/Feather lite/ Herman Miller makes

## Filing Cabinets

* 1. Height approximately 6 feet
  2. Having at least 4 racks with individual doors and locking mechanism for each rack
  3. Vertical filing cabinet
  4. 4DR VFC
  5. 1320H x 470W x 620D
  6. Godrej/Feather lite/ Herman Miller makes

## Patient Seating - (3 in 1)

* 1. 3 in one combi chair – airport model Metal Chair
  2. Shall have tubular Frame made of 19mm dia and 1.6mm thick M.S. E.R.W Tube.
  3. The Seat and back should be puff cushioned and polyester coated.
  4. Color grey/black.
  5. All steel components shall be Epoxy
  6. Without Cushion, with arms
  7. Godrej/Feather lite/ Herman Miller makes

## Consultant Chair

* 1. Gas height adjustment
  2. PP armrest with nylon base
  3. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm.)
  4. Antistatic castors, approx. 75mm diameter, at least 2 with brakes.
  5. Seat size and backrest size for standard adult
  6. Seamlessly upholstered seat and backrest,
  7. Colour of upholstery – blue / grey
  8. Colour of base – black
  9. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
  10. Godrej/Feather lite/ Herman Miller makes

## Patient Chair

* 1. Medium back junior executive type chair
  2. Gas height adjustment
  3. PP armrest with nylon base
  4. Epoxy powder coated extruded aluminium 5 spokes base (circumscribing diameter 60 cm.)
  5. Antistatic castors, approx 75mm diameter, at least 2 with brakes.
  6. Seat size and backrest size for standard adult
  7. Seamlessly upholstered seat and backrest,
  8. Colour of upholstery – blue / grey
  9. Colour of base – black
  10. With height adjustable, broad, padded and upholstered arm rests and comfortable back rest
  11. Godrej/Feather lite/ Herman Miller makes

## Small Trolley

* 1. SS Trolley for Consumables
  2. 2-3 Cabinets on ball bearing slides, full-extension, self-closing
  3. Table top with upraised back and sides edges
  4. manoeuvring handle situated at front side of the trolley
  5. base on four castors with diameter 100 mm, two of them with brakes
  6. all edges rounded and safe
  7. table top dimensions: 650 x 600 mm
  8. Measurements: 690 x 700 x 985 mm
  9. Godrej/Feather lite/ Herman Miller makes

## Big Trolley

* 1. SS Trolley for Consumables
  2. 2-3 Cabinets under the table top, plus one heating drawer for warming infusion

fluids at the bottom of the trolley

* 1. bottom of the heating drawer perforated to facilitate heat distribution
  2. thermoregulation placed above the heating drawer front, allowing temperature adjusting within the range from +35°C to +45°C
  3. 5. the drawers on ball bearing slides, full-extension, self-closing
  4. manoeuvring handle situated at front side of the trolley
  5. table top with upraised back and sides edges
  6. all edges rounded and safe
  7. base on four castors with diameter 100 mm, two of them with brakes
  8. table top dimensions 650x600 mm
  9. Measurements: 690 x 700 x 985 mm
  10. Godrej/Feather lite/ Herman Miller makes

## Wall Storage cabinets

* 1. Wall mounted wooden cabinets with individual lockable doors (Godrej Store

up or equivalent), sturdy, aesthetically appealing color and finish, ergonomic design

* 1. To be provided in reception, USG room, semen production room and andrology lab
  2. Size: depth approximately-310 mm, height-750-800 mm, length according to room specification to cover one entire wall
  3. Procurement, installation and work needed for fitting and installation included in the scope of turnkey
  4. Godrej/Feather lite/ Herman Miller makes

## Office Table

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

1. **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 Kgƒcm2, along with high pressure copper annealed tail pipes with Brass adapter suitable for Oxygen  Cylinder sand manifold. |
|  | Top frame comprising of high pressure copper pipes of size 1ƒ2" 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 1ƒ4" 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 ƒ 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 |
|  | N2O |
|  | CO2 |
|  | 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 from 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 dismal 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 if 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 ƒ HTM 02−01 UL Listed ƒ 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 Kgƒcm2, along with high pressure copper annealed tail pipes with Brass adapter suitable for Nitrous Cylindersand  manifold. |
|  | Top frame comprising of high pressure copper pipes of size 1ƒ2" 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 1ƒ4" 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 ƒ 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 Kgƒcm2, 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 1ƒ2" 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 1ƒ4" 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 ƒ 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. |
|  |  |
| **D** | **MEDICAL COPPER PIPE** |
|  | **Copper Piping :** |
|  | **Installation:** |
|  | 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  ferroussuitableforthediameterofthepipe.Forthepipesofthesizedabove28mmrigid 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  testedƒpaintedƒlabeled and properlyinsulated. |
|  | Certification: To be certified that pipes are suitable for the particular service and  complete cross connection (anti−confusion) test will be carried out. |
|  | **Distribution piping system:** |
|  | **MATERIAL (PIPE):** |

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|  | 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. | |

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|  | Wireless (minimal low voltage wiring) models available   * 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.   In addition, each Area Alarm Module should incorporate the following features: |
|  | In addition, each Area Alarm Module should incorporate the following features: |
|  | Does not require re-calibration.  Gas specific sensor with DISS nut & nipple.  An error message will be displayed if incorrect sensor or no sensor is attached. Should be capable of displaying gas readouts in PSI, kPa, BAR, inHg, or mmHg .  Gas alarm repeat feature is factory set at 10 minutes, and is adjustable or may be turned off. |
|  | **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 ƒ High ƒ Low |
|  | N2O Normal ƒ High ƒ Low |
|  | CO2 Normal ƒ High ƒ 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** |

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|  | **ZONE VALVE BOX As per NFPA -99 std / HTM -2022/02-01 of UK** |
|  | Bidder must submitted third party CE certification ƒ 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 ƒparts 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, 6ƒ16 Amps receptacles |
|  | . One for low voltage like nurse call, data points & voice points |
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|  | Each Bed unit should have |
|  | · Length of panel should be 1500mm. |
|  | · 1 Nurse Call Button – Provision only |

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|  | · Gas Outlets as per list attached O2, Air−4 ,Vac (Provision only − Gas outlets calculated separately) |
|  | . Provision for Electricals − 10 nos. (5ƒ15 Amps switched socket) |
|  | · Provision for Electricals − 10 nos. (5ƒ15 Amps switched socket) |
|  |  |
| I | **ICU - Rigid Pendant complete As per NFPA-99 std / HTM -2022/02-01 of UK** |
|  | **1. Critical Areas:** |
|  | Standards: 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)**

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| **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 |

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| 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/mm2 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 |

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| 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/mm2 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 |

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| 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 |

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| 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 TiO2 and not more than 12 PHR of CaCo3 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 TiO2 and not more than 12 PHR of CaCo3 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 |

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| --- | --- | --- | --- |
| 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 suply 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 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: 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. 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 |

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| 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 dadooing 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 |

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| 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 |

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| 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 |

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| 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/m3 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 harware 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/m3 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/m3 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/m3 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 |

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| 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/m3 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 |

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| 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 |

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| 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than80, 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 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than80, and THD is less than 15percentage etc., complete. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells At Gandhi Hospital | 30 | No |

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| 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than80, and THD is less than 15percentage 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 BLDCmotor, 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 10percentage. 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 to75 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 |

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| 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/Commet/Dowell’s At Gandhi Hospital | 120 | Rmt |

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| 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, 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 Gandhi Hospital | 80 | Rmt |

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| 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 |

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| 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 |

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| 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 |

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| 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 insulatiting 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 insulatiting 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 |

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| 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 |

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| 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 N20 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 C02 Manifold for 2 Cylinders, with high pressure Regulator, NRV, tailpipes etc. as per technical specifications At Gandhi Hospital | 1 | Set |

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| 188 | SITC of C02 Outlets with matching probes, as per HTM-2022102- 01ofUK/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 0D at Gandhi Hospital | 3 | each |
| 196 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm 0D at Gandhi Hospital | 3 | each |
| 197 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm 0D 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 |
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|  | **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 |

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| 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 |

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| 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  : Doors1.50x2.60M 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/mm2 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/mm2 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. 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 |

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| 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 |

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| 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 TiO2 and not more than 12 PHR of CaCo3 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 TiO2 and not more than 12 PHR of CaCo3 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 |

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| 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 suply 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 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 |

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| 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 dadooing 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 |

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| 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 thourughly 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 |

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| 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 |

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| 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/m3 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 harware 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/m3 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/m3 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/m3 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 panelat MGMH Petlaburj | 2 | No |
| 289 | Supply and installation of Extruded Aluminium Coving at MGMH Petlaburj | 100 | Rmt |

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| 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 |

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| 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.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 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 |

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| 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than80, 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 than100 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 than100 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 |

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| 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 BLDCmotor, 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 10percentage. 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 to75 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 |

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| 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 |

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| 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 |

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| 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 |

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| 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 |

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| 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 Petlaburjl | 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 |

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| 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 |

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| 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 |

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| 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 N20 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-2022102- 01ofUK/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 0D at MGMH Petlaburj | 3 | each |

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| 393 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm 0D at MGMH Petlaburj | 3 | each |
| 394 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm 0D 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 |
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|  | **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 |

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| 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  : Doors1.50x2.60M 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 |

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| 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/mm2 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/mm2 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 |

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| 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 |

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| 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 TiO2 and not more than 12 PHR of CaCo3 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 TiO2 and not more than 12 PHR of CaCo3 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 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 |

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| 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 |

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| 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 dadooing 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 |

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| 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 |

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| 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 |

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| 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/m3 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 harware 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/m3 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/m3 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/m3 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 |

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| 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/m3 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 |

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| 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 |

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| 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department and as per IS, CRI greater than80, 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than80, and THD is less than 15percentage etc., complete. Makes: Phillips / OSRAM / Wipro / Crompton / Bajaj / Havells at MGM Warangal | 36 | No |

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| 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 than100 lumens/watt, CCT: 3000K - 6500K as desired by the department, CRI greater than80, and THD is less than 15percentage 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 BLDCmotor, 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 10percentage. 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 to75 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 |

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| 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/Commet/Dowell’s at MGM Warangal | 120 | Rmt |

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| 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 |

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| 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 |

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| 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 |

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| 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 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 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 |

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| 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 insulatiting 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 insulatiting 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 1**9mm Thick** for Return air running inside the building. at MGM Warangal | 40 | Sqm |

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| 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 |

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| 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 |

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| 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 N20 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 0D at MGM Warangal | 3 | each |
| 593 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 22mm 0D at MGM Warangal | 3 | each |
| 594 | SITC of Medical Line Valve, As per CE Certified/UL Listed, As per Technical Specifications- Indian 28mm 0D 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:

1. **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 |

1. **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  (sq.m) | Door A  (sq.m) | Net wall Area  (sq.m) |
| (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 |

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| --- | --- | --- | --- | --- | --- |
| 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 |

1. **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 |

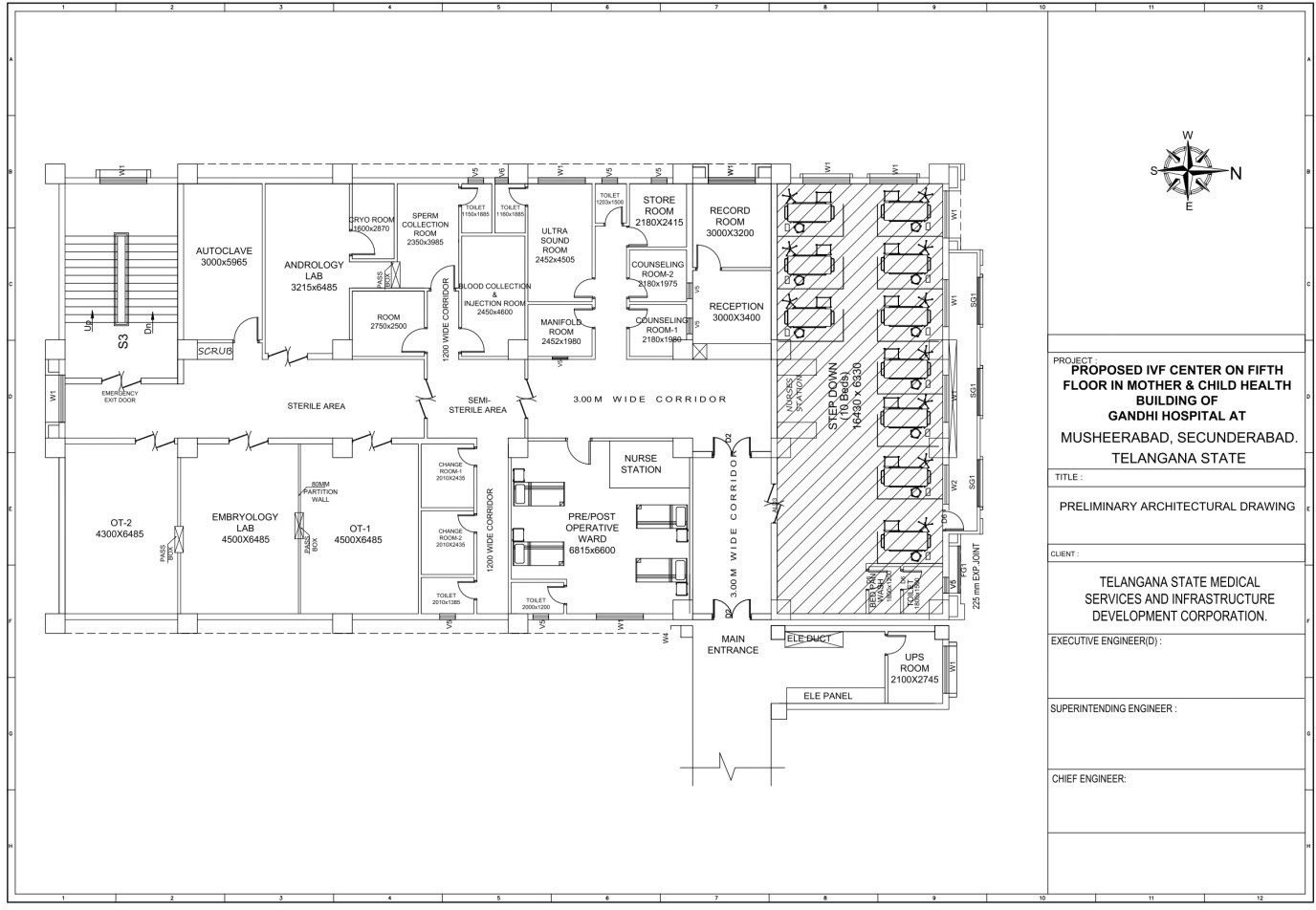
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4.STERILE AREA -Indicative Wall Areas: | | | | | | | | |
| Sl.  No. | Room Name | Room Dimensions(m) | | Height | Wall  Area | Win A | Door A | Net wall  Area |
| (m) | (sq.m) | (sq.m) | (sq.m) | (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 |

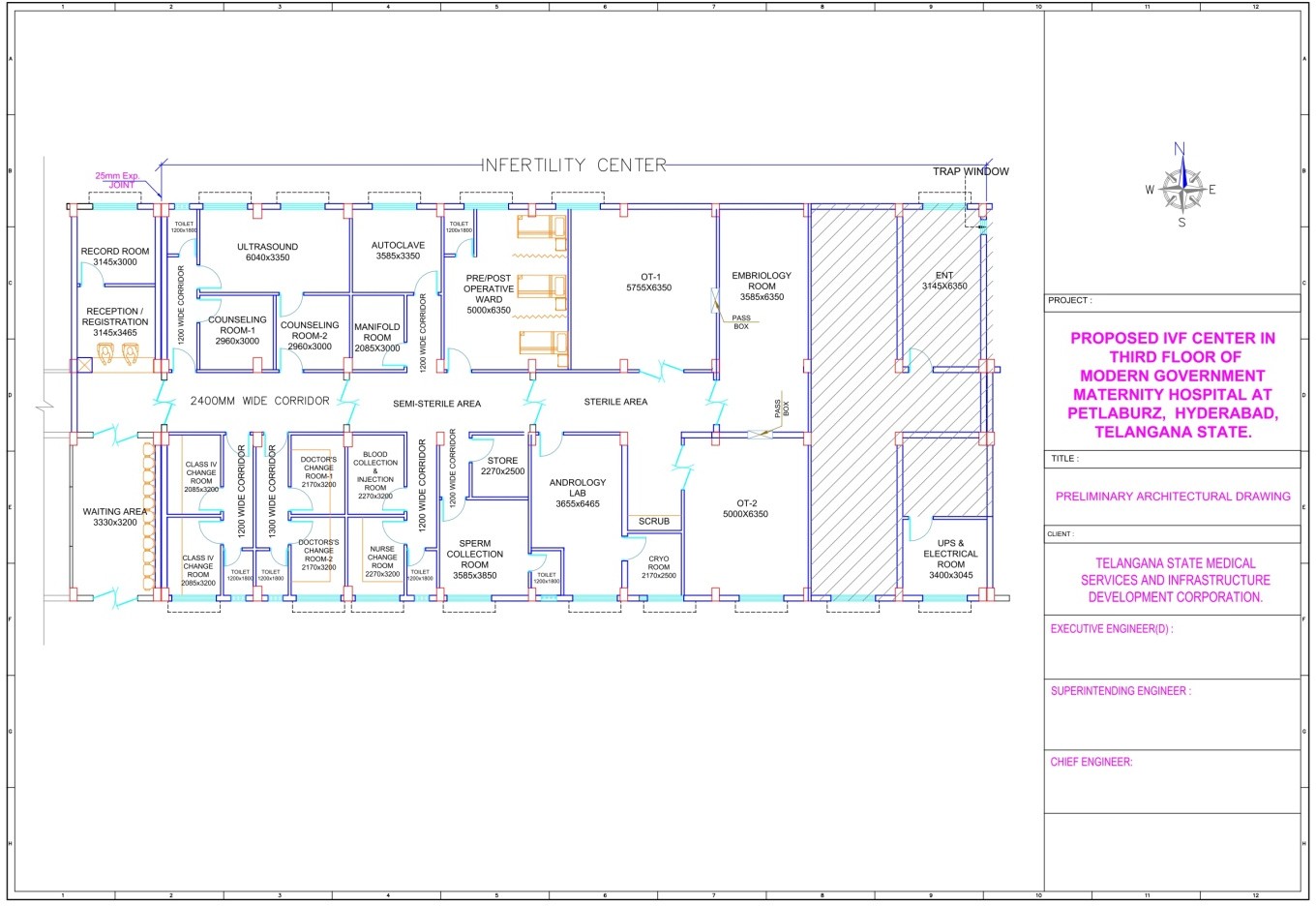
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. Details of Non- Sterile Area Dimensions for walls: | | | | | | | | |
| Sl.  No. | Room Name | Room Dimensions(m) | | Height  (m) | Wall Area | Win A | Door A | Net Wall  Area |
| (sq.m) | (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 |

**LAYOUT DRAWINGS**

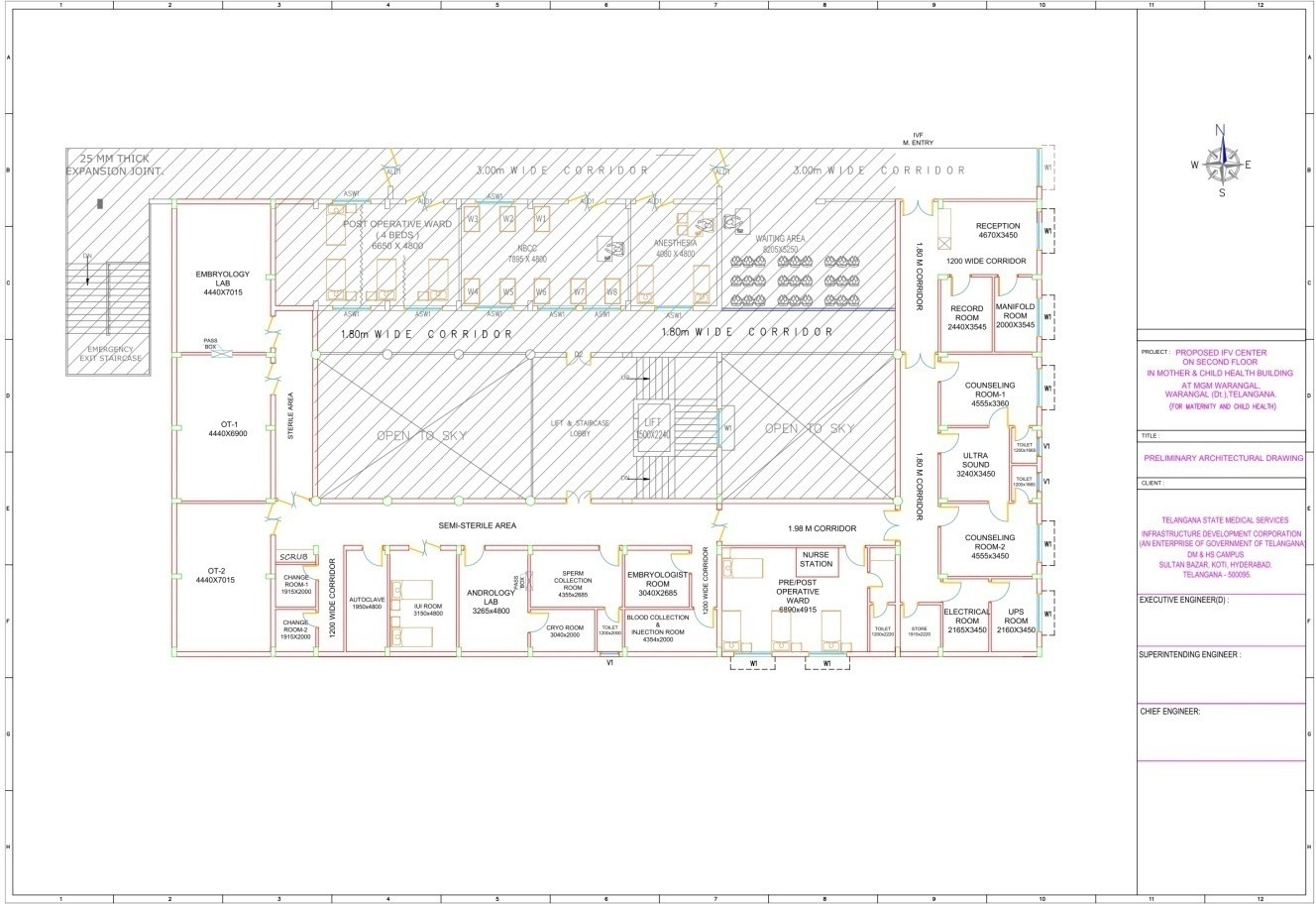
1. **IVF Centre in 5th Floor MCH Building at Gandhi Hospital, Secunderabad**



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



1. **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**