

**NATIONAL RURAL HEALTH MISSION SCHEME,  
UTTAR PRADESH**

**(Government of Uttar Pradesh)**

**Tender**

**For**

Construction of 100 bedded MCH wing at District Hospital  
Aligarh (Uttar Pradesh) under National Rural Health Mission scheme

**BIL OF QUANTITY**

**VOLUME-V**

**March' 2014**



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**Tender No. HSCC/NRHM/UP/Tender/2014 /04**

## GENERAL ABSTRACT

**Name of Work: Construction of 100 bedded MCH Wing at Aligarh under NRHM UP**

| S.No. | DESCRIPTION        | Amount (in Rs)         | Quoted % (Percent) below or above in figure | Quoted % (Percent) below or above in words | TOTAL AMOUNT (in Rs.) |
|-------|--------------------|------------------------|---|--|-----------------------|
| 1.0   | CIVIL WORK         | 9,48,74,835.00         |   |  |                       |
| 2.0   | PLUMBING WORK      | 1,19,99,464.46         |   |  |                       |
| 3.0   | FIRE FIGHTING WORK | 69,41,048.00           |   |  |                       |
| 4.0   | ELECTRICAL WORK    | 2,53,27,838.40         |   |  |                       |
| 5.0   | HVAC WORK          | 15,20,409.00           |   |  |                       |
|       | <b>Grand Total</b> | <b>14,06,63,594.86</b> |   |  |                       |

Sign & Seal

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

**ABSTRACT OF COST(Civil Work)**

| <b>S.No</b> | <b>DESCRIPTION OF WORK</b> | <b>Amount</b>         |
|-------------|----------------------------|-----------------------|
| 1           | EARTHWORK                  | 5,78,545.00           |
| 2           | CONCRTE WORK               | 18,58,847.00          |
| 3           | RCC WORK                   | 4,71,23,395.00        |
| 4           | BRICK WORK                 | 59,48,581.00          |
| 5           | DOORS & WINDOWS            | 61,62,624.00          |
| 6           | STEEL WORK                 | 12,63,262.00          |
| 7           | FLOORING                   | 1,71,15,777.00        |
| 8           | CEILING & ROOFING          | 39,92,305.00          |
| 9           | FINISHING                  | 41,50,291.00          |
| 10          | MISCELLANEOUS              | 49,89,791.00          |
| 11          | ROAD WORK AND DEVELOPMENT  | 16,91,417.00          |
|             | <b>Total</b>               | <b>9,48,74,835.00</b> |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>  | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|---|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| <b>1.00</b>    | <b>EARTHWORK</b>  |                  |             |             |               |
| 1.01           | Excavation in foundation in ordinary soil (loam clay or sand) including lift upto 1.5 Metre and lead upto 30 metre and including filling, watering, and ramming of excavated earth into the trenches or into the space between the building and the side of the foundation trenches or into the plinth and removal and disposal of surplus earth as directed by Engineer-in Charge upto a distance of 30m from the foundation trenches. | 3127.00          | cum         | 62.00       | 193874        |
| 1.02           | Add for every additional 30m,lead or part of 30m. or for every additional 1.5m.lift or part of 1.5m   | 467.00           | cum         | 7.00        | 3269          |
| 1.03           | Sand Filling in plinth including supply of necessary quantity of sand from a distance not exceeding 8.00Kms from the site of work including watering, dressing etc. labour and T &P. etc. required for the proper completion of the work. saplings of girth upto 30cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50m outside side the periphery of area cleared.                           | 141.00           | cum         | 399.00      | 56259         |

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| Item No | Description of Item   | Total Qty | Unit    | Rate   | Amount           |
|---------|---|-----------|---------|--------|------------------|
| 1       | 2   | 3         | 4       | 5      | 6                |
| 1.04    | Providing and injection chemical emulsion for preconstructional antitermite treatment and creating and chemical barrier under and around the columns pits, wall trench basement excavation top surface in plinth filling junction of wall trench basement excavation top surface if plinth filling junction of wall and floor along the external per meter of binding expansion joints surrounding of pipe and conduit etc. Complete (plinth area of building at ground floor only shall measured as per I.S6313(part-II 1981). Aldrine emulsifiable concentrate of any other approved material such as Hephthachlor or chlordane will be used..The rate of application of chemical emulsion shall be as follow |           |         |        |                  |
|         | Treatment for masonry and foundation 5 litres per litres per sq.mtr.  |           |         |        |                  |
|         | Back fill in immediate contact with foundation 7.5 liters/sqm   |           |         |        |                  |
|         | Treatment of top surface of plinth filling 5 liters per sqm.  |           |         |        |                  |
|         | Treatment junction of soil along external per meter building 7.50 litre/sqm   |           |         |        |                  |
|         | Treatment of soil under apron along external perimeter 5 liter/sqm  | 1527.00   | Sqm     | 209.00 | 319143           |
| 1.05    | Cleaing jungle including uprooting of vegetation grass, buss,wood,tree and sapling of grith up to 30 cm. Mesaured at height of 1m. Above ground level & removal of rubbish upto distance of 50 m outside the periphery of area.   | 3000.00   | per sqm | 2.00   | 6000             |
|         | <b>Sub total</b>  |           |         |        | <b>578545.00</b> |

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| Item No     | Description of Item   | Total Qty | Unit | Rate    | Amount |
|-------------|---|-----------|------|---------|--------|
| 1           | 2   | 3         | 4    | 5       | 6      |
| <b>2.00</b> | <b>CONCRETE WORK</b>  |           |      |         |        |
| 2.01        |   |           |      |         |        |
| a)          | Providing and laying cement concrete in 1:2:4 of not less than strength of M-15 Stone ballast (20 mm nominal size ) approved coarse sand and cement, curing complete, including cost of form work in foundation and floors  | 9.00      | cum  | 5035.00 | 45315  |
| b)          | Providing and laying cement concrete in 1:5:10 (1 cement: 5 fine sand :10 graded brick ballast 40 mm nominal size) and curing complete including cost of work in foundation and floor.  | 264.00    | cum  | 2518.00 | 664752 |
| c)          | Providing and laying cement concrete in 1:5:10 (1 cement: 5 fine sand :10 graded stone ballast 40 mm stone aggregate ) and curing complete including cost of work in foundation and floor.  | 144.00    | cum  | 3088.00 | 444672 |
| d)          | Providing and laying cement concrete in 1:4:8 (1 cement: 4 fine sand :8 graded stone ballast 40 mm stone aggregate ) and curing complete including cost of work in foundation and floor.  | 202.00    | cum  | 3278.00 | 662156 |
| 2.02        | Providing and laying D.P.C 2.50cm thick cement concrete consisting of one part cement 1.5 part of Coarse sand and three part of approved 13 mm grade stone grit and including water proofing material as directed by Engineer- in Charge in proportion as specified by the manufacture. | 138.00    | sqm  | 209.00  | 28842  |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>  | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b>     |
|----------------|---|------------------|-------------|-------------|-------------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>          |
| 2.03           | Painting in D.P.C with two coat of airblown bitumen 85/50 or 85/25 1.7 kg /sqm appoximate including of fuel cost if any | 138.00           | sqm         | 95.00       | 13110             |
|                | <b>Sub total</b>  |                  |             |             | <b>1858847.00</b> |

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| Item No     | Description of Item   | Total Qty | Unit | Rate    | Amount  |
|-------------|---|-----------|------|---------|---------|
| 1           | 2   | 3         | 4    | 5       | 6       |
| <b>3.00</b> | <b>REINFORCED CEMENT CONCRETE</b>   |           |      |         |         |
| 3.01        | RCC Work with cement approved coarse sand and 2 cm (3/4") gauge approved stone ballast in proposition of 1:2:4 in lintel of door and window excluding supply of reinforcement and its bending and including its fixing and binding the same with 24 B.W.G.I. binding wire and including necessary centering and shuttering etc. and also including supply of all materials, labour and T&P etc.required for proper completion of the work/ strength of the concrete shall not less than M-15.     | 37.00     | cum  | 5463.00 | 202131  |
| 3.02        | RCC Work with cement approved coarse sand and 4 cm (1 1/2") gauge approved stone ballast in proposition of 1:2:4 in raft foundation and footing excluding supply of reinforcement and its binding but includinf its fixing and binding the same with 24 B.W.G.I. binding wire and including necessary centering and shuttering etc. and also including supply of all materials, labour and T&P etc.required for proper completion of the work/ strength of the concrete shall not less than M-15. | 976.00    | cum  | 4845.00 | 4728720 |



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|---------|---|-----------|------|---------|----------|
| 1       | 2   | 3         | 4    | 5       | 6        |
| 3.03    | RCC Work with cement approved coarse sand and 4 cm (1 1/2") gauge approved stone ballast in proposition of 1:1 1/2:3 in T. beam and slab roof shelves and rcc columns excluding supply of reinforcement and its binding but inclding its fixing and binding the same with 24 B.W.G.I. binding wire and including necessary centering and shuttering etc. and also including supply of all materials, labour and T&P etc.required for proper completion of the work. | 1841.00   | cum  | 6603.00 | 12156123 |
| 3.04    | Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement  |           |      |         |          |
| a)      | 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)  | 73.00     | cum  | 6003.00 | 438219   |
| 3.05    | Centering and shuttering including strutting, propping etc. and removal of form for:  |           |      |         |          |
| a)      | Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.   | 571.00    | sqm  | 318.00  | 181578   |

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|---------|---|-----------|------|--------|--------------------|
| 1       | 2   | 3         | 4    | 5      | 6                  |
| 3.06    | Thermo-Mechanically Treated bars work such as reinforced concrete or reinforced brick work (when not included in an overall rates) wrought to required shape as necessary including bending for proper completion of the work and including supply of all steel and wastage and over lapping & hooks, for all floor levels.                                     | 449823.00 | kg   | 63.00  | 28338849           |
| 3.07    | Add or deduct for using RCC 1;1½:3 instead of 1:2:4 mix over and above the specified item of RCC.   | 1102.00   | Cum  | 570.00 | 628140             |
| 3.08    | Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.  | 519.00    | Cum  | 165.00 | 85635              |
| 3.09    | Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand:4 graded stone aggregate 6 mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of the jambs, sills and soffits. |           |      |        |                    |
|         | 50mm thick  | 560.00    | sqm  | 650.00 | 364000             |
|         | <b>Sub total</b>  |           |      |        | <b>47123395.00</b> |

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|-------------|---|-----------|------|---------|---------|
| 1           | 2   | 3         | 4    | 5       | 6       |
| <b>4.00</b> | <b>BRICK WORK</b>   |           |      |         |         |
| 4.01        | Class 150 brick work 1:6 cement and fine sand of 1.25 F.M. mortar in foundation and plinth including supply of all material ,labours and T& Petc required for proper completion of the work   | 94.00     | cum  | 3040.00 | 285760  |
| 4.02        | Class 150 brick work 1:6 cement and fine sand of 1.25 F.M. mortar in super structure above plnth level up to two floor level ( up to two stories ) including necessary cutting and moulding of brick work as required and also including honey combed brick work in thickness of wall more than 12 cm .                     | 1021.00   | cum  | 3211.00 | 3278431 |
| 4.03        | Etra for brick work (above item) at second floor  | 224.00    | cum  | 33.00   | 7392    |
|             | Etra for brick work (above item) at Third floor   | 229.00    | cum  | 67.00   | 15343   |
|             | Etra for brick work (above item) at Fourth floor  | 233.00    | cum  | 100.00  | 23300   |
|             | Etra for brick work (above item) at Fifth floor   | 307.00    | cum  | 133.00  | 40831   |
| 4.04        | Class 150 brick work 1:4cement and fine sand of 1.25 F.M. mortar in super structure ( half brick thick ) above plinth level up to two floor level ( up to two stories ) including necessary cutting and moulding of brick work as required and also including honey combed brick work in thickness of wall 12 cm and below. | 606.00    | cum  | 3772.00 | 2285832 |

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|------------------|---|------------------|-------------|-------------|-------------------|
| <b>1</b>         | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>          |
| 4.05             | Brick edging 7cm wide 11.4 cm deep to plinth protection with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 including grouting with cement mortar 1:4 (1 cement : 4 fine sand). | 316.00           | Metre       | 37.00       | 11692             |
| <b>Sub total</b> |   |                  |             |             | <b>5948581.00</b> |

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|-------------|--|-----------|------|--------|--------|
| 1           | 2  | 3         | 4    | 5      | 6      |
| <b>5.00</b> | <b>DOORS &amp; WINDOWS</b>   |           |      |        |        |
| 5.01        | Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : |           |      |        |        |
| a)          | For fixed portion  |           |      |        |        |
| i)          | Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)  | 2132.00   | kg   | 361.00 | 769652 |
| 5.02        | Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.   |           |      |        |        |

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|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
| a)      | Pre-laminated particle board with decorative lamination on both sides.  | 2.00      | Sqm  | 1013.00 | 2026   |
| 5.03    | Providing and fixing glazing in aluminium/ upvc door,window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item) :  |           |      |         |        |
| a)      | With float glass panes of 5.50 mm thickness   | 361.00    | sqm  | 959.00  | 346199 |
| 5.04    | Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. |           |      |         |        |
| a)      | With brass cover plate minimum 1.25 mm thickness  | 9.00      | each | 2085.00 | 18765  |

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|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
| 5.05    | Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment). | 1584.00   | kg   | 379.00  | 600336 |
| 5.06    | Supply and fixing of flush door commercial quality conforming to IS:2202Part-1(1983) including fixing of wooden cleats and stoppers and including fixing and adjustment of hinges locks handle springs fitting with necessary screws to be supplied departmentally.   |           |      |         |        |
| a)      | 32 mm thick   | 368.00    | sqm  | 1235.00 | 454480 |
| b)      | For double leaf shutter add extra in over all rates.  | 100.00    | sqm  | 124.00  | 12400  |
| 5.07    | Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).  | 13.00     | sqm  | 6.00    | 78     |

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|----------------|---|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| 5.08           | Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S including cost of adhesive of approved quality  |                  |             |             |               |
| a)             | 1.0 mm thick.   | 726.00           | sqm         | 630.00      | 457380        |
| 5.09           | Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II), tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, lock rail, top rail 100 mm wide, bottom rail 200 mm wide, made out of 16 SWG G.I.sheet (zinc coating not less than 120 gm/m <sup>2</sup> ) duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in-charge (panneling to be paid for separately). | 38.00            | sqm         | 5895.00     | 224010        |



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|---------|---|-----------|-------|----------|--------|
| 1       | 2   | 3         | 4     | 5        | 6      |
| 5.10    | Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix,suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer etc complete as per direction of Engineer-in-charge (Dash fastener to be paid for separately). | 82.00     | Metre | 1131.00  | 92742  |
| 5.11    | Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in- charge, all complete.   | 8.00      | Each  | 5598.00  | 44784  |
| 5.12    | Providing and fixing glazing in fire resistant door shutters, fixed panels,ventilators and partitions etc., with G.I. beading of appropriate size, made out of 20 SWG G.I.sheet (zinc coating not less than 120 gm/m2), fire resistant sealant, including applying a coat of approved fire resistant primer on G.I. beading etc., complete all as per direction of Engineer-in-charge.  |           |       |          |        |
| a)      | With clear fire resistant glass panes 6mm thick of approved brand, having minimum 60 minutes fire resistance  | 2.00      | sqm   | 25607.00 | 51214  |

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|---------|---|-----------|------|--------|--------|
| 1       | 2   | 3         | 4    | 5      | 6      |
| 5.13    | Providing and fixing Aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI:3564, embossed on the body,door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete. | 175.00    | each | 700.00 | 122500 |
| 5.14    | Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete :                                 |           |      |        |        |
| a)      | 300x16 mm   | 7.00      | each | 205.00 | 1435   |
| b)      | 250x16 mm   | 68.00     | each | 171.00 | 11628  |
| 5.15    | Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade with necessary screws etc. complete:  |           |      |        |        |
| a)      | 250x10 mm   | 206.00    | each | 86.00  | 17716  |
| b)      | 150x10 mm   | 799.00    | each | 60.00  | 47940  |
| 5.16    | Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :  |           |      |        |        |
| a)      | 125 mm  | 459.00    | each | 64.00  | 29376  |

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|---------|---|-----------|------|--------|--------|
| 1       | 2   | 3         | 4    | 5      | 6      |
| 5.17    | Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc. complete.   |           |      |        |        |
| a)      | Twin rubber stopper   | 230.00    | each | 76.00  | 17480  |
| 5.18    | Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles of approved quality with necessary screws etc. complete. | 125.00    | each | 717.00 | 89625  |
| 5.19    | Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.  |           |      |        |        |
| a)      | 255 X 19 mm   | 30.00     | each | 249.00 | 7470   |
| 5.20    | Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.  |           |      |        |        |
| a)      | Powder coated minimum thickness 50 micron aluminium.  | 44.00     | each | 50.00  | 2200   |
| 5.21    | Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with Aluminium flat bleeding and nuts & bolts complete.  |           |      |        |        |

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|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
|         | Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides   | 390.00    | sqm  | 1190.00 | 464100 |
| 5.22    | Providing and Fixing factory made uPVC white colour casement/sliding window / door, made of extruded profiles. Profiles of frames and sash will be mitered cut and fusion welded at all corners, including drilling of holes for fixing hardware and drainage of water etc., making arrangement for fixing of hardware, EPDM gasket, 1.2 ± 0.2 mm thick galvanised steel profile to be inserted in required profile, frame will be fixed to the wall with 8 mm x 100 mm long fasteners, all complete as per direction of Engineer-in-charge. (Glazing, hardware hinges and fitting etc. to be paid separately.) |           |      |         |        |
|         | Note :- Each member of window to be measured separately with clear length   |           |      |         |        |
|         | Casement Window (With friction hinge & outward opening)   |           |      |         |        |
| a)      | Casement Frame (67 mm x 62 mm)  | 1722.00   | mtr  | 434.00  | 747348 |
| b)      | Casement Window Sash / Mullion (67 mm x 75 mm ) (style,rail and intermediate section)   | 1140.00   | mtr  | 469.00  | 534660 |
| c)      | Casement Glazing bead (35 mm x 18 mm)   | 2520.00   | mtr  | 158.00  | 398160 |
| 5.23    | Providing and fixing stainless steel (SS-304 grade) friction hinges to the side/ top hung uPVC windows, of approved quality, with necessary stainless steel screws etc. as per direction of Engineer-in-charge.   |           |      |         |        |
| a)      | 250 x 19 x 1.9 mm   | 574.00    | each | 332.00  | 190568 |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate    | Amount |
|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
| 5.24    | Providing and fixing casement handle made of zinc alloyed (white powder coated) for uPVC casement window with necessary screws etc. complete.   | 344.00    | each | 183.00  | 62952  |
| 5.25    | Providing and fixing ISI marked aluminium butt hinges anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete:<br>125x63x4 mm  | 604.00    | each | 95.00   | 57380  |
| 5.26    | Supplying and fixing rolling shutter of approved make of 80x1.25 mm gauge cold rolled M.S. laths inter locked throughout their entire length and joined together at end by end locks and mounted on specially designed pipe shaft with brackets side guides and arrangement for inside locking with push and pull operation complete but excluding the cost of top cover and spring | 23.00     | sqm  | 1520.00 | 34960  |
| 5.27    | Providing and fixing 27.5 cm.long wire spring grade.2 for rolling shutters.   | 11.00     | each | 760.00  | 8360   |
| 5.28    | Providing and fixing top cover for rolling shutter 18 gauge.  | 13.00     | rm   | 855.00  | 11115  |
| 5.29    | Proving & fixing ball bearing for rolling shutters.   | 10.00     | each | 713.00  | 7130   |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No          | Description of Item   | Total Qty | Unit | Rate    | Amount            |
|------------------|---|-----------|------|---------|-------------------|
| 1                | 2   | 3         | 4    | 5       | 6                 |
| 5.30             | Proving and fixing in position collapsible steel shutter with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size with top and bottom rails of Tiron 40x40x6 mm with 38 mm dia steel pulleys with bolts, nuts, locking arrangement, stoppers, handle complete including applying a priming coat of approved red lead paint.   | 20.00     | sqm  | 3040.00 | 60800             |
| 5.31             | Supply and fixing of anodized aluminium door having 2 mm thick aluminium section excluding coating and average coating of 20 microns fully glazed made of aluminium door tube size 83.5x44.65mm as vertical member and 1140x44.45 mm size tube in bottom and horizontal member door chauhkat should be of aluminium tubular vertical with two openable shutter, the rate will include cost of material fixtures 5 mm glass handles locks screw necessary bending and excluding cost of floor spring if required for proper completion of the work as per direction of Engineer-in-charge. | 35.00     | sqm  | 3373.00 | 118055            |
| 5.32             | Same as above as per item no. 5.31, but for fixed glazing   | 15.00     | sqm  | 3040.00 | 45600             |
| <b>Sub total</b> |   |           |      |         | <b>6162624.00</b> |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No     | Description of Item  | Total Qty | Unit | Rate   | Amount            |
|-------------|--|-----------|------|--------|-------------------|
| 1           | 2  | 3         | 4    | 5      | 6                 |
| <b>6.00</b> | <b>STEEL WORK</b>  |           |      |        |                   |
| 6.01        | Mild steel or iron work of small size section such as grill and stair case railing including hand rail wrought to required form, including of supply of steel,bolts nuts and wastage etc.and their fixing required for proper completion of work.  | 4808.00   | kg   | 59.00  | 283672            |
| 6.02        | Mild steel or iron work in heavy sizes such as trusses; built up gates ,record rack, roof work, gates etc. brought to required form including drilling holes rivetting or welding where necessary also including supply of steel bolts, nuts etc .& their fixing required for proper completion of work. .   | 3246.00   | Kg   | 58.00  | 188268            |
| 6.03        | Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, ( for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.). | 1362.00   | kg   | 581.00 | 791322            |
|             | <b>Sub total</b>   |           |      |        | <b>1263262.00</b> |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No     | Description of Item   | Total Qty | Unit | Rate    | Amount |
|-------------|---|-----------|------|---------|--------|
| 1           | 2   | 3         | 4    | 5       | 6      |
| <b>7.00</b> | <b>FLOORING</b>   |           |      |         |        |
| 7.01        | Cement concrete flooring 1:2:4 (1 cement :2 coarse :4 graded stone of size 20 mm nominal size) laid in one layer finished with floating coat of neat cement 40 mm thick.  | 221.00    | sqm  | 266.00  | 58786  |
| 7.02        | Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement.  |           |      |         |        |
| a)          | 18 mm thick.  | 19.00     | sqm  | 284.00  | 5396   |
| 7.03        | Marble stone flooring/skirting with 18mm thick marble stone sample of marble shall be approved by Engineer-in-charge over 20 mm (average) thick base of cement mortar 1:4 (1 cement: 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with: |           |      |         |        |
| a)          | Raj Nagar Plain   | 76.00     | sqm  | 1364.00 | 103664 |
| b)          | Udaipur green marble/ Jaisalmer Stone   | 179.00    | sqm  | 1478.00 | 264562 |



**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|--|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| 7.04           | Providing and fixing machine cut, mirror / eggshell polished, granite stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge. |                  |             |             |               |
| a)             | (a) Granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.  | 142.00           | sqm         | 4178.00     | 593276        |
| 7.05           | Providing and laying flamed finish/ polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :   |                  |             |             |               |
| a)             | (a) Flamed finish/ polished granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.  | 319.00           | sqm         | 2643.00     | 843117        |

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| Item No | Description of Item  | Total Qty | Unit | Rate   | Amount  |
|---------|--|-----------|------|--------|---------|
| 1       | 2  | 3         | 4    | 5      | 6       |
| 7.06    | Providing and laying 30mm white kota stone flooring over 20mm thick base of cement mortar 1:4 (1 cement :4 coarse sand) laid over jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing complete .   | 546.00    | sqm  | 903.00 | 493038  |
| 7.07    | Kota stone slab 20 mm thick in riser of steps skirting, dado and pillars laid on 10 mm thick cement mortar 1:3 (1 cement:3 coarse sand )jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete.  | 57.00     | sqm  | 808.00 | 46056   |
| 7.08    | Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer ) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. | 1398.00   | sqm  | 754.00 | 1054092 |

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| Item No | Description of Item   | Total Qty | Unit | Rate    | Amount  |
|---------|---|-----------|------|---------|---------|
| 1       | 2   | 3         | 4    | 5       | 6       |
| 7.09    | Providing and laying antiskid /rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete. | 394.00    | sqm  | 972.00  | 382968  |
| 7.10    | Providing laying of 8 to 10 mm thick ivory or light shade vitrified tiles of 600mmX 600 mm size of flooring or skirting laid with 1:3 cement mortar (1 cement :3 coarse sand)finishing with cement slurry & with pigment grouting and polishing complete including supply of all materials, labour, T&P required for proper completion of work.   | 3721.00   | sqm  | 1273.00 | 4736833 |
| 7.11    | Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in dado, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.                                       |           |      |         |         |
| a)      | Size of Tile 600x600 mm   | 3923.00   | sqm  | 1341.00 | 5260743 |
| b)      | Size of Tile 800x800 mm   | 777.00    | sqm  | 1573.00 | 1222221 |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item  | Total Qty | Unit | Rate    | Amount  |
|---------|--|-----------|------|---------|---------|
| 1       | 2  | 3         | 4    | 5       | 6       |
| 7.12    | Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge  |           |      |         |         |
| a)      | Size of Tile 600x600 mm  | 7644.00   | sqm  | 172.00  | 1314768 |
| b)      | Size of Tile 800x800 mm  | 777.00    | sqm  | 139.00  | 108003  |
| 7.13    | Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills. facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels |           |      |         |         |
| a)      | Udaipur Green marble   |           |      |         |         |
| i)      | Area of slab upto 0.50 sqm   | 5.00      | sqm  | 2090.00 | 10450   |
| ii)     | Area of slab over 0.50 sqm.  | 71.00     | sqm  | 2206.00 | 156626  |
| 7.14    | Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.   | 27.00     | Nos  | 333.00  | 8991    |

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| Item No | Description of Item  | Total Qty | Unit | Rate   | Amount |
|---------|--|-----------|------|--------|--------|
| 1       | 2  | 3         | 4    | 5      | 6      |
| 7.15    | Precast terrazzo tiles 20mm thick with white , black or white and black marble chip of size up to 6 mm laid in floor treads of steps and landing on bed of 25 mm average thickness of cement mortar 1:3 (cement: coarse sand ) joined with neat slurry mixed with pigment to match the shade of tiles including rubbing and polishing complete with precast tiles of |           |      |        |        |
|         | Grey   | 259.00    | sqm  | 551.00 | 142709 |
|         | Coloured with white cement   | 259.00    | sqm  | 665.00 | 172235 |
| 7.16    | <b>Anti static epoxy flooring</b>  |           |      |        |        |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item  | Total Qty | Unit | Rate    | Amount             |
|---------|--|-----------|------|---------|--------------------|
| 1       | 2  | 3         | 4    | 5       | 6                  |
|         | Anti static epoxy flooring preparing the concrete floor surface using captive shot blasting/grinding etc .Cut open all construction joint to fill with Epoxy putty of approved quality. Same treatment will carried out treat shrinkage joints. Proving and applying a coat of suitable primer of approved quality coat and allowed to air cure for overnight before overlaying. Providing and applying conductive under coat as per manufacture specification and final topping of approved quality with in 2 mm thick over primed surface and finishing as per manufacture specification. When measured for surface resistance in accordance with BS 2050 :1978(A-1984) and DIN EN 1081, the static Conductive topping including under coat shall be in the range of 50-1000K Ohms. When tested for static decay as per Federal Test method 101B , Method 4046, the static Conductive topping shall take not more than a time of 0.01 second to decay with +5KV peak charge to 0%. The surface resistance of the Conductive under coat shall be in the range of 3-9 k Ohms including providing and fixing copper strip connect earthling point for surface discharge of charges. | 71.00     | sqm  | 1933.00 | 137243             |
|         | <b>Sub total</b>   |           |      |         | <b>17115777.00</b> |

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| Item No     | Description of Item  | Total Qty | Unit | Rate    | Amount |
|-------------|--|-----------|------|---------|--------|
| 1           | 2  | 3         | 4    | 5       | 6      |
| <b>8.00</b> | <b>CEILING &amp; ROOFING</b>   |           |      |         |        |
| 8.01        | Providing and fixing 10mm thick clear multi wall solar control polycarbonate sheets of approved quality and shade in desired shape in roofing including the cost of EPDM gaskets , sealing tape , aluminium profile and all necessary accessories complete as per architectural drawings and as directed by Engineer incharge. The item includes designing the complete system and supplying & getting approved from client and / or reputed engineering institue like IIT etc. The detailed shop drawings including supplying structural design calculations based on relevent codal provisions and carrying out water penetration test as per standards followed in India. |           |      |         |        |
| a)          | For Dome Structure   | 162.00    | Sqm  | 2891.00 | 468342 |
|             | The whole work is to be done through reputed and approved vendor having experience in polycarbonate work in Commercial/ Govt/ Corporate buildings as per architectural elevation drawings including filling of joints with silicon sealent and also with masonry/ RCC work, at all heights including double heights, straight or curved etc. complete in all respect. ( Surface Area shall be measured for the payment) ( M.S. Framing to be paid for seprately )  |           |      |         |        |
| 8.02        | Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :  |           |      |         |        |

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| Item No | Description of Item   | Total Qty | Unit | Rate   | Amount |
|---------|---|-----------|------|--------|--------|
| 1       | 2   | 3         | 4    | 5      | 6      |
| i)      | v) 1st course of applying cement slurry @ 4.4 Kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.  |           |      |        |        |
| ii)     | vi) 2nd course of 20mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.   |           |      |        |        |
| iii)    | vii) 3rd course of applying blown or residual bitumen applied hot at 1.7 Kg. per sqm of area.   |           |      |        |        |
| iv)     | viii) 4th course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 Kg/sqm.)   | 524.00    | sqm  | 427.00 | 223748 |
| 8.03    | Providing and laying integral cement based water proofing treatment Brick KOBA including preparation of surface as required for treatment of roof , consisting of following operation:<br><br>Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with waterproofing compound conforming to IS :2645 including adjoining wall upto 300 mm height. |           |      |        |        |



**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item  | Total Qty | Unit | Rate   | Amount |
|---------|--|-----------|------|--------|--------|
| 1       | 2  | 3         | 4    | 5      | 6      |
|         | Laying brick bats with mortar with 50% of cement mortar 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS :2645 over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound confirming to IS:2645 to required slope including rounding of junctions of wall and slabs.           |           |      |        |        |
|         | After two days of proper curing applying a second coat of cement slurry using 2.75 kg/sqm to cement admixed with water proofing compound confrmng to IS :2645  |           |      |        |        |
|         | Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand ) admixed with water proofing compound conforming to IS:2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. |           |      |        |        |
|         | The whole terrace so finished shall be flooded with water for a minimum period of two week for curing to final test.   | 1370.00   | sqm  | 618.00 | 846660 |

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| Item No | Description of Item   | Total Qty | Unit | Rate | Amount |
|---------|---|-----------|------|------|--------|
| 1       | 2   | 3         | 4    | 5    | 6      |
| 8.04    | Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, |           |      |      |        |

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| <b>Item No</b> | <b>Description of Item</b>  | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|---|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
|                | the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with |                  |             |             |               |
| a)             | 12.5 mm thick tapered edge gypsum fire resistant board conforming to IS: 2095- Part I   | 205.00           | sqm         | 807.00      | 165435        |

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| Item No | Description of Item   | Total Qty | Unit | Rate    | Amount |
|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
| 8.05    | Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring 'T' with : |           |      |         |        |
|         | GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending   | 68.00     | sqm  | 1576.00 | 107168 |

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| <b>Item No</b> | <b>Description of Item</b>  | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|---|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| 8.06           | Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building , for all heights and all levels etc. including:  |                  |             |             |               |
|                | Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design   |                  |             |             |               |
|                | Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. |                  |             |             |               |
|                | The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete required to perform as per specification and drawing  |                  |             |             |               |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b>     |
|----------------|--|------------------|-------------|-------------|-------------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>          |
|                | The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation. Base frame work for ACP cladding is payable under the relevant aluminium items. The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places. | 621.00           | sqm         | 3512.00     | 2180952           |
|                | <b>Sub total</b>   |                  |             |             | <b>3992305.00</b> |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No     | Description of Item  | Total Qty | Unit | Rate   | Amount |
|-------------|--|-----------|------|--------|--------|
| 1           | 2  | 3         | 4    | 5      | 6      |
| <b>9.00</b> | <b>FINISHING</b>   |           |      |        |        |
| 9.01        | 12 mm cement plaster in single coat on fair side of single or half brick wall for interior plastering at all floor levels including internal rounded angles chamfers, and/or rounded angles not exceeding 80 mm in girth and finished even and smooth . No extra for mixing any additive |           |      |        |        |
| a)          | 1 cement :6 fine sand  | 4428.00   | sqm  | 78.00  | 345384 |
| 9.02        | 15mm Cement plaster in single coat on rough side of single or half brick wall for interior plastering at all floor levels including internal rounded angles chamfers, and rounded angles not exceeding 80 mm in girth finished even and smooth.  |           |      |        |        |
| a)          | 1:6 (1 cement: 6 fine sand)  | 6353.00   | sqm  | 95.00  | 603535 |
| 9.03        | 20 mm cement plaster in at two coat backing coat 17 mm and finishing coat 3 mm thick of neat cement and marble dust in ratio 5:1 on rough side of single or half brick interior plastering at all floor level including integral rounded angles.   |           |      |        |        |
| a)          | 1 cement :4 fine sand  | 732.00    | sqm  | 124.00 | 90768  |
| 9.04        | 12 mm cement plaster in single coat o for plastering on ceiling and soffits of stair at all floor levels.  |           |      |        |        |
|             |  | 5843.00   | sqm  | 89.00  | 520027 |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate  | Amount |
|---------|---|-----------|------|-------|--------|
| 1       | 2   | 3         | 4    | 5     | 6      |
| 9.05    | Distemping (two. coat) with oil bound distemper of approved brand and manufacture and of required shade on undecorated wall surface to give an even shade over and including a priming coat with cement primer of approved brand and manufacture such as Berger J&N Shalimar Asian Paints after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even with Plaster of approved synthetic material and sand papered smooth including cost of all material | 3780.00   | sqm  | 48.00 | 181440 |
| 9.06    | Finishing walls with Acrylic Smooth exterior paint of required shade:   |           |      |       |        |
| a)      | New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kgl10 sqm).   | 625.00    | sqm  | 74.00 | 46250  |
| 9.07    | Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface  |           |      |       |        |
| a)      | Water thinnable cement primer   | 12863.00  | sqm  | 30.00 | 385890 |
| 9.08    | Finishing walls with water proofing cement paint of approved make such as super snowcem , Durocem, Robiance , guttucem, supercem quality and of required shade on undecorated wall surface (one coat) over and including one coat white cement primer to give and even shade after thoroughly brushing the surface  | 418.00    | sqm  | 53.00 | 22154  |



**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate  | Amount  |
|---------|---|-----------|------|-------|---------|
| 1       | 2   | 3         | 4    | 5     | 6       |
| 9.09    | Painting two coats over priming coat (but excluding cost of priming coat) on steel and other metal surface with superior synthetic enamels such as Luxol 3, Hi gloss Apcolite, Superfac Dulux specified brushing to give an even shade and including the cleaning the surface of all dirt, dust, and other foreign matter sand papering and scrapping including cost of all materials labour, tools and plants etc. required for proper completion of work. | 474.00    | sqm  | 49.00 | 23226   |
| 9.10    | Applying priming coat over new steel and other metal surface including preparing the surface by thoroughly clearing oil grease, dirt and other foreign matter and scoured with wire brushed, fine steel /wood. Scrapper sand papering and knotting including cost of all material, labour T&P etc. required for proper completion of work.  | 486.00    | sqm  | 20.00 | 9720    |
| 9.11    | Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.   | 12112.00  | sqm  | 96.00 | 1162752 |
| 9.12    | White wash with lime on undercoated wall surface (three coat ) to give an even shade including thoroughly brooming the surface to remove all dirt, dust mortar drop and loose scales of lime wash and other foreign matter.   | 562.00    | sqm  | 9.00  | 5058    |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b>     |
|----------------|--|------------------|-------------|-------------|-------------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>          |
| 9.13           | Providing and fixing 24 gauge and 18mm mesh size chicken wiremesh at junction of concrete and brick work and other locations at all heights including cutting to required size and side laps of minimum 75mm and fixing in positions with nails/screws etc. as directed and as required at site. | 676.00           | sqm         | 66.00       | 44616             |
| 9.14           | Providing and mixing water proofing materials in cement mortar for plastering or in concrete work in the proportion recommended by the manufacture.  | 1434.00          | kg          | 42.00       | 60228             |
| 9.15           | Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.                        |                  |             |             |                   |
| a)             | Two coats  | 9689.00          | sqm         | 67.00       | 649163            |
| 9.16           | Making drip course in sunshade or facia as per direction of Engineer-In-Charge including supply of all material, labour etc. required for proper completion of work.   | 16.00            | rm          | 5.00        | 80                |
|                | <b>Sub total</b>   |                  |             |             | <b>4150291.00</b> |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No      | Description of Item   | Total Qty | Unit | Rate   | Amount |
|--------------|---|-----------|------|--------|--------|
| 1            | 2   | 3         | 4    | 5      | 6      |
| <b>10.00</b> | <b>MISCELLANEOUS</b>  |           |      |        |        |
| 10.01        | Dholpur stone work for wall lining etc. (Veneer work) 40 mm thick in cement mortar 1:3 (1 cement :3 coarse sand ) including camping joining in white mortar 1:2 (1 white cement :2 stone dust ) with an admixture of pigment matching the stone shade.  | 1139.00   | sqm  | 855.00 | 973845 |
| 10.02        | Washed stone grit plaster on exterior walls height upto 10 metre above ground level, in two layers, under layer 12 mm cement plaster 1:4 (1 cement : 4 coarse sand ), furrowing the under layer with scratching tool, applying cement slurry on the under layer @ 2 Kg of cement per square metre, top layer 15 mm cement plaster 1:1/2:2 (1 cement: 1/2 coarse sand : 2 stone chipping 10 mm nominal size), in panels with groove all around as per approved pattern, including scrubbing and washing the top layer with brushes and water to expose the stone chippings ,complete as per specification and direction of Engineer-in- charge (payment for providing grooves shall be made separately). | 1127.00   | sqm  | 468.00 | 527436 |
| 10.03        | Making groove 10 m to 12m wide x 8 mm deep in plaster on the wall or in ceiling vertically or horizontally as required .  | 2000.00   | Mtr  | 16.00  | 32000  |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate    | Amount  |
|---------|---|-----------|------|---------|---------|
| 1       | 2   | 3         | 4    | 5       | 6       |
| 10.04   | Extra for washed grit plaster on exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.  | 573.00    | Sqm  | 74.00   | 42402   |
| 10.05   | Providing and fixing extruded vitrified clay tiles made from special extrusion and process having 10 mm. widw dovetailed grooves at the rear part of the tiles. The tiles would be made from special vitrified clay and firing temperature would be more than 1100 degree celcius. The dimension of the tile should be 9"x3" and the thickness of the tile should be 12 - 15 mm. allowing variance of +/- 2.5 mm. The tiles top surface should be coated with silicone and surface water absorption should not exceed 1% and be immersion method it should be less than 6%. The compressive strength of this product should be eq. to around 70 N/ sq.mm. The tiles should be fixed on surface having rough plaster of cement mortar in 1:3 ratio (1 cement : 3 coarse sand) and the fixing agent should be branded tile adhesive and the tiles should be fixed as per manufacture's laying instruction on outer surface area of elevation. | 1443.00   | sqm  | 1597.00 | 2304471 |
| 10.06   | Providing and fixing adjustable stainless steel cramps of approved quality, required shape and size, adjustable with stainless steel nuts, bolts and washer (total weight not less than 260 gms), for dry stone cladding fixed on frame work at suitable location, including making necessary recesses in stone slab, drilling required holes etc complete as per direction of the Engineer-in-charge.  | 2278.00   | each | 187.00  | 425986  |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item  | Total Qty | Unit | Rate   | Amount |
|---------|--|-----------|------|--------|--------|
| 1       | 2  | 3         | 4    | 5      | 6      |
| 10.07   | Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.  | 272.00    | sqm  | 360.00 | 97920  |
| 10.08   | Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) 1st layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer. |           |      |        |        |
| a)      | Using rough kota stone.  | 63.00     | Sqm  | 802.00 | 50526  |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item  | Total Qty | Unit    | Rate   | Amount |
|---------|--|-----------|---------|--------|--------|
| 1       | 2  | 3         | 4       | 5      | 6      |
| 10.09   | Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge : |           |         |        |        |
| a)      | Using rough Kota stone   | 189.00    | Sqm     | 985.00 | 186165 |
| 10.10   | Providing fabricating and fixing of signages of varying sizes and shapes using three mm thick PVC sheet at base with self adhesive coloured vinyl with graphicson top of glow tape complete including fixing on wall with screws and washers or hanging on ceiling with GI chain/GI Bar complete as per technical specifications and directions of Engineer.   | 1000.00   | sq inch | 3.00   | 3000   |
| 10.11   | Providing and fixing of sinages of varying sizes and shapes using stainless steel sheet of minimum 16G thickness brush finish including engraving/etching of letters of required size filled with colour as desired by engineer,fixing with ss screws on walls   | 500.00    | sq inch | 14.00  | 7000   |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|--|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| 10.12          | Providing & Fixing Wall Mounted Nonlit Fire Exit 24" x 9" Internal sign of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.                | 10.00            | Each        | 1642.00     | 16420         |
| 10.13          | Providing & Fixing Suspended Nonlit sign 48"x9" of approved make & made of 1" Aluminium framing duly PU painted and 10mm Acrylic element mounted to it from either side with the required text matters stuck on it with plotted Self Adhesive Vinyl bracketed at suitable locations, including necessary fittings & fastening etc. complete & as directed by The Engineer in charge. | 5.00             | Each        | 4940.00     | 24700         |
| 10.14          | Providing & Fixing Wall Mounted Nonlit Identification sign 18"x5" of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.                      | 20.00            | Each        | 684.00      | 13680         |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b>           | <b>Rate</b> | <b>Amount</b>     |
|----------------|--|------------------|-----------------------|-------------|-------------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>              | <b>5</b>    | <b>6</b>          |
| 10.15          | Providing & Fixing Wall Mounted Nonlit Utility 24" x 9" Internal sign of approved make & made of 10mm Acrylic with the required text matters stuck on it with plotted self adhesive vinyl & Mounted on 3mm Aluminium Composit Panel bracketed at suitable locations including necessary fittings & fastening etc. complete & as directed by The Engineer in charge.                    | 20.00            | Each                  | 1642.00     | 32840             |
| 10.16          | Providing,fabricating installation and fixing of glass finish SS letters made of 20 gauge SS 304 sheet of required size and shape with neatly fabricated joints properly welded and grinded with all corners rubbed and polished with arrangement of screws in the letter itself for mounting on the walls including cost of screws and fixing complete as per directions of Engineer. | 200.00           | sqinch of each letter | 57.00       | 11400             |
| 10.17          | Providing the following good condition vehicle at any time for exclusive use of engineer during currency of contract. The number of vehicles and period shall be informed by the engineer as per requirement.The rate are inclusive of services of drivers, fuel, oil, lubrication, comnsumable stores and maintenance etc complete  |                  |                       |             |                   |
| a)             | Indica or equivalent as required   | 24000.00         | KM                    | 10.00       | 240000            |
|                | <b>Sub total</b>   |                  |                       |             | <b>4989791.00</b> |



**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No      | Description of Item  | Total Qty | Unit | Rate  | Amount |
|--------------|--|-----------|------|-------|--------|
| 1            | 2  | 3         | 4    | 5     | 6      |
| <b>11.00</b> | <b>ROAD WORK AND DEVELOPMENT</b>   |           |      |       |        |
| 11.01        | Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres. | 2000.00   | SQM  | 70.00 | 140000 |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>  | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b> |
|----------------|---|------------------|-------------|-------------|---------------|
| <b>1</b>       | <b>2</b>  | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>      |
| 11.02          | Construction of un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base with 43 grade cement or any other type as per M-30 (Grade) (1:11½:3) coarse and fine aggregate conforming to IS:383 maximum size to coarse aggregate not exceeding 25mm, mixed in a concrete mixed of not less than 0.2 cum capacity and appropriate weight batcher using approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene films wedges, steel plates including levelling the form work as per drawing).spreading the concrete with shovels rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of construction and expansion construction joints, applying deboning strips primer, sealant, admixtures as approved curing concrete slabs for 14 days, curing compound (where specified) and water finishing to lines and grade as per drawing and technical specification (only with Haldwani Grit) | 150.00           | Cum         | 5890.00     | 883500        |
| 11.03          | Laying of interlocking tiles of thickness 60 to 80 mm including levelling and dressing of surface to required level and slope. Filing joint with local sand (labour only)   | 1200.00          | sqm         | 67.00       | 80400         |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate    | Amount |
|---------|---|-----------|------|---------|--------|
| 1       | 2   | 3         | 4    | 5       | 6      |
| 11.04   | Supply of 80 mm thick I shaped mechanically compressed inter locking cement concrete paver block manufactured by high pressure & controlled vibration machine having plan dimension 200x(160+120mm) with minimum 5 mm thick topping of o.p. cement mixed 25% marble powder . The compressive strength of concrete paver block shall not be less than 30 mpa & by weight 4.5 kg/no. Including cost of all material, labour T&P etc. required for proper completion of the work as directed by Engineer-in – charge but excluding VAT which shall be paid extra as per rules. |           |      |         |        |
|         | Cement grey/Ordinary Red  | 2150.00   | no   | 16.00   | 34400  |
|         | Tata Red 445/446  | 2150.00   | no   | 19.00   | 40850  |
| 11.05   | Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1 cement: 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). | 54.00     | Cum  | 4975.00 | 268650 |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| Item No | Description of Item   | Total Qty | Unit | Rate   | Amount |
|---------|---|-----------|------|--------|--------|
| 1       | 2   | 3         | 4    | 5      | 6      |
| 11.06   | Trenching in ordinary soil upto a depth of 60cm including removal and stacking of serviceable materials and then disposing of by spreading and neatly levelling with in a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure). | 300.00    | Cum  | 35.00  | 10500  |
| 11.07   | Supplying and stacking of well decayed cow dung manure at site including royalty and carriage upto 1 km (Cow dung manure measured in stacks will reduced by 8% for Payment).  | 100.00    | Cum  | 227.00 | 22700  |
| 11.08   | Rough dressing the trenched ground including breaking clods & Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.  | 1000.00   | Sqm  | 4.00   | 4000   |
| 11.09   | Spreading of sludge, dump manure or/and good earth in required thickness as per direction of office-in charge (Cost of sludge, dump manure or/ and good earth to be paid separately).   | 100.00    | Cum  | 24.00  | 2400   |
| 11.10   | Fine dressing of the ground   | 1000.00   | Sqm  | 2.00   | 2000   |

**Project Name: Construction of 100 Bed MCH wing at Aligarh, Uttar Pradesh under National Rural Health Mission Scheme.**

| <b>Item No</b> | <b>Description of Item</b>   | <b>Total Qty</b> | <b>Unit</b> | <b>Rate</b> | <b>Amount</b>     |
|----------------|--|------------------|-------------|-------------|-------------------|
| <b>1</b>       | <b>2</b>   | <b>3</b>         | <b>4</b>    | <b>5</b>    | <b>6</b>          |
| 11.11          | Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately). |                  |             |             |                   |
| a)             | With grass Turf  | 1000.00          | Sqm.        | 6.00        | 6000              |
| 11.12          | Supplying and stacking of good earth at site including royalty and carriage complete (earth measured in stacks will be reduced by 20% for payment).  | 669.00           | Cum         | 293.00      | 196017            |
|                | <b>Sub total</b>   |                  |             |             | <b>1691417.00</b> |

**ABSTRACT**

**Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh,  
U.P. under NRHM**

| <b>S.No.</b> | <b>DESCRIPTION</b>                         | <b>Amount (Rs)</b> |
|--------------|--|--------------------|
| <b>A</b>     | <b>PLUMBING WORK</b>                       |                    |
| 1.00         | SANITARY FIXTURES                          | 11,62,336.00       |
| 2.00         | SOIL, WASTE AND VENT PIPES                 | 23,24,076.46       |
| 3.00         | WATER SUPPLY                               | 21,57,100.00       |
| 4.00         | SEWERAGE AND DRAINAGE                      | 13,47,487.00       |
| 5.00         | EARTH WORK                                 | 95,220.00          |
| 6.00         | EXTERNAL WATER SUPPLY                      | 8,15,527.00        |
| 7.00         | RAIN WATER PIPING                          | 6,63,576.00        |
| 8.00         | BOREWELL                                   | 9,76,538.00        |
| 9.00         | RAIN WATER HARVESTING                      | 9,50,940.00        |
| 10.00        | SOLAR WATER HEATING SYSTEM                 | 12,18,875.00       |
| 11.00        | WATER TREATMENT PLANT,PUMPS &<br>EQUIPMENT | 78,850.00          |
| 12.00        | WATER SUPPLY PUMP PANEL                    | 2,08,939.00        |
|              | <b>TOTAL</b>                               | <b>11999464.46</b> |

| Sl. No.     | Description of Item  | Unit | Total qty. | Rate (Rs) | Amount    |
|-------------|--|------|------------|-----------|-----------|
| 1           | 2  | 3    | 4          | 5         | 6         |
| <b>1.00</b> | <b>SANITARY FIXTURES</b>   |      |            |           |           |
| 1.01        | 17.1 Providing and fixing water closet squatting pan (Indian type W.C. pan ) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : |      |            |           |           |
| a)          | White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests  | Each | 13         | 3,102.00  | 40326.00  |
| 1.02        | Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :    |      |            |           |           |
| a)          | W.C. pan with ISI marked white solid plastic seat and lid  | Each | 44         | 3,030.00  | 133320.00 |
| 1.03        | Wash hand basin 550x400mm size of white glazed earthen ware (22"x16") (material)   | Each | 60         | 608.00    | 36480.00  |
| 1.04        | Fixing wash basin with single hole/number of holes for pillar tap C.I. of M.S. brackets painted white including cutting holes and making good the same but excluding fitting.(Labour)  |      |            |           |           |
|             | (a) 550x400mm  | Each | 60         | 166.00    | 9960.00   |
| 1.05        | Mirror of Indian polish of 600x450mm dia size bevelled edge(Material)  | Each | 67         | 437.00    | 29279.00  |
| 1.06        | Fixing 600x400mm beveled edge mirror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixed it plastic sleeves with C.P. brass screw and washers.(Labour)  | Each | 67         | 81.00     | 5427.00   |
| 1.07        | Glass shelf 7/32" thick 600x130mm size with C.P. guard rail of standard size of bracket.(Material)   | Each | 13         | 494.00    | 6422.00   |
| 1.08        | Fixing 600x120mm glass shelf and guard rail complete fix wooden flat with C.P. iron screws.(Labour)  | Each | 13         | 29.00     | 377.00    |
| 1.09        | C.P. brass towel rail 750x20mm together with pair of C.P. brass brackets to fit the towel rail (Material)  | Each | 67         | 307.00    | 20569.00  |
| 1.10        | Fixing C.P. brass towel rail with C.P. brass brackets fixed to plastic sleeves with C.P. brass screws(Labour)  | Each | 67         | 35.00     | 2345.00   |
|             | (b) 750mmx20mm   |      |            |           |           |
| 1.11        | Providing and fixing toilet paper holder :   |      |            |           |           |
| a)          | C.P. brass   | each | 44.00      | 134.00    | 5896.00   |
| 1.12        | Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require :  |      |            |           |           |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |          |
|---|---|-------|------------|-----------|----------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount   |
| 1   | 2   | 3     | 4          | 5         | 6        |
| b)  | White Vitreous China Surgeon type wash basin of size 660x460 mm with single 15 mm C.P. brass pillar taps with elbow operated levers ISI marked  | each  | 7.00       | 3,561.00  | 24927.00 |
| 1.13  | Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :  |       |            |           |          |
| a)  | Kitchen sink with drain board   |       |            |           |          |
| a i)  | 510x1040 mm bowl depth 250 mm   | each  | 4.00       | 6,627.00  | 26508.00 |
| b)  | Kitchen sink without drain board  |       |            |           |          |
| bi)   | 610x510 mm bowl depth 200 mm  | each  | 1.00       | 4,076.00  | 4076.00  |
| 1.14  | Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :  |       |            |           |          |
| a)  | Size 600x450x200 mm   | each  | 11.00      | 2,843.00  | 31273.00 |
| 1.15  | Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.  | each  | 67.00      | 173.00    | 11591.00 |
| 1.16  | Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/6 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete. | each  | 1.00       | 9,467.00  | 9467.00  |
| 1.17  | Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.    | each  | 5.00       | 15,847.00 | 79235.00 |
| 1.18  | Providing and fixing full size branded mirrors of 5mm thick float glass (of approved quality) complete with 6mm thick ply backing fixed to wall over suitable hardwood base frame complete with 32mmx19mm decorative teakwood moulding all around duly polished as per drawings and as directed.  | sq.m. | 3.00       | 4,750.00  | 14250.00 |
| 1.19  | Providing and fixing water Jet Nozzle with hose pipe and haif turn CP brass angle valve to be fitted with seat cover of european water closet complete in all respect of approved quality   | Each  | 44.00      | 1,184.00  | 52096.00 |
| 1.20  | Providing and fixing soap tray with CP brass lid and brackets fixed to wooden cleats with CP brass screws.(Jaquar model no.1131 or equivalent model of other approved make).  | Each  | 13.00      | 447.00    | 5811.00  |
| 1.21  | Providing and fixing brass coat hook of approved quality and make complete with material of fixing  | Each  | 13.00      | 402.00    | 5226.00  |



| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |      |            |             |                     |
|---|---|------|------------|-------------|---------------------|
| Sl. No.   | Description of Item   | Unit | Total qty. | Rate (Rs)   | Amount              |
| 1   | 2   | 3    | 4          | 5           | 6                   |
| 1.22  | Extra for providing and fixing white vitreous china oval shape wash basin in place of normal wash basin with C.I./MS brackets painted white, 15 mm CP brass pillar taps, 32 mm CP brass waste of standard pattern, including painting of fittings and brackets cutting and making good the walls wherever required  |      |            |             |                     |
| a)  | Counter top oval shape wash basin size 550x470 mm with centre tap hole, single 15 mm CP brass swan neck type pillar tap   | Each | 67.00      | 1,558.00    | 104386.00           |
| 1.23  | Providing and fixing stainless steel grade AISI-304 grab bar size 25mm dia of required length minimum 600 mm c/c distance with PVC cleats, SS screws etc. complete.   | Each | 2.00       | 874.00      | 1748.00             |
| 1.24  | Providing and fixing vitreous china division plate of size 960x165x325 mm of approved make and design including brass cleats,C.P. brass screws all fittings etc. complete in all respect  | Each | 5.00       | 2,895.00    | 14475.00            |
| 1.25  | Providing and fixing Hospital white vitreous china bed pan sink with P trap, size 600 x 450 mm with 10 litres C.I. High level flushing cistern flush pipe, C.I./M.S. bracket painting with 3 coats of white paint complete with accessories, C.P. brass fittings with vertical jet horizontal spray complete with control cocks.  | Each | 4.00       | 41,538.00   | 166152.00           |
| 1.26  | Supply , installation, testing and commissioning of compact floor mounted pedestal base surgical scrub sink tailor made to suit the site available compatible with all the regular and standard plumbing system, with inbuilt geyser designed for use in operation theatre fabricated from 16 gauge 304 type stainless steel seamless welded,polished to satin finish including connecting to drainage and water points and making good cutting of walls and floor surface all complete and as directed |      |            |             |                     |
| a)  | Tailor made surgical scrub sink (2 bay) Approximate size 1.4 mX0.54mX0.84m with 1 user elbow operated mixture tap, soap dispensers, drain outlet ,thermostatic control of water temperature   | Each | 1.00       | 3,20,714.00 | 320714.00           |
| <b>SubTotal(Sanitary Fixtures)</b>  |   |      |            |             | <b>11,62,336.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |            |
|---|---|-------|------------|-----------|------------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount     |
| 1   | 2   | 3     | 4          | 5         | 6          |
| <b>2.00</b>   | <b>SOIL, WASTE AND VENT PIPES</b>   |       |            |           |            |
| 2.01  | Providing and fixing soil, waste and vent pipes.  |       |            |           |            |
| a)  | 100 mm dia.   |       |            |           |            |
| i)  | Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989   | Metre | 1,385.00   | 905.00    | 1253425.00 |
| 2.02  | Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. |       |            |           |            |
| a)  | for 100 mm dia. pipe  | Each  | 133.00     | 134.00    | 17822.00   |
| 2.03  | Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.   |       |            |           |            |
| a)  | 100 mm  |       |            |           |            |
| a i)  | Sand cast iron S&S as per IS-3989   | Each  | 35.00      | 365.00    | 12775.00   |
| 2.04  | Providing and fixing plain bend of required degree.   |       |            |           |            |
| a)  | 100 mm  |       |            |           |            |
| a i)  | Sand cast iron S&S as per IS:3989   | Each  | 79.00      | 318.00    | 25122.00   |
| 2.05  | Providing and fixing heel rest sanitary bend.   |       |            |           |            |
| a)  | 100 mm dia  |       |            |           |            |
| a.i)  | sand cast iron S&S as per IS-3989   | Each  | 19.00      | 352.00    | 6688.00    |
| 2.06  | Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.   |       |            |           |            |
| a)  | 100x100x100mm   |       |            |           |            |
| a.i)  | sand cast iron S&S as per IS-3989   | Each  | 52.00      | 591.00    | 30732.00   |
| 2.07  | Providing and fixing single equal plain junction of required degree   |       |            |           |            |
| a)  | 100x100x100mm   |       |            |           |            |
| a.i)  | sand cast iron S&S as per IS-3989   | Each  | 65.00      | 546.00    | 35490.00   |
| 2.08  | Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete   |       |            |           |            |
| a)  | 100 mm  |       |            |           |            |
| a.ii)   | sand cast iron S&S as per IS-3989   | Each  | 50.00      | 487.00    | 24350.00   |
| 2.09  | Providing and fixing terminal guard.  |       |            |           |            |
| a)  | 100 mm  | Each  | 19.00      | 412.00    | 7828.00    |
| a.i)  | sand cast iron S&S as per IS-3989   |       |            |           |            |
| 2.10  | Providing and fixing collar   |       |            |           |            |
| a)  | 100 mm  |       |            |           |            |
| a.i)  | Sand cast iron S&S as per IS-3989   | Each  | 114.00     | 301.00    | 34314.00   |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |           |
|---|--|-------|------------|-----------|-----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount    |
| 1   | 2  | 3     | 4          | 5         | 6         |
| 2.11  | Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:  |       |            |           |           |
| a)  | 100 mm   | Each  | 655.00     | 221.00    | 144755.00 |
| 2.13  | Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :   |       |            |           |           |
| a)  | 100 mm   | Each  | 19.00      | 64.00     | 1216.00   |
| 2.14  | Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:  |       |            |           |           |
| a)  | 100 mm inlet and 100 mm outlet (P trap with 50 mm water seal)  |       |            |           |           |
| a i)  | Sand cast iron S&S as per IS-3989  | Each  | 65.00      | 715.00    | 46475.00  |
| 2.15  | Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement: 4 coarse sand): |       |            |           |           |
| a)  | 100 mm diameter pipe   | Metre | 50.00      | 287.00    | 14350.00  |
| 2.16  | Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint off any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:   |       |            |           |           |
| a)  | 100 mm diameter pipe   | Metre | 965.00     | 32.00     | 30880.00  |
| 2.17  | Steel work welded in built up sections/framed work including cutting,hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.  |       |            |           |           |
| a)  | In gratings,frames,guard bar,ladder,railings,brackets,gates and similar works .  | kg    | 20.00      | 82.00     | 1640.00   |
| 2.18  | Providing and fixing GI pipes complete with GI fittings and clamps, i/c cutting and making good the walls etc and making good the same for waste water disposal complete as per direction of engineer incharge.  |       |            |           |           |
| a)  | 32 mm dia nominal bore (Wash basin to floor trap/floor drain)  | Metre | 67.00      | 317.00    | 21239.00  |
| b)  | 40 mm dia nominal bore (Sink,Urinal to floor trap)   | Metre | 17.00      | 393.00    | 6681.00   |
| c)  | 50 mm dia nominal bore (Floor Drain to Floor Trap)   | Metre | 39.00      | 486.00    | 18954.00  |
| 2.19  | Providing Drip seal joint of approved make for the sand cast iron/centrifugally cast iron pipes where the workability of lead joint can be effected due to space constraints.  |       |            |           |           |
| a)  | 100 mm   | Each  | 280.00     | 217.00    | 60760.00  |
| 2.20  | Providing and fixing floor drain points formed out of 65 mm dia GI elbow, including with 75mm dia Stainless Steel grating with frame, embedded in floor, all complete as directed.   | Each  | 26.00      | 802.00    | 20852.00  |
| 2.21  | Providing and fixing C.P. brass bottle trap for wash basin including CP waste fittings complete 32 mm dia complete in all respect of approved quality.   | Each  | 67.00      | 1,041.00  | 69747.00  |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |                     |
|---|--|-------|------------|-----------|---------------------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount              |
| 1   | 2  | 3     | 4          | 5         | 6                   |
| 2.22  | Providing and fixing C.P. brass bottle trap for sinks & urinal basin including CP waste fittings complete 40 mm dia complete in all respect of approved quality.   | Each  | 17.00      | 1,100.00  | 18700.00            |
| 2.23  | Providing and laying cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) 80 mm thick all-round the SCl/centrifugally S&S pipe diameter(derive from DSR item no. 4.1.3).   |       |            |           |                     |
| a)  | 100 mm dia   | Metre | 419.83     | 262.00    | 109995.46           |
| 2.24  | Providing and fixing dash fastner made of rust proof plated steel for holding the soil/waste supply pipes complete in all respect  |       |            |           |                     |
| a)  | Dash fastner for pipe more than 25 mm dia to 150 mm dia pipe of required size but not less than size 10 mm dia and 50 mm long minimum & shall be capable of taking 6 tonnes load and also include the supporting threaded rod of 8 mm dia and length 450 mm,the support MS structure angles etc. will be paid as per weight separately/approved steel structures support as per drawing. | Each  | 50.00      | 345.00    | 17250.00            |
| 2.25  | Providing and fixing floor clean out plug consist of CI bend & GI socket heavy class with Brass cap & key for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in - ChargeFCO (floor clean out plug shall be flushed with floor finish   |       |            |           |                     |
|   | 100 mm dia/150 mm dia  | Each  | 34.00      | 3,107.00  | 105638.00           |
| 2.26  | Providing and fixing clean out plug consist of GI socket/nipple heavy class with threaded pludge for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in -Charge   |       |            |           |                     |
|   | 100 mm dia/150 mm dia  | Each  | 1.00       | 3,107.00  | 3107.00             |
| 2.27  | Providing and fixing G.I EXTENSION PIECE for 100 mm dia floor trap formed out of main pipe( Type A) with multiple side inlets, suitable for various dia pipes, side connections, including all fixtures and fittings as per site conditions and as per standard details and water tight sealing of joints and area surrounding the grating and as directed.                              | Each  | 65.00      | 1,074.00  | 69810.00            |
| 2.28  | Providing & fixing SS floor trap grating 143x143x5mm thick screwable with SS fixed frame of 150x150 mm size as per approved make & model   | each  | 65.00      | 1,425.00  | 92625.00            |
| 2.29  | Providing and fixing WC connector socket(for vitreous china & CI pipe) of EDPM good quality with polypropelene body 100x150/100x250 of approved quality and make complete in all respect.  | Each  | 44.00      | 474.00    | 20856.00            |
| <b>SUB TOTAL(SOIL, WASTE AND VENT PIPES)</b>  |  |       |            |           | <b>23,24,076.46</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |          |
|---|--|-------|------------|-----------|----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount   |
| 1   | 2  | 3     | 4          | 5         | 6        |
| <b>3.00</b>   | <b>WATER SUPPLY</b>  |       |            |           |          |
| 3.01  | C.P. bib cock heavy quality<br>15mm dia 200gms.(Material)  | Each  | 57.00      | 380.00    | 21660.00 |
| 3.02  | (a) S/F brass bib cock/stop cock 15mm dia ISI marked of 400gm weight including supply of all material, labour, T&P etc. and including threading the pipe if required for proper completion of the work.(labour)  | Each  | 57.00      | 16.00     | 912.00   |
| 3.03  | Brass Ferrule<br>25mm dia(Material)  | Each  | 1.00       | 143.00    | 143.00   |
| 3.04  | Fixing 15mm dia brass ferrule including supply of all materials, labour and T&P and including boring and taping the main.(Labour)  | Each  | 1.00       | 79.00     | 79.00    |
| 3.05  | C.P. brass shower heavy quality(Material)  | Each  | 13.00      | 323.00    | 4199.00  |
| 3.06  | Fixing C.P. brass shower rose with 15mm or 20mm inlet(Labour)  | Each  | 13.00      | 26.00     | 338.00   |
| 3.07  | C.P. stop cock with brass rod 400gm(Material)  | Each  | 26.00      | 385.00    | 10010.00 |
| 3.08  | (a) S/F brass bib cock/stop cock 15mm dia ISI marked of 400gm weight including supply of all material, labour, T&P etc. and including threading the pipe if required for proper completion of the work.(labour)  | Each  | 26.00      | 16.00     | 416.00   |
| 3.09  | P.V.C. connection 450mm long with two brass units<br>15mm dia(Material)  | Each  | 156.00     | 52.00     | 8112.00  |
| 3.10  | Fixing 15mm PVC connection heavy quality with brass union including supply of all material, labour, T&P etc. and for proper completion of the work.(Labour)  |       |            |           |          |
|   | (b) 45 cms length  | Each  | 156.00     | 12.00     | 1872.00  |
| 3.11  | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.   |       |            |           |          |
|   | <b>Internal work – Exposed on wall</b>   |       |            |           |          |
| a)  | 15 mm nominal outer dia pipes  | Metre | 30.00      | 148.00    | 4440.00  |
| b)  | 20 mm nominal outer dia pipes  | Metre | 70.00      | 173.00    | 12110.00 |
| c)  | 25 mm nominal outer dia pipes  | Metre | 40.00      | 212.00    | 8480.00  |
| d)  | 32 mm nominal outer dia pipes  | Metre | 80.00      | 273.00    | 21840.00 |
| e)  | 40 mm nominal outer dia pipes  | Metre | 110.00     | 376.00    | 41360.00 |
| f)  | 50 mm nominal outer dia pipes  | Metre | 85.00      | 541.00    | 45985.00 |
| g)  | 65 mm nominal outer dia pipes  | Metre | 30.00      | 1,791.00  | 53730.00 |
| h)  | 80 mm nominal outer dia pipes  | Metre | 10.00      | 2,409.00  | 24090.00 |
| 3.12  | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. |       |            |           |          |
|   | <b>Concealed work, including cutting chases and making good the walls etc.</b>   |       |            |           |          |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |          |
|---|--|-------|------------|-----------|----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount   |
| 1   | 2  | 3     | 4          | 5         | 6        |
| a)  | 15 mm nominal outer dia pipes  | Metre | 250.00     | 242.00    | 60500.00 |
| b)  | 20 mm nominal outer dia pipes  | Metre | 300.00     | 267.00    | 80100.00 |
| c)  | 25 mm nominal outer dia pipes  | Metre | 100.00     | 319.00    | 31900.00 |
| d)  | 32 mm nominal outer dia pipes  | Metre | 50.00      | 387.00    | 19350.00 |
| e)  | 40 mm nominal outer dia pipes  | Metre | 15.00      | 534.00    | 8010.00  |
| 3.13  | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes and fittings with one step CPVC solvent cement,trenching,refilling and testing of joints complete as per direction of Engineer in Charge.   |       |            |           |          |
| <b>External Work</b>  |  |       |            |           |          |
| a)  | 50 mm nominal outer dia pipes  | Metre | 10.00      | 491.00    | 4910.00  |
| b)  | 62.5 mm nominal inner dia pipes  | Metre | 10.00      | 1,381.00  | 13810.00 |
| 3.14  | Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :  |       |            |           |          |
| a)  | 50 to 80 mm nominal bore   | Each  | 1.00       | 686.00    | 686.00   |
| 3.15  | providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)  |       |            |           |          |
| a)  | 25 mm nominal bore   | Each  | 6.00       | 406.00    | 2436.00  |
| b)  | 32 mm nominal bore   | Each  | 12.00      | 475.00    | 5700.00  |
| c)  | 40 mm nominal bore   | Each  | 14.00      | 555.00    | 7770.00  |
| d)  | 50 mm nominal bore   | Each  | 10.00      | 712.00    | 7120.00  |
| e)  | 65 mm nominal bore   | Each  | 2.00       | 1,222.00  | 2444.00  |
| f)  | 80 mm nominal bore   | Each  | 2.00       | 1,823.00  | 3646.00  |
| 3.16  | Constructing masonry chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design                                   |       |            |           |          |
| a)  | With F.P.s bricks  | Each  | 2.00       | 1,047.00  | 2094.00  |
| 3.17  | Constructing masonry chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design |       |            |           |          |
| a)  | With F.P.s bricks  | each  | 1.00       | 6,119.00  | 6119.00  |
| 3.18  | Painting CPVC/G.I. pipes and fittings with synthetic enamel white paint with two coats over a ready mixed priming coat, both of approved quality for new work  |       |            |           |          |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |           |            |           |           |
|---|---|-----------|------------|-----------|-----------|
| Sl. No.   | Description of Item   | Unit      | Total qty. | Rate (Rs) | Amount    |
| 1   | 2   | 3         | 4          | 5         | 6         |
| a)  | 15 mm nominal outer dia pipes   | Metre     | 30.00      | 8.00      | 240.00    |
| b)  | 20 mm nominal outer dia pipes   | Metre     | 70.00      | 10.00     | 700.00    |
| c)  | 25 mm nominal outer dia pipes   | Metre     | 40.00      | 13.00     | 520.00    |
| d)  | 32 mm nominal outer dia pipes   | Metre     | 80.00      | 15.00     | 1200.00   |
| e)  | 40 mm nominal outer dia pipes   | Metre     | 110.00     | 18.00     | 1980.00   |
| f)  | 50 mm nominal outer dia pipes   | Metre     | 85.00      | 21.00     | 1785.00   |
| g)  | 65 mm nominal outer dia pipes   | Metre     | 30.00      | 21.00     | 630.00    |
| h)  | 80 mm nominal outer dia pipes   | Metre     | 10.00      | 25.00     | 250.00    |
| 3.19  | Painting G.I./CPVC pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.  |           |            |           |           |
| a)  | 50 mm diameter pipe   | Metre     | 10.00      | 12.00     | 120.00    |
| b)  | 65 mm diameter pipe   | Metre     | 10.00      | 15.00     | 150.00    |
| 3.20  | Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work  |           |            |           |           |
| a)  | 50 mm diameter pipe   | Metre     | 10.00      | 66.00     | 660.00    |
| b)  | 65 mm diameter pipe   | Metre     | 10.00      | 104.00    | 1040.00   |
| 3.21  | Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. |           |            |           |           |
|   | Treated water Tank and Untreated water tank   | per litre | 42,000.00  | 6.00      | 252000.00 |
| 3.22  | Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.   |           |            |           |           |
| a)  | 15 mm nominal bore  | Each      | 12.00      | 755.00    | 9060.00   |
| 3.23  | Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.   |           |            |           |           |
| a)  | 15 mm nominal bore  | Each      | 26.00      | 579.00    | 15054.00  |
| 3.24  | Providing and fixing C.P. brass angle valve for basin mixer and geyser/cisterns points of approved quality conforming to IS:8931.   |           |            |           |           |
| a)  | 15 mm nominal bore  | Each      | 157.00     | 481.00    | 75517.00  |
| 3.25  | Providing and fixing enclosed type water meter ( bulk type) conforming to IS : 2373 and tested by municipal board complete with bolts,nuts rubber, insersions etc. ( the tail plases if required will be paid seperatly )   |           |            |           |           |
| a)  | 80mm dia nominal bore   | Each      | 1.00       | 2,934.00  | 2934.00   |
| 3.26  | Providing and fixing PTMT ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball.  |           |            |           |           |
| a)  | 40 mm nominal bore, 206 mm long weighin not less than 690 gms   | Each      | 2.00       | 921.00    | 1842.00   |
| b)  | 50 mm nominal bore, 242 mm long weighin not less than 1240 gms  | Each      | 2.00       | 1,329.00  | 2658.00   |
| 3.27  | Cutting holes upto 30x30 cm in walls including making good the same   |           |            |           |           |
| a)  | with common burnt clay F.P.S.(non modular) bricks   | Each      | 50.00      | 187.00    | 9350.00   |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |           |
|---|--|-------|------------|-----------|-----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount    |
| 1   | 2  | 3     | 4          | 5         | 6         |
| 3.28  | Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof  | Each  | 50.00      | 167.00    | 8350.00   |
| 3.29  | Extra for providing single lever wash basin mixer pillar tap in place of normal pillar tap   | Each  | 67.00      | 2,067.00  | 138489.00 |
| 3.30  | Providing & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chrome plated steel ball tested to a pressure not less than 10 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers etc.   |       |            |           |           |
| a)  | 15 mm diameter   | Each  | 6.00       | 200.00    | 1200.00   |
| b)  | 20 mm diameter   | Each  | 14.00      | 274.00    | 3836.00   |
| 3.31  | Providing and fixing mosquito proof coupling of approved Municipal design for scour and vent pipes for RCC overhead tanks complete in all respects   |       |            |           |           |
| a)  | 20 mm diameter   | Each  | 5.00       | 43.00     | 215.00    |
| b)  | 25 mm diameter   | Each  | 5.00       | 48.00     | 240.00    |
| c)  | 32 mm diameter   | Each  | 4.00       | 52.00     | 208.00    |
| d)  | 40 mm diameter   | Each  | 2.00       | 57.00     | 114.00    |
| 3.32  | Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material on hot water supply/return pipes having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.  |       |            |           |           |
| a)  | 15 mm to 25 mm diameter  | Meter | 50.00      | 114.00    | 5700.00   |
| b)  | 32 mm to 50 mm diameter  | Meter | 10.00      | 266.00    | 2660.00   |
| 3.33  | Providing and fixing C.P. brass lab sink pillar tap with long elbow operating lever handle of approved model and make complete in all respect (Aqua bath, Jaquar, Marc)  | Each  | 11.00      | 3,965.00  | 43615.00  |
| 3.34  | Providing & fixing solid state fully hygienic no touch hand drier of approved make rated for continuous repeat usage with solid state time delay LSF protection, with independent ambient light level & seasonal control temperatures including providing necessary C.I./M.S. brackets painted with two or three coats of enamel paint of approved shade over a coat of primer, wiring cables from drier to plug, plug tops etc. complete including cutting and making good the walls wherever required. | Each  | 6.00       | 14,599.00 | 87594.00  |
| 3.35  | Supplying, fixing, testing and commissioning of storage type water heater (Geyser) etc. with Stainless steel body , copper container , automatic thermostatic control electric element, pressure release valve, M.S. nuts and bolts etc. conforming to IS: 2082  |       |            |           |           |
| a)  | 35 Litre Capacity  | Each  | 13.00      | 10,518.00 | 136734.00 |
| b)  | 25 Litre Capacity  | Each  | 2.00       | 8,344.00  | 16688.00  |
| 3.36  | Providing & fixing water storage cooler of approved make and brand with SS body having minimum flow rate of 40 ltrs. Per hour and storage capacity 80 ltrs. Complete in respects.(VOLTAS/ BLUE-STAR/ USHA SHRIRAM )  | Each  | 6.00       | 30,680.00 | 184080.00 |



| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |      |            |             |                     |
|---|---|------|------------|-------------|---------------------|
| Sl. No.   | Description of Item   | Unit | Total qty. | Rate (Rs)   | Amount              |
| 1   | 2   | 3    | 4          | 5           | 6                   |
| 3.37  | Providing and fixing approved make & suitable model of R.O. plant (fully automatic operation)100ltrs. Per hour flow rate having capacity to treat the raw water and average recovery not less than 35% . The operating voltage to 230 volt AC +/- 10% alongwith required capacity on line SS pump of approved make (3HP minimum) and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, storage tank (3.0 mm (minimum) thick S.S. 304 sheet) 1500 lts of suitable size and its supporting structure, over voltage and over current protection with switch mode power supply system complete in all respects including installation and fittings with the following provisions: (IONIEXCHANGE/ KENT/AQUAPROCESS,Pantair ) |      |            |             |                     |
| a)  | 10 micron polypropylene sediment pre filter   |      |            |             |                     |
| b)  | 10 micron bacteriostatic activated carbon block on line micron filter with 5 micron rating  |      |            |             |                     |
| c)  | Required Nos. and size of reverse osmosis memberane with 0.0001 micron pore size energy saving poly amide type  |      |            |             |                     |
| d)  | UV lamp of minimum capacity 100LPH and minimum lamp wattage 15W   |      |            |             |                     |
| e)  | MS powder coated frame efficient of TDS removal more than 90%. Antiscalant dosing and acid dosing system for self flushing/cleaning.Pressure switches and gauges, pH correction dosing system, Digital TDS meter, Digital pH meter, electric panel and necessary instrumentation included Rotameter.MS structure and fibre glass sheet weather protection cover as per site condition.  | Each | 2.00       | 1,47,706.00 | 295412.00           |
| 3.38  | Supplying, installing, testing and commissioning vertical on line multi stage centrifugal pumping set with mechanical seal, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with SS/gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).   |      |            |             |                     |
| a)  | <b>Domestic water pumps (Treated water transfer pump to terrace tank)</b>   |      |            |             |                     |
|   | Capacity 100 lpm  |      |            |             |                     |
|   | Head 50 M   | Each | 2.00       | 84,476.00   | 168952.00           |
| b)  | <b>Domestic water pumps (Raw water Transfer pump to terrace tank)</b>   |      |            |             |                     |
|   | Capacity 100 lpm  |      |            |             |                     |
|   | Head 50 M   | Each | 2.00       | 84,476.00   | 168952.00           |
|   | <b>SUB TOTAL(Water Supply)</b>  |      |            |             | <b>21,57,100.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |           |
|---|--|-------|------------|-----------|-----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount    |
| 1   | 2  | 3     | 4          | 5         | 6         |
| <b>4.00</b>   | <b>SEWORAGE &amp; DRAINAGE</b>   |       |            |           |           |
| 4.01  | S.W. gully trap 150x100mm dia(Material)  | Each  | 15.00      | 228.00    | 3420.00   |
| 4.02  | Fixing S.W. gully trap grade "A" complete with C.I. grating brick masonry chamber and water tight C.I. cover frame of 300mmx300mm size (inside) square mouth traps of "P" or "S" type traps.(Labour)   | Each  | 15.00      | 81.00     | 1215.00   |
| 4.03  | 19.1 Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :  |       |            |           |           |
| a)  | 100 mm diameter  | Metre | 50.00      | 188.00    | 9400.00   |
| 4.04  | Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:  |       |            |           |           |
| a)  | 100 mm diameter S.W. pipe/RCC NP2  | Metre | 50.00      | 516.00    | 25800.00  |
| b)  | 150 mm diameter S.W. pipe/RCC NP2  | Metre | 200.00     | 632.00    | 126400.00 |
| c)  | 250 mm diameter S.W. pipe/RCC NP2  | Metre | 250.00     | 736.00    | 184000.00 |
| 4.05  | Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement:2 fine sand) including testing of joints etc. complete   |       |            |           |           |
| a)  | 150 mm dia R.C.C. pipe   | Metre | 200.00     | 323.00    | 64600.00  |
| b)  | 250 mm dia R.C.C. pipe   | Metre | 250.00     | 433.00    | 108250.00 |
| 4.06  | Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix ( 1cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size ), foundation concrete 1:4:8 ( 1cement : 4 coarse sand : 8graded stone aggregate 40 mm nominal size ), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design. |       |            |           |           |
| a)  | Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):   |       |            |           |           |
| a i)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Each  | 20.00      | 7,660.00  | 153200.00 |
| 4.07  | Extra depth for manholes   |       |            |           |           |
| a)  | Size 90 x 80 cm  |       |            |           |           |
| a i)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Metre | 2.00       | 5,207.00  | 10414.00  |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |          |
|---|---|-------|------------|-----------|----------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount   |
| 1   | 2   | 3     | 4          | 5         | 6        |
| 4.08  | Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design:  |       |            |           |          |
| a)  | 0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :  |       |            |           |          |
| a i)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Each  | 10.00      | 7,829.00  | 78290.00 |
| 4.09  | Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m   |       |            |           |          |
| a)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Metre | 1.00       | 4,463.00  | 4463.00  |
| 4.10  | Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design. | Each  | 90.00      | 280.00    | 25200.00 |
| 4.11  | Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete (including obtaining approval from DJB/Municipal corporation)  |       |            |           |          |
| a)  | For pipes 100 to 250 mm dia   | Each  | 1.00       | 314.00    | 314.00   |
| 4.12  | Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :  |       |            |           |          |
| a)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Each  | 20.00      | 4,017.00  | 80340.00 |
| 4.13  | Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.   |       |            |           |          |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |                     |
|---|--|-------|------------|-----------|---------------------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount              |
| 1   | 2  | 3     | 4          | 5         | 6                   |
| a)  | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Each  | 2.00       | 15,870.00 | 31740.00            |
| 4.14  | Constructing brick masonry open surface drain including factory made perforated RCC cover with edge protected with MS plate of 3 mm thick with bricks of class designation 7.5 in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation, 10cm thick bed concrete 1:5:10 (1 cement: 5 fine sand :10 graded stone aggregate 40mm nominal size) and 25mm thick cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 12.5 mm nominal size) for filling hunches including 12mm cement plaster 1:4 (1 cement:4 coarse sand) with a floating coat of neat cement inside the drain, its top and exposed side including disposal of surplus earth complete as per standard design.  |       |            |           |                     |
|   | 25cm drain 30cm average depth  |       |            |           |                     |
| a)  | With F.P.S bricks  | Metre | 200.00     | 1,710.00  | 342000.00           |
| 4.15  | Supply, installing, testing and commissioning vertical fully floodable type <b>submersible sewage pump of non-corrosive material with shredder/cutter</b> in close coupled design single stage, suitable for handling minimum 20 mm dia solids for transferring raw sewer from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge. (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.Electicl panal complet as per instruction of the Engineer in charge |       |            |           |                     |
|   | Material of Construction (M.O.C):<br>Corrosion Resistant in general<br>: Casing — Cast Iron  |       |            |           |                     |
|   | : Impeller — Ductile cast iron   |       |            |           |                     |
|   | : Bearings — Anti friction,<br>prelubricated ball bearings,<br>packed with grease for life.  |       |            |           |                     |
|   | Motor: — Dry Motor with built in over<br>load protection   |       |            |           |                     |
|   | Protection - IP68.   |       |            |           |                     |
|   | Insulation Class - F   |       |            |           |                     |
|   | Duty of each pump  |       |            |           |                     |
| i)  | 150 LPM against 8 M head ( Sewage pump)  | Each  | 1.00       | 60,441.00 | 60441.00            |
| ii)   | Electicl panal cable,etc complete as per instruction of the Engineer in charge   | Set   | 1.00       | 38,000.00 | 38000.00            |
| <b>SUB TOTAL(SEWERAGE AND DRAINAGE)</b>   |  |       |            |           | <b>13,47,487.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |                  |
|---|---|-------|------------|-----------|------------------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount           |
| 1   | 2   | 3     | 4          | 5         | 6                |
| <b>5.00</b>   | <b>EARTH WORK</b>   |       |            |           |                  |
| 5.01  | Excavation in foundation in ordinary soil (Loam, Clay or sand) including lift upto 1.50m and lead upto 30m and including filling, watering and ramming of excavated earth into the trenches or into the space between the building and the sides of foundation trenches or into the plinth and removal and disposal of surplus earth as directed by the Engineer In-charge upto a distance of 30m from the foundation trenches.           | cum   | 60.00      | 62.00     | 3720.00          |
| 5.02  | Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m: |       |            |           |                  |
| a)  | All kinds of soil   |       |            |           |                  |
| i)  | Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia   | metre | 500.00     | 183.00    | 91500.00         |
| <b>SUB TOTAL(EARTH WORK)</b>  |   |       |            |           | <b>95,220.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |           |
|---|---|-------|------------|-----------|-----------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount    |
| 1   | 2   | 3     | 4          | 5         | 6         |
| <b>6.00</b>   | <b>EXTERNAL WATER SUPPLY</b>  |       |            |           |           |
| 6.01  | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.  |       |            |           |           |
|   | <b>External work</b>  |       |            |           |           |
| a)  | 20 mm dia nominal bore  | Metre | 20.00      | 177.00    | 3540.00   |
| b)  | 80 mm dia nominal bore  | Metre | 150.00     | 597.00    | 89550.00  |
| 6.02  | Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :  |       |            |           |           |
| a)  | 100 mm diameter   |       |            |           |           |
| a.i)  | Class I   | each  | 4.00       | 3,121.00  | 12484.00  |
| 6.03  | Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep ( inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size ) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design . |       |            |           |           |
| a)  | With common burnt clay F.P.S.(non modular) bricks of class designation 7.5  | each  | 2.00       | 6,119.00  | 12238.00  |
| 6.04  | Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :  |       |            |           |           |
| a)  | 20 mm diameter pipe   | metre | 20.00      | 6.00      | 120.00    |
| b)  | 80 mm diameter pipe   | metre | 150.00     | 17.00     | 2550.00   |
| 6.05  | Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work  |       |            |           |           |
| a)  | 20 mm diameter pipe   | metre | 20.00      | 59.00     | 1180.00   |
| b)  | 80 mm diameter pipe   | metre | 150.00     | 107.00    | 16050.00  |
| c)  | 100 mm diameter pipe  | metre | 400.00     | 113.00    | 45200.00  |
| 6.06  | Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required:   |       |            |           |           |
| a)  | 20 mm nominal bore  | each  | 2.00       | 337.00    | 674.00    |
| 6.07  | Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc. if required will be paid separately):   |       |            |           |           |
| a)  | 50 mm dia   | each  | 1.00       | 4,535.00  | 4535.00   |
| 6.08  | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.  |       |            |           |           |
|   | <b>External work</b>  |       |            |           |           |
| a)  | 100 mm dia nominal bore   | metre | 400.00     | 1,160.00  | 464000.00 |
| 6.09  | Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :  |       |            |           |           |
| a)  | 100 mm dia nominal bore   | metre | 400.00     | 48.00     | 19200.00  |
| 6.10  | Providing and fixing gun metal non-return valve of approved quality (screwed end)   |       |            |           |           |
| a)  | 100 mm nominal bore   |       |            |           |           |
| a.i)  | Horizontal  | each  | 4.00       | 19,014.00 | 76056.00  |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |      |            |           |                    |
|---|---|------|------------|-----------|--------------------|
| Sl. No.   | Description of Item   | Unit | Total qty. | Rate (Rs) | Amount             |
| 1   | 2   | 3    | 4          | 5         | 6                  |
| 6.11  | Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required: |      |            |           |                    |
| a)  | 100 mm diameter pipe  | each | 4.00       | 2,565.00  | 10260.00           |
| 6.12  | Providing and fixing puddle flanged including 60 cm long GI pipe piece welded/threaded with MS plates 450x450x6 mm thick with both end screwed/flanged.   |      |            |           |                    |
| a)  | For 80 mm dia pipe  | Each | 2.00       | 874.00    | 1748.00            |
| b)  | For 100 mm dia pipe   | Each | 4.00       | 1,138.00  | 4552.00            |
| 6.13  | Providing and fixing suitable G.I. vent pipe upto 1m high Class-B (medium quality) with fittings complete as per drawing and as directed.   |      |            |           |                    |
| a)  | 100mm Dia   | Each | 4.00       | 1,140.00  | 4560.00            |
| 6.14  | Providing and fixing double seal type D.I. Manhole cover of 560 mm clear internal diameter of over all heavy duty with locking arrangement complete in all respects.  | Each | 6.00       | 7,125.00  | 42750.00           |
| 6.15  | Providing and fixing garden hydrant of approved quality and make complete in all respect  | each | 10.00      | 428.00    | 4280.00            |
| <b>SUBTOTAL (EXTERNAL WATER SUPPLY)</b>   |   |      |            |           | <b>8,15,527.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |           |
|---|---|-------|------------|-----------|-----------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount    |
| 1   | 2   | 3     | 4          | 5         | 6         |
| <b>7.00</b>   | <b>RAIN WATER PIPING</b>  |       |            |           |           |
| 7.01  | Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.   | Each  | 25.00      | 35.00     | 875.00    |
| 7.02  | Providing and fixing rain water ,soil, waste and vent pipes.  |       |            |           |           |
| a)  | 100 mm dia.   |       |            |           |           |
| a i)  | Centrifugally cast (spun) iron socketed pipe as per IS:3989   | Metre | 400.00     | 905.00    | 362000.00 |
| 7.03  | Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. |       |            |           |           |
| a)  | for 100 mm dia. pipe  | Each  | 132.00     | 134.00    | 17688.00  |
| 7.04  | Providing and fixing plain bend of required degree.   |       |            |           |           |
| a)  | 100 mm  |       |            |           |           |
| a ii)   | Sand cast iron S&S as per IS:3989   | Each  | 20.00      | 318.00    | 6360.00   |
| 7.05  | Providing and fixing heel rest sanitary bend.   |       |            |           |           |
| a)  | 100 mm dia  |       |            |           |           |
| a.ii)   | sand cast iron S&S as per IS-3989   | Each  | 20.00      | 352.00    | 7040.00   |
| 7.06  | Providing and fixing collar   |       |            |           |           |
| a)  | 100 mm  |       |            |           |           |
| a.ii)   | Sand cast iron S&S as per IS-3989   | Each  | 113.00     | 301.00    | 34013.00  |
| 7.07  | Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:   |       |            |           |           |
| a)  | 100 mm  | Each  | 145.00     | 221.00    | 32045.00  |
| 7.08  | Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:   |       |            |           |           |
| a)  | 100 mm diameter pipe  | Metre | 400.00     | 32.00     | 12800.00  |
| 7.09  | Providing and fixing rain water ,soil, waste and vent pipes.  |       |            |           |           |
| b)  | 150 mm dia pipe as per IS:3989  | Metre | 110.00     | 1,281.00  | 140910.00 |
| 7.10  | Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. |       |            |           |           |
| b)  | for 150 mm dia pipe   | Each  | 35.00      | 108.00    | 3780.00   |
| 7.11  | Providing and fixing plain bend of required degree.   |       |            |           |           |
| b)  | 150 mm  | Each  | 5.00       | 704.00    | 3520.00   |
| 7.12  | Providing and fixing heel rest sanitary bend.   |       |            |           |           |
| b)  | 150 mm dia  | Each  | 5.00       | 841.00    | 4205.00   |
| 7.13  | Providing and fixing collar   |       |            |           |           |
| c)  | 150 mm  | Each  | 30.00      | 553.00    | 16590.00  |



| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |           |                    |
|---|---|-------|------------|-----------|--------------------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs) | Amount             |
| 1   | 2   | 3     | 4          | 5         | 6                  |
| 7.14  | Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:   |       |            |           |                    |
| b)  | 150 mm  | Each  | 40.00      | 431.00    | 17240.00           |
| 7.15  | Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work: |       |            |           |                    |
| c)  | 150 mm diameter pipe  | Metre | 110.00     | 41.00     | 4510.00            |
| <b>SUB TOTAL(Rain Water pipe &amp; fitting)</b>   |   |       |            |           | <b>6,63,576.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |          |            |           |          |
|---|--|----------|------------|-----------|----------|
| Sl. No.   | Description of Item  | Unit     | Total qty. | Rate (Rs) | Amount   |
| 1   | 2  | 3        | 4          | 5         | 6        |
| <b>8.00</b>   | <b>BOREWELL(1 No)</b>  |          |            |           |          |
| 8.01  | Drilling by suitable rig as per IS : 2800-1979 (percussion or combination rig ) or Reverse Rotary to suit site condition from ground level in all kind of soils and weathered rock including boulders (excluding rock ) diameter of bore 300mm including carry out hydrological survey report before boring & getting the approval based on Hydrogeological survey before start of the work.Also getting approval from local authority if any required |          |            |           |          |
| a)  | 0-30m  | metre    | 30.00      | 665.00    | 19950.00 |
| b)  | 30-60m   | metre    | 30.00      | 665.00    | 19950.00 |
| c)  | 60-90m   | metre    | 30.00      | 665.00    | 19950.00 |
| d)  | 90-120 m   | metre    | 30.00      | 665.00    | 19950.00 |
| 8.02  | Extra additional for drilling in Ordinary Rock if any found  | metre    | 25.00      | 1,140.00  | 28500.00 |
| 8.03  | Extra additional for drilling in Hard Rock if any found  | metre    | 25.00      | 1,425.00  | 35625.00 |
| 8.04  | Providing and lowering uPVC casing/housing pipe 150mm dia. with wall thickness 10 mm conforming to IS :12818 including sockets of standard design.   | metre    | 70.00      | 998.00    | 69860.00 |
| 8.05  | Providing & fixing uPVC screen/slotted pipe with 1.5 mm to 3mm (slots as per strata condition) including sockets of standard design as per IS: 12818/1992.   |          |            |           |          |
| a)  | 150 mm dia uPVC socketed pipe with wall thickness 10.0 mm  | metre    | 80.00      | 1,140.00  | 91200.00 |
| 8.06  | Providing and fixing in position threaded iron cap with locking arrangement of approved design to prevent foreign matters getting into the bore-hole as required.  | Each     | 1.00       | 5,225.00  | 5225.00  |
| 8.07  | Providing and laying rounded pea gravel washed & served 3 to 6 mm nominal boreas per relevant ISI code.  | Cum      | 16.00      | 3,325.00  | 53200.00 |
| 8.08  | Providing and laying cement concrete 1:2:4 mix for sanitary sealing of well at top.  | Cum      | 1.00       | 4,275.00  | 4275.00  |
| 8.09  | Supplying, lowering and fixing in position reducer ,PVC bail plug with "U" hooks as per IS:2800-1964.  | Each     | 1.00       | 1,425.00  | 1425.00  |
| 8.10  | Development of Tubewell including testing of yield depression & quality of water (for all parameters of potable water), contractor to obtain certificate for quality for water from Competent Authority approved by client or Engineer- In -Charge.  |          |            |           |          |
| a)  | Development of Tube well by high capacity air compressor till the clear water discharge but not more than 100 hours.   | per hour | 80.00      | 570.00    | 45600.00 |
| b)  | Additional development of Tube well by high an over pumping unit till complete development of tube well does not clear by maximum 100 hours air compressor   | per hour | 50.00      | 523.00    | 26150.00 |
| 8.11  | Tranportation, mobilisation and demobilisation or drilling equipment and ancillary equipment to site including clearing and cleaning the site after completion of work.  | set      | 1.00       | 38,000.00 | 38000.00 |
| 8.12  | Providing and fixing brass full way valve with C.I. wheel of approved make, tested to a pressure of 21 kg/sqcm.  |          |            |           |          |
| a)  | 80 mm dia  | Each     | 1.00       | 4,750.00  | 4750.00  |
| 8.13  | Providing and fixing gunmetal non return valve of approved make tested to a pressure of 21kg/sqcm.   |          |            |           |          |
| a)  | 80 mm dia  | Each     | 1.00       | 5,700.00  | 5700.00  |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |       |            |             |                 |
|---|---|-------|------------|-------------|-----------------|
| Sl. No.   | Description of Item   | Unit  | Total qty. | Rate (Rs)   | Amount          |
| 1   | 2   | 3     | 4          | 5           | 6               |
| 8.14  | Providing & fixing G.I. pipes (heavy class)confirming to IS with special fittings in external works including earthwork ,excavationin all kinds of soil including ordinary rock,refilling, painting pipes & fitting complete in all respects.<br>80 mm dia  | Metre | 100.00     | 1,093.00    | 109300.00       |
| 8.15  | Providing & filling sand of grading zone V or coarser grade all around GI pipe in external work<br>80 mm dia  | Metre | 100.00     | 90.00       | 9000.00         |
| 8.16  | Submersible pumps   |       |            |             |                 |
|   | Providing and installing submersible pump and electrical panel suitable for 6" dia casing of bore with SS impeller, high tensile SS shaft, copper wound squirrel cage wet type induction motor 2880 rpm, 415 V, 50 Hz,3 phase A.C. supply, conforming to ISS: 8034-1976, capacity 250-500 litre per minute at 70-120 m head along with a directly coupled submersible type squirrel cage electric induction 5 <b>H.P(minimum)</b> . motor suitable for operation on 400 V, 3 phase, 50 c.p.s. A.C. supply, water lubricated bearings and provided with pivoted segment type thrust bearings to withstand non-vertical lead with minimum wear and tear and duly fitted with device to take up the expansion of water with heating of motor, including supply, testing and commissioning of elctrical panel from the same manufacturer, complete with all accessories in all respects. The contractor to obtain approval for model and make of pumpset & suitable Electrical panel after having yield report of fully developed tube well and submite actual bore strata chart. |       |            |             |                 |
|   | including supplying laying and fixing water proof PVC insulated flat submersible cable 3x10 sqmm with end termination with its accessories. complete in all respect as required. 1 No. 3 Phase, fully automatic star-delta starter, type - II of 15 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required.  | set   | 1.00       | 3,40,428.00 | 340428.00       |
| 8.17  | Carrying out Electrical logging of Borewell before lowering of pipe for analysiing of water quality including Electrical logging report, calculation etc.   | Job   | 1.00       | 28,500.00   | 28500.00        |
| <b>SUBTOTAL (BOREWELL)</b>  |   |       |            |             | <b>976538.0</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |             |                    |
|---|--|-------|------------|-------------|--------------------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs)   | Amount             |
| 1   | 2  | 3     | 4          | 5           | 6                  |
| <b>9.00</b>   | <b>RAIN WATER HARVESTING(4NO.)</b>   |       |            |             |                    |
| 9.01  | Designing and Constructing of percolation pit cum perforated well 3000mm. dia upto 4000mm deep, 230 mm thick brick masonry work around upto 1.5 m deep with 75 class brick in cement mortar 1:4, 200 mm foundation concrete in 1:4:8 mix below brick work only, 150 mm thick precast removable RCC top slab with required steel reinforcement in cement concrete 1:2:4 mix, filled with coarse aggregate, SFRC covers, river pebbles of requisite size stone as shown in the drawing including centering and shuttering, as shown complete as per detailed drawings complete.  | Each  | 4.00       | 1,04,027.00 | 416108.00          |
| 9.02  | Drilling as per IS : 2800-1964 ( with percussion or combination rig ) from ground level in all kind of soils including boulders (excluding rock ) diameter of bore 450mm.  |       |            |             |                    |
| a)  | 0-50m  | Metre | 80.00      | 665.00      | 53200.00           |
| 9.03  | Extra for drilling in Ordinary Rock  | Metre | 20.00      | 1,140.00    | 22800.00           |
| 9.04  | Extra for drilling in Hard Rock  | Metre | 20.00      | 1,425.00    | 28500.00           |
| 9.05  | Providing and lowering of 200 mm dia uPVC blank/ slotted pipe with ribs, special fittings, jointing conforming to IS 12818 - 1992.   | Metre | 80.00      | 1,140.00    | 91200.00           |
| 9.06  | Constructing bar screen / settling tank, of sizes 4500x2500 with suitable depth up to 2.0 m in 1 : 4 Cement Mortar (one cement : 4 coarse sand) height as per site requirement, in brick masonry 350mm thick walls upto water level and 230mm thick walls above water level & upto ground level, including all excavation, 20 cm thick bed concrete in 1:4:8 (one cement 4 fine sand 8 stone aggregate 40 mm), cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement as inside finish , top slab in RCC 1:2:4, including centring, shuttering and steel work, also providing and fixing D.I. manhole cover & frame of size 605mm x 450mm of weight not less than 38 kg (frame + cover) and cost of 100mm dia C.I. vent pipe with C.I. Ventilating Cowl and suitable wire mesh provision for inlet, 115mm baffle walls extending 2/3 the width spaced@500mm c/c including finishing with 1:3 cement plaster 15mm thick with floating coat of neat cement slurry , all complete in every respect as per drawing and as directed to suit site condition. | Each  | 4.00       | 84,783.00   | 339132.00          |
| <b>SUBTOTAL (RAIN WATER HARVESTING)</b>   |  |       |            |             | <b>9,50,940.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |       |            |           |          |
|---|--|-------|------------|-----------|----------|
| Sl. No.   | Description of Item  | Unit  | Total qty. | Rate (Rs) | Amount   |
| 1   | 2  | 3     | 4          | 5         | 6        |
| <b>10.00</b>  | <b>SOLAR WATER HEATING SYSTEM &amp; RECIRCULATION OF HOT WATER SYSTEM</b>  |       |            |           |          |
| 10.02   | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. |       |            |           |          |
|   | <b>Internal work- Exposed on wall</b>  |       |            |           |          |
| a)  | 15 mm nominal outer dia pipes (SDR-11)   | metre | 10.00      | 148.00    | 1480.00  |
| b)  | 20 mm nominal outer dia pipes (SDR-11)   | metre | 50.00      | 173.00    | 8650.00  |
| c)  | 25 mm nominal outer dia pipes (SDR-11)   | metre | 50.00      | 212.00    | 10600.00 |
| d)  | 32 mm nominal outer dia pipes (SDR-11)   | metre | 50.00      | 273.00    | 13650.00 |
| e)  | 40 mm nominal outer dia pipes (SDR-11)   | metre | 20.00      | 376.00    | 7520.00  |
| 10.03   | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. |       |            |           |          |
|   | <b>Concealed work including cutting chases and making good the walls etc.</b>  |       |            |           |          |
| a)  | 15 mm nominal outer dia pipes (SDR-11)   | metre | 100.00     | 242.00    | 24200.00 |
| b)  | 20 mm nominal outer dia pipes (SDR-11)   | metre | 50.00      | 267.00    | 13350.00 |
| c)  | 25 mm nominal outer dia pipes (SDR-11)   | metre | 25.00      | 319.00    | 7975.00  |
| 10.04   | Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):   |       |            |           |          |
| a)  | 25 mm nominal bore   | each  | 4.00       | 406.00    | 1624.00  |
| b)  | 32 mm nominal bore   | each  | 4.00       | 475.00    | 1900.00  |
| 10.05   | Supply, installation, testing and commissioning of solar water heating system, Thermosyphon type, all complete based on Flat plat collector system (Cu-Cu Type only) comprising of but not limited to the following:   |       |            |           |          |
| a)  | Requisite number of Flat plate collectors of 2 sq. mtr. collector area. Collector absorber plate to be made of copper tubes & copper fins only   |       |            |           |          |
| b)  | Hot water storage tank made of stainless steel 304- food grade quality with 100 mm Glass wool insulation and cladding with 24 SWG Aluminium sheet. One temperature measuring device and suitable inlet, outlet and drain connections on the storage tank to be provided.   |       |            |           |          |
| c)  | Heat Exchanger - Cage type Internal Heat Exchanger made of SS pipes shall be provided inside the Solar Tank. Heat exchangers shall have min. heat transfer area of 0.24 sq. mtrs. for every 100 LPD calacity. Suitable make up tank for the Heat Exchanger circuit shall also be provided  |       |            |           |          |
| d)  | Interconnecting system piping shall consist of B Class insulated GI pipes covered with 50mm thick glasswool & clad with 26 SWG Aluminium Sheet. All Gate/Ball valves shall be of ISI make.   |       |            |           |          |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |   |      |            |             |                     |
|---|---|------|------------|-------------|---------------------|
| Sl. No.   | Description of Item   | Unit | Total qty. | Rate (Rs)   | Amount              |
| 1   | 2   | 3    | 4          | 5           | 6                   |
| e)  | Electrical control panel, cabling from panel to pumps shall be provided   |      |            |             |                     |
| f)  | The solar collector shall be arranged on roof of building in such a way that shadow can be avoided and requisite number of MS support for collector/tanks of minimum 35x35x5 MS angle adequate for 150 Km/Hr wind speed.  |      |            |             |                     |
| g)  | Solar water heating system based on Flat plat collector system technology with output capacity of as mentioned below with hot water at 60 degree centigrade having required Nos. solar collectors . As per complete item as per technical specification of make BHEL/TATA/EMMVEE. The system has to be installed by Manufacturers authorised distributors/approved specialised firms of Solar water heating of approved makeThe shop drawing of the systems shall be provided by the agency as per site condition obtain the proper efficiency The system shall be procured after obtaining the approval of shop drawings from HSCC / Engineer-in-charge. The solar hot water will supply the hot water to all the geyser,in view of this provision the backup electrical heating system at terrace hot water tank will not be provided for non solar days. |      |            |             |                     |
| i)  | Solar System of Capacity 1500 Litre/day (With minimum 12 nos of Collect) of 2.0 Sqm area  | each | 3.00       | 3,69,654.00 | 1108962.00          |
| 10.06   | Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.  |      |            |             |                     |
| a)  | 15 mm dia to 25 mm dia  | each | 285.00     | 43.00       | 12255.00            |
| b)  | 32 mm dia to 50 mm dia  | each | 70.00      | 60.00       | 4200.00             |
| 10.07   | Providing and fixing gun metal ball valve of approved quality   |      |            |             |                     |
| a)  | 15 mm nominal bore  | each | 2.00       | 422.00      | 844.00              |
| b)  | 20 mm nominal bore  | each | 3.00       | 555.00      | 1665.00             |
| <b>SUBTOTAL(SOLAR WATER HEATING SYSTEM &amp; RECIRCULATING SYSTEM)</b>                                    |   |      |            |             | <b>12,18,875.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |      |            |           |                  |
|---|--|------|------------|-----------|------------------|
| Sl. No.   | Description of Item  | Unit | Total qty. | Rate (Rs) | Amount           |
| 1   | 2  | 3    | 4          | 5         | 6                |
| <b>11.00</b>  | <b>WATER TREATMENT PLANT (for Domestic use))</b>   |      |            |           |                  |
|   | Supplying, Installing, testing & commissioning of indoor package type water treatment plant of capacity 3.0 cum per hr. with 12 hours operation time, comprising of the following including all necessary piping, control valves, other accessories etc. complete as per drawing and as per drawing and as directed.   |      |            |           |                  |
|   | <b>FILTER</b>  |      |            |           |                  |
|   | Supply, installation & testing and commissioning of MULTI GRADE Filter vertical floor mounted fabricated with Fibre reinforced Plastic (FRP) with frontal piping & valves, back wash system & filter media etc. with single lever operated multiport valve system with standard fittings like manhole cover, pressure gauge at inlet & outlet, sampling cock, rinse drain valve, air vent valve with piping, bolts, nuts & rubber gaskets.   |      |            |           |                  |
|   | Flow rate = 3.0 cub. m/hour  |      |            |           |                  |
|   | Working pressure = 3.5 kg/Sq. cm.  |      |            |           |                  |
|   | <b>UV WATER STERILISERS</b>  |      |            |           |                  |
|   | High performance on line UV water sterilisers of capacity 2000lph designed on at least 50 J/Sq. M. UV dosage, comprising of glass UV chamber in SS 316 housing, UV lamp and electrical circuit, wall mounted model / line mounted model, capacity 50lpm, minimum lamp rating :150 watts - 1Nos.  |      |            |           |                  |
|   | Supplying, installing, testing and commissioning vertical online/horizontal centrifugal pumping set with mechanical seal, C.I. Housing, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump). |      |            |           |                  |
|   | <b>Filter feed pump(1 no.)</b>   |      |            |           |                  |
|   | Capacity 50 lpm  |      |            |           |                  |
|   | Head 30M   | Set  | 1.00       | 78,850.00 | 78850.00         |
|   | <b>Subtotal (Water treatment Plant,Pump and Equipment)</b>   |      |            |           | <b>78,850.00</b> |

| Name of Work:BOQ of Proposed 100 bedded MCH wing for district female hospital at Aligarh, U.P. under NRHM |  |      |            |             |                    |
|---|--|------|------------|-------------|--------------------|
| Sl. No.   | Description of Item  | Unit | Total qty. | Rate (Rs)   | Amount             |
| 1   | 2  | 3    | 4          | 5           | 6                  |
| <b>12.00</b>  | <b>WATER SUPPLY PUMP PANEL</b>   |      |            |             |                    |
|   | Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, powder coated, wall mounted/ free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as required. |      |            |             |                    |
|   | Note1) :- All MCCB Should have Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. <b>MCCB should have spreader links &amp; phase barriers.</b>  |      |            |             |                    |
|   | <b>Note2) :- All Incomer and outgoing Should have</b>  |      |            |             |                    |
|   | "ON" and "OFF" LED indicating lamp and Trip and 2A control SP MCCBs  |      |            |             |                    |
|   | Push button for CLOSE and TRIP   |      |            |             |                    |
|   | Digital voltmeter with selector switch (Only For Incomer )   |      |            |             |                    |
|   | Digital ammeter with selector switch with one set of suitable cast resin C.T. s  |      |            |             |                    |
|   | <b>INCOMER :</b>   |      |            |             |                    |
|   | 125 Amp 415 volts, 35 KA (Isc), FP MCCB with e/f protection thermal magnetic release having variable current settings.   |      |            |             |                    |
|   | <b>BUSBARS :</b>   |      |            |             |                    |
|   | 200 Amp TPN busbars of aluminium   |      |            |             |                    |
|   | <b>OUTGOINGS :</b>   |      |            |             |                    |
|   | <b>2 Sets of following</b>   |      |            |             |                    |
|   | 1 No. 32 Amp. 415/500 volts,16 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .  |      |            |             |                    |
|   | Single Phase preventer   |      |            |             |                    |
|   | <b>5 Sets of following</b>   |      |            |             |                    |
|   | 1 No. 16 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .  |      |            |             |                    |
|   | 1 No. 3 Phase, DOL starter of 3 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.   |      |            |             |                    |
|   | Single Phase preventer   |      |            |             |                    |
|   | <b>2 Sets of following</b>   |      |            |             |                    |
|   | 1 No. 16 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .  |      |            |             |                    |
|   | 1 No. 3 Phase, DOL starter of 1 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.   |      |            |             |                    |
|   | Single Phase preventer   |      |            |             |                    |
|   | <b>2 Sets of following</b>   |      |            |             |                    |
|   | 1 No. 16 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .  |      |            |             |                    |
|   | <b>WATER SUPPLY PUMP Panel as mentioned above</b>  | Set  | 1.00       | 2,08,939.00 | 208939.00          |
|   | <b>Sub Total(Water supply Pump Panel)</b>  |      |            |             | <b>2,08,939.00</b> |
|   | <b>Note: Based on the tender drawing the agency has to prepare the internal &amp; external plumbing shop drawing and obtain the approval of the same before start of work</b>  |      |            |             |                    |
|   | End of plumbing BOQ  |      |            |             |                    |



**PROJECT NAME: Proposed 100 bedded Hospital at Aligarh**  
**ABSTRACT OF COST**

| <b>S.No</b> | <b>DESCRIPTION OF WORK</b>           | <b>AMOUNT(Rs)</b>   |
|-------------|--------------------------------------|---------------------|
|             |                                      |                     |
| <b>1</b>    | <b>FIRE FIGHTING</b>                 | <b>69,41,048.00</b> |
|             | <b>Sub Total(Fire Fighting work)</b> | <b>69,41,048.00</b> |

**PROJECT NAME: Proposed 100 bedded Hospital at Aligarh**

**Name of Works: BOQ of Fire Fighting Works**

| Item No | Description Of Item   | Unit  | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|-------|------------|----------|-------------|
| 1       | 2   | 3     | 4          | 5        | 6           |
| 1.00    | <b>FIRE FIGHTING SYSTEM</b>   |       |            |          |             |
| 1.01    | Providing, fixing joiting and testing of Heavy (class -C) G.I. pipes as per relevant IS :1239/4736 with special accessories like tees, elbow, gesket, flanges, flanged joints, rubber insertion nuts and bolts including earth work excavatin and trenching, wrapping pipekot 4mm thick 500mm width tar based plymaric corrosion protection tape or equivalent suitable to GI/ MS pipe line including applying uniform coat of cold pipekot primer complete 1 m below the ground level, refilling in layers not exeeding 20 cm in depth consolidated each deposited layer by ramming & watering complete in all respect as pe IS : 1022 (Under ground ) |       |            |          |             |
| a)      | 150 mm dia G.I. Pipe with flange joints (5.4 mm wall thickness)   | Metre | 450.0      | 2495.00  | 1122750.00  |
| b)      | 80 mm dia G.I. Pipe with flange joints  | Metre | 100.0      | 1184.00  | 118400.00   |
| 1.02    | Heavy class G.I. pipes conforming to IS with accessories like tees, elbows, flanged joints, rubber insertion, nuts, bolts or welded joints including fixing the pipe with suitable flat iron strip clamps/brackets, structural members, dash fastener , cutting hole and chases in walls, floor, R.C.C. slab etc. and making good the same, including painting pipes and fittings with a primer coat of steel primer and two coats of postal red enamel paint etc. complete as required. (All the fitting i.e. tee /elbow, Valve shall be joint the pumps will flanged joints)  |       |            |          |             |

| Item No | Description Of Item  | Unit  | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|-------|------------|----------|-------------|
| 1       | 2  | 3     | 4          | 5        | 6           |
| a)      | 200 mm dia (with Flanged joints)   | Metre | 20.0       | 2945.00  | 58900.00    |
| b)      | 150 mm dia (with Flanged joints)   | Metre | 200.0      | 2213.00  | 442600.00   |
| c)      | 100 mm dia (with Flanged joints)   | Metre | 210.0      | 1515.00  | 318150.00   |
| d)      | 80 mm dia  | Metre | 20.0       | 1047.00  | 20940.00    |
| e)      | 65 mm dia  | Metre | 150.0      | 859.00   | 128850.00   |
| f)      | 50 mm dia  | Metre | 90.0       | 642.00   | 57780.00    |
| g)      | 40 mm dia  | Metre | 200.0      | 514.00   | 102800.00   |
| h)      | 32 mm dia  | Metre | 400.0      | 433.00   | 173200.00   |
| i)      | 25 mm dia  | Metre | 1000.0     | 348.00   | 348000.00   |
| 1.03    | Providing and fixing Single headed hydrants flanged inlet with 63 mm female instantaneous outlet of gunmetal complete with male blank caps, chains conforming to IS:5290 type A with stainless steel orifice plate (if required) to keep the pressure not more than 3.5 kg/sq.cm at any point. | Each  | 20.0       | 8061.00  | 161220.00   |
| 1.04    | Providing 63mm dia 15 m long reinforced rubber lined hose pipe conforming to IS: 636-1992 Part-II with gunmetal male & female coupling wire wound with pipe as required.   | Each  | 28.0       | 5881.00  | 164668.00   |
| 1.05    | Providing and fixing 63mm dia 15 m long canvas hose pipe complete with gunmetal male & female coupling wire wound with the pipe The pipe shall confirm to IS: 4927.  | Each  | 12.0       | 5543.00  | 66516.00    |
| 1.06    | Providing and fixing Gunmetal branch pipe with 20mm dia nozzle conforming to IS:903. suitable for installation connections to hose coupling etc. as required.  | Each  | 20.0       | 2343.00  | 46860.00    |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|------|------------|----------|-------------|
| 1       | 2  | 3    | 4          | 5        | 6           |
| 1.07    | Providing and fixing Four way fire brigade connection housed in steel cabinet of size 900mm x 750mm x 400mm fabricated from 1.5mm thick M.S. sheet having lockable arrangement, openable glazed door with 4mm thick glass, including painting a coat of steel primer and two coats of postal red enamel paint, with necessary supports for the cabinet etc. with 150 mm dia. non return and butterfly valves complete in all respects.       |      |            |          |             |
| a)      | 4 Way - 150mm dia  | Each | 1.0        | 17161.00 | 17161.00    |
| 1.08    | Providing and fixing Set of "Siamese" quadruplet instantaneous fire brigade connections comprising of two gunmetal instantaneous male inlet coupling 63mm dia with plug and cap, chain bends, tees etc for inlet to the static tank.   | Each | 1.0        | 13661.00 | 13661.00    |
| 1.09    | Providing & Fixing 150 mm dia, 4 way suction coupling for firebrigade withdrawal of water from the fire tank   | Each | 1.0        | 7906.00  | 7906.00     |
| 1.10    | Providing and fixing anodised glazed door shutter and frame of approved sections for Fire hose cabinet with dash fasteners ( frame fabricated from 40 x 40 mm and shutter ) 2100 mm high x 1200 mm wide x 600mm deep with locking arrangement, 4mm thick glass with beading including all accessories, complete as per drawing and as directed. The letters " HOSE CABINET" to be painted in red colour on the box complete in all respects. | Each | 14.0       | 10467.00 | 146538.00   |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| 1.11    | Providing and fixing Weather proof standard stand post type hose cabinet (900mm x 750 mm x 400 mm) out door type made of 1.5mm thick M.S. sheet having central opening glazed door with 4mm thick glass suitable for accommodating hydrants, 2 Nos. canvas hose pipe and branch pipe including necessary locking arrangements, painting one coat of primer and two coats of postal red enamel paint.. The shutters are to be lockable type. The words " hose cabinet" to be painted on the box. | Each | 6.0        | 3278.00  | 19668.00    |
| 1.12    | Providing and fixing cast iron body IS: 210 FG 220 and double flange gear simple operation type butterfly valve conforming to IS: 13095 with SS304 disc and shaft NITNLE rubber replaceable seat of the following size complete with bolts, nuts, washers and rubber insertions as per specification.   |      |            |          |             |
| a)      | 150 mm dia  | Each | 24.0       | 4984.00  | 119616.00   |
| b)      | 80 mm dia   | Each | 4.0        | 2560.00  | 10240.00    |
| c)      | 200 mm dia  | Each | 2.0        | 9372.00  | 18744.00    |
| 1.13    | Supplying, testing, installation & commissioning of pressure switches for pumps including necessary wiring upto the control panel.  | Each | 5.0        | 7447.00  | 37235.00    |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|------|------------|----------|-------------|
| 1       | 2  | 3    | 4          | 5        | 6           |
| 1.14    | Constructing masonry chamber 90x90x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 fine sand) for sluice valve, with C.I. surface box 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design. |      |            |          |             |
|         | with F.P.S. bricks   | Each | 3.0        | 10572.00 | 31716.00    |
| 1.15    | Supplying and Fixing <b>First Aid Hose Reel</b> , wall mounting swinging type complete with drum & bracket of MS construction, spray painted in Post office Red, confirming to IS 884/1995 with upto date amendments, complete with the following as required.   |      |            |          |             |
|         | 36 Meter long 20 mm dia water hose Thermoplastic (Textile reinforced) Type - 2 as per IS : 12585   |      |            |          |             |
|         | 20 mm dia gun metal ball valve & nozzle.   |      |            |          |             |
|         | Drum and brackets for fixing the equipments on wall.   |      |            |          |             |
|         | Connection from riser with stop valve (gun metal) & M.S. Pipe  | Each | 14.0       | 17152.00 | 240128.00   |
| 1.16    | Providing and fixing C.I. sluice valves (With cap) of approved quality complete with bolts, nuts, rubber insertions etc. ( the tail pieces if required will be paid separately ) Class II  |      |            |          |             |
| a)      | 150 mm dia   | Each | 3.0        | 5376.00  | 16128.00    |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| 1.17    | Supply, Installation, Testing and Commissioning of 100 mm dia Bourden type, Stainless Steel dial type <b>Pressure Gauge</b> including brass isolation valve and siphon pipe having caliberation of 0 - 16 Kg / cm <sup>2</sup> .  | Each | 20.0       | 972.00   | 19440.00    |
| 1.18    | Supplying and Fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926   | Each | 14.0       | 1099.00  | 15386.00    |
| 1.19    | Supplying and Fixing vane type waterflow switch with contacts suitable for installation on 50 mm to 150 mm dia pipeline for a service pressure upto 20 Kg/sq.cm.  | Each | 5.0        | 5496.00  | 27480.00    |
| 1.20    | Providing, Fixing, Testing and Commissioning of <b>Sprinkler Installation Control Valve</b> of Cast iron body and brass / bronze working parts comprising of water motor, alarm, bronze seat clapper and clapper arm, hydraulically driven mechanical gong bell to sound continuous alarm when the Sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc. of size 200/150 mm dia, as required. | Each | 1.0        | 70655.00 | 70655.00    |
| 1.21    | Supplying, Installation, Testing & Commissioning modular construction master control annunciation panel for sprinkler with provision for requider No. of Zone (30% additional spares),eachsprinkler hydrant will have atleast 4 zone on each floor as approved by engineer.The panel shall have but not limited to the following arrangment.  |      |            |          |             |
| a)      | Indication of Zone sprinkler  |      |            |          |             |
| b)      | Indication of zone fault  |      |            |          |             |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|------|------------|----------|-------------|
| 1       | 2  | 3    | 4          | 5        | 6           |
| c)      | Fire/fault hooter  |      |            |          |             |
| d)      | Alarm cancel for fire/fault  |      |            |          |             |
| e)      | Battery for emergency back up of 4 Hrs.  | Set  | 1.0        | 90250.00 | 90250.00    |
| 1.22    | Providing and Fixing 15 mm dia gunmetal / brass quartzoid type <b>Sprinkler Head</b> with quartz bulb and set to operate at specified temperature.   |      |            |          |             |
| a)      | Pendent / Upright type, 68 C, Chrome plated  | Each | 250.0      | 261.00   | 65250.00    |
| b)      | Side wall extended throw 20 mm dia 68 C, Chrome plated   | Each | 300.0      | 360.00   | 108000.00   |
| 1.23    | Fabricating, Supplying, Installation, Testing and Commissioning <b>Air Vessel</b> of continuous welded construction with flanged discharge header on the top of each riser fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve complete with suitable drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes  |      |            |          |             |
| a)      | 1.2 Metre high and 250 mm dia  | Each | 2.0        | 46464.00 | 92928.00    |
| 1.24    | Supply, Installation, Testing and Commissioning <b>External Yard Hydrant Stand Post</b> comprising of GI pipe 80 mm dia (heavy duty C class) from existing ringmain to about 1 meter above ground level and Single Headed Yard Hydrant Valve with 80 mm dia flanged inlet, instantaneous gunmetal coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with ABS cap and chain etc.complete with all accessroies as required. | Each | 6.0        | 9586.00  | 57516.00    |



| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| 1.25    | Providing and placing on terrace polyethylene water storage tank ISI : 12701 MARKED indicating the BIS license No with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.   | Ltrs | 20000.0    | 6.00     | 120000.00   |
| 1.26    | Supply, erection, testing & commissioning of exit glow sign board of size 200mm x 350 mm wall mounting signage consisting of photo luminescent coating on acrylic cover   | Each | 28.0       | 979.00   | 27412.00    |
| 1.27    | Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224/15683 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed. |      |            |          |             |
| a)      | 4.5kg capacity cylinder   | Each | 14.0       | 6919.00  | 96866.00    |
| 1.28    | Providing and fixing 9 liters capacity fire extinguisher water type gas pressure conforming to IS marking, fixed to wall.IS:15683   | Each | 14.0       | 3509.00  | 49126.00    |
| 1.29    | Providing and fixing ABC type fire extinguishers complete in all respects. IS:15683 ISI marked  |      |            |          |             |
| a)      | Capacity 6.0 Kg.  | Each | 14.0       | 2347.00  | 32858.00    |
| 1.30    | Providing and fixing ABC type automatic modular ceiling mounted type extinguisher with body powder coated 10 lts. Capacity min. 300 mm dia 68 degree centigrade bul temperature complete in all respect of approved make and model  | Each | 1.0        | 7600.00  | 7600.00     |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|------|------------|----------|-------------|
| 1       | 2  | 3    | 4          | 5        | 6           |
| 1.31    | Fabricating, Supplying, Installation, Testing and Commissioning <b>Air Vessel</b> of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes |      |            |          |             |
| a)      | 2 Metre high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump   | Each | 1.0        | 60078.00 | 60078.00    |
| 1.32    | Providing and fixing C.I. non-return valve complete with gunmetal seat, bolts, nuts washer & rubber insertions as required conforming to IS:5312.  |      |            |          |             |
| a)      | 150 mm dia   | Each | 4.0        | 12363.00 | 49452.00    |
| b)      | 80 mm dia  | Each | 1.0        | 7217.00  | 7217.00     |
| 1.33    | Supplying, installing, testing and commissioning of <b>electric driven fire pump</b> suitable for automatic operation consisting of the following (as per CPWD specification Part V-1985 for Fire Fighting and its amendments) (For Hydrant system & Sprinkler system).  |      |            |          |             |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs)  | Amount (Rs) |
|---------|---|------|------------|-----------|-------------|
| 1       | 2   | 3    | 4          | 5         | 6           |
| a)      | Fire pump with stainless steel impeller, CI casing, SS shaft & mechanical seal shall be horizontal split casing centrifugal suction type multistage having following capacity and head so as to ensure a minimum pressure of 3.0 kg per square cm. at the highest and farthest out let at the specified flow complete with necessary strainer / foot valve suction side and pressure gauge on the delivery side including by pass arrangement for periodical testing of the working of the pumping set as required. The pump shall be provided with mechanical seals. |      |            |           |             |
| b)      | Squirrel cage type TEFC motor suitable for operation on 415V, 10%, 3 phases 50 Hz. system of suitable HP for the above pump with synchronous speed of 1500 RPM and flexible coupling. The pump motor should conform to IS: 325-1978.  |      |            |           |             |
| c)      | Common bed plate fabricated from mild steel channel or cast iron type.  |      |            |           |             |
| d)      | Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.  |      |            |           |             |
| l)      | <b>Capacity 2280 LPM and Head 65 Metres</b>   | Each | 1.0        | 417853.00 | 417853.00   |
| 1.34    | Supplying, installing, testing and commissioning of <b>diesel engine driven fire pump</b> suitable for automatic operation consisting of the following (as per CPWD specifications PartV 1985.) (For Hydrant system & Sprinkler system).  |      |            |           |             |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| a)      | Horizontal centrifugal type multi-stage, fire pump with stainless steel impeller CI casing, SS shaft & mechanical seal complete of following capacity and Head so as to ensure a minimum pressure of 3.0 kg per sq.cm. at the highest & farthest outlet at the specified flow, complete with necessary strainer pressure gauge on the delivery side etc. including by pass arrangement for periodical testing of the working of the pump set as required. The pump shall be provided with mechanical seals. |      |            |          |             |
| b)      | Water cooled cold starting type multi cylinder 4 stroke diesel engine, developing suitable BHP at 1500 RPM for the above pump set with automatic starting mechanism, cooling system shall be with radial cool engine, maintenance free batteries, battery charge unit, flexible coupling with the pump, common bed plate for mounting diesel engine fuel day tank fuel piping and pump and vibration damping arrangement by cushy foot mounting as required complete in all respects.                       |      |            |          |             |
| c)      | The engine shall be capable to drive the pump at 150% rated discharge at 65% head and shall be suitable for 10% overload capacity for one hour in any period of 12 hrs. continuous run.   |      |            |          |             |
| d)      | Common bed plate fabricated from mild steel channel or cast iron type.  |      |            |          |             |
| e)      | Isolation Valve   |      |            |          |             |
| f)      | Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.  |      |            |          |             |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs)  | Amount (Rs) |
|---------|--|------|------------|-----------|-------------|
| 1       | 2  | 3    | 4          | 5         | 6           |
|         |  |      |            |           |             |
| l)      | <b>Capacity 2280 LPM and Head 65 Metres</b>  | Each | 1.0        | 716320.00 | 716320.00   |
|         |  |      |            |           |             |
| 1.35    | Supplying, installation, testing and periodic commissioning of <b>electric motor driven automatic pressurization pump</b> set consisting of the following (as per specification) (For Hydrant system & Sprinkler system).  |      |            |           |             |
|         |  |      |            |           |             |
| a)      | Centrifugal pump of specified capacity capable of building up pressure lost in any leakage in the system against atotal head (mentioned as under) complete with C.I. casing stainless steel impellor ; mechanical seal & S.S. shaft necessary strainer, pressure gauge on delivery side etc. including by-pass arrangement for testing of the working of the pumping set as required . |      |            |           |             |
|         |  |      |            |           |             |
| b)      | Squirrel cage A.C. induction motor suitable for operation on 415 V, 10% 3 phase 50 Hz. A.C. supply and of minimum 7.5 HP,2900 RPM, for the above pump with flexible coupling as per specification and conforming to IS: 325/ 1978 and shall be TEFC type only.   |      |            |           |             |
|         |  |      |            |           |             |
| c)      | Common bed plate fabricated from mild steel channel or cast iron type.   |      |            |           |             |
|         |  |      |            |           |             |
| d)      | Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot or similar mounting as per required.   |      |            |           |             |
|         |  |      |            |           |             |
| l)      | <b>180 LPM &amp; Head - 65 Metres</b>  | Each | 1.0        | 104463.00 | 104463.00   |
|         |  |      |            |           |             |
| 1.36    | Providing & fixing puddle flanged including 40 cm long GI pipe piece welded / threaded with MS plates 450x450x6mm thick with both end screwed / flanged  |      |            |           |             |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| a)      | For 80 mm dia pipe  | Each | 2.0        | 978.00   | 1956.00     |
| b)      | for 150 mm dia pipe   | Each | 2.0        | 1832.00  | 3664.00     |
| 1.41    | Supplying, installing, testing and commissioning of <b>electric motor driven type automatic pressurisation, pump set</b> suitable for automatic operation of <b>terrace down comer</b> and consisting of the following (as per CPWD specifications Part V-1985) for fire fighting and its amendmends).  |      |            |          |             |
| a       | Fire pump with stainless steel impeller CI casing, SS shaft shall be horizontal end suction centrifugally type having a capacity of <b>900 LPM</b> against a total head of <b>25m</b> so as to ensure a minimum pressure of 3.0 kg/sqm at the highest and farthest out at the specified flow complete with necessary strainer with foot valve in suction side and pressure gauge on the delivery side including bypass arrangement for periodic testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.(Including taking necessary approval of complete fire fighting scheme from local fire authority before and after start of work) {Agency also has to submit characteristic curve of the pumps, model & other technical data for approval before placing the order} |      |            |          |             |
| b       | Squirrel cage AC induction motor suitable fot operation of 415 V ,+/-10%, 3 phase 50 HZ, AC supply and of minimum 7.5 HP,1500 RPM for the above pump with flexible coupling as per spwcification and conforming to IS 325-1978 and shall be TEFC type only  |      |            |          |             |
| c       | Common base plate fabricated from mild steel channel ot castiron type   |      |            |          |             |
| d       | 1 No. 3 Phase, fully automatic DOL starter, type - II of 10 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required.  |      |            |          |             |

| Item No | Description Of Item   | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|---|------|------------|----------|-------------|
| 1       | 2   | 3    | 4          | 5        | 6           |
| e       | Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot mounting as required and having provision of suitable weather protection cover.   | set  | 2.0        | 74617.00 | 149234.00   |
|         | <b>Fire Fighting Panel(Electrical )</b>   |      |            |          |             |
| 1.37    | <b>FIRE PANEL</b>   |      |            |          |             |
|         | Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, powder coated, free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles and having following incoming and outgoing switchgears complete as required. |      |            |          |             |
|         | Note1) :- All MCCB Should have Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.  |      |            |          |             |
|         | <b>Note2) :- All Incomer and outgoing Should have</b>   |      |            |          |             |
|         | "ON" and "OFF" LED indicating lamp and Trip and 2A control SP MCBs  |      |            |          |             |
|         | Push button for CLOSE and TRIP  |      |            |          |             |
|         | Digital voltmeter with selector switch (Only For Incomer )  |      |            |          |             |
|         | Digital ammeter with selector switch with one set of suitable cast resin C.T. s   |      |            |          |             |
|         | <b>INCOMER :</b>  |      |            |          |             |
|         | 320 Amp 415 volts, 35 KA (Isc), FP MCCB with thermal magnetic release having variable current settings.   |      |            |          |             |

| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs) | Amount (Rs) |
|---------|--|------|------------|----------|-------------|
| 1       | 2  | 3    | 4          | 5        | 6           |
|         | <b>BUSBARS :</b>   |      |            |          |             |
|         | 500 Amp TPN busbars of aluminium   |      |            |          |             |
|         | <b>OUTGOINGS :</b>   |      |            |          |             |
|         | <b>1 Sets of following</b>   |      |            |          |             |
|         | 1 No. 125 Amp. 415/500 volts,35 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .   |      |            |          |             |
|         | 1 No. 3 Phase, fully automatic star-delta starter of 75 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required. |      |            |          |             |
|         | Single Phase preventer   |      |            |          |             |
|         | <b>2 Sets of following</b>   |      |            |          |             |
|         | 1 No. 32 Amp. 415/500 volts, 25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .   |      |            |          |             |
|         | 1 No. 3 Phase, fully automatic star-delta starter of 10 HP with thermal overload relay, contactor, Timer, Push Buttons and Auto-manual selector switch etc complete as required. |      |            |          |             |
|         | Single Phase preventer   |      |            |          |             |
|         | <b>2 Sets of following</b>   |      |            |          |             |
|         | 1 No. 32 Amp. 415/500 volts, 16 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .   |      |            |          |             |
|         | Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.  |      |            |          |             |
|         | <b>2 Sets of following</b>   |      |            |          |             |



| Item No | Description Of Item  | Unit | Total Qty. | Rate(Rs)  | Amount (Rs)       |
|---------|--|------|------------|-----------|-------------------|
| 1       | 2  | 3    | 4          | 5         | 6                 |
|         | 1 No. 32 Amp. 415/500 volts,25 KA, three Pole, Moulded Case Circuit Breaker with variable current setting .  |      |            |           |                   |
|         | Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.  |      |            |           |                   |
|         | 1 No. 3 Phase, DOL starter type - II of 7.5 HP with thermal overload relay, contactor, Push Buttons and Switches etc complete as required.   |      |            |           |                   |
|         | Single Phase preventer   |      |            |           |                   |
|         | 1 Set of phase indicating lamp with 2A SP control MCBs   |      |            |           |                   |
|         | Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.  |      |            |           |                   |
|         | <b>2 Set of following (in a separate cubicle)</b>  |      |            |           |                   |
|         | One no. Diesel engine auto starting kit with all necessary relay, controls, wiring etc to start 60 HP diesel engine when electrical driven fire pump fail to start including one no rectifier circuit, battery charger, batteries, DC Voltmeter, DC Ammeter etc. complete as required. |      |            |           |                   |
|         | <b>Fire Panel as mentioned above</b>   | Set  | 1.0        | 539669.00 | 539669.00         |
|         | <b>Sub Total</b>   |      |            |           | <b>6941048.00</b> |
|         | <b>Note: Based on the tender drawing the agency has to prepare the internal &amp; external plumbing shop drawing and obtain the approval of the same before start of work</b>  |      |            |           |                   |
|         | <b>End of Fire fighting BOQ</b>  |      |            |           |                   |

| <b>SUMMARY OF BILL OF QUANTITIES OF ELECTRICAL WORKS FOR 100 BEDDED HOSPITAL AT ALIGARH<br/>UTTAR PRADESH</b> |   |                                      |
|---|---|--------------------------------------|
| <b>S.No.</b>  | <b>DESCRIPTION</b>  | <b>Amount<br/>In Figure (In Rs.)</b> |
| 1   | <b>SUBHEAD 1: H.T. SUB STATION.</b>                             | 2687579                              |
| 2   | <b>SUBHEAD 2: MAIN LT PANEL.</b>                                | 1447135                              |
| 3   | <b>SUBHEAD 3 : DG SET &amp; ACCESSORIES</b>                     | 1597141                              |
| 4   | <b>SUBHEAD 4: FLOOR PANELS</b>                                  | 526523                               |
| 5   | <b>SUBHEAD 5: MCB DISTRIBUTION BOARDS.</b>                      | 545667                               |
| 6   | <b>SUBHEAD 6: WIRING</b>  | 4501035                              |
| 7   | <b>SUBHEAD: 7 - LIGHT FIXTURE AND FANS</b>                      | 3663241                              |
| 8   | <b>SUB HEAD 8 : TELEPHONE SYSTEM.</b>                           | 680650                               |
| 9   | <b>SUBHEAD 9: CONDUITING FOR COMPUTER SYSTEM .</b>              | 123751                               |
| 10  | <b>SUB HEAD 10 : CONDUITING FOR TV OUTLETS</b>                  | 35210                                |
| 11  | <b>SUB HEAD 11 : FIRE DETECTION AND ALARM SYSTEM.</b>           | 1069776                              |
| 12  | <b>SUB HEAD 12 : LIFTS</b>                                      | 5724366                              |
| 13  | <b>SUB HEAD 13: LT CABLES</b>                                   | 1312189                              |
| 14  | <b>SUB HEAD :14 EARTHING, SAFETY EQUIPMENTS AND MISC. ITEMS</b> | 914063                               |
| 15  | <b>SUB HEAD 15 : LIGHTNING PROTECTION</b>                       | 129180                               |
| 16  | <b>SUB HEAD 16: OUT DOOR LIGHTING</b>                           | 370332                               |
|   | <b>GRAND TOTAL</b>  | <b>25327838</b>                      |

**BILL OF QUANTITIES OF ELECTRICAL WORKS FOR 100 BEDDED HOSPITAL AT ALIGARH UTTAR PRADESH**

| S.No.       | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|-------|-----------|-----------------------------|-------------------|
|             | <b>SUBHEAD 1: H.T. SUB STATION.</b>  |       |           |                             |                   |
| <b>1.01</b> | <b>HT Panel</b>  |       |           |                             |                   |
|             | Supply, erection, testing and commissioning of HT one panel, 630A ,11 kV, 3 Phase, 50 Hz., metal clad, dead front, 350 MVA rupturing capacity Vacuum Circuit Breaker as per the detailed specifications and drawings including connections etc. complete with following including POWER PACK door interlocking.Panel should be expendable type complete as per technical specifications and as required. |       |           |                             |                   |
|             | <b>A. INCOMER :</b>  |       |           |                             |                   |
|             | <b>i) 1 No. VCB having following</b>   |       |           |                             |                   |
|             | 1 No.630 A, 11kV, 3 Phase, 50Hz., metal clad, dead front, 350 MVA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB).  |       |           |                             |                   |
|             | 1 set of 11kV/110V Potential Transformers with HRC fuses.  |       |           |                             |                   |
|             | 1 Set of Phase indicating lamps with HRC fuses.  |       |           |                             |                   |
|             | 1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY.   |       |           |                             |                   |
|             | Push button for ON, OFF,TRIP&TRIP circuit healthy  |       |           |                             |                   |
|             | 3- Dual core CTs with rating 50/25/5/5A or suitable range of 15VA burden and Accuracy class 0.5 for metering and class 5P10 for protection.  |       |           |                             |                   |
|             | 1 Set of Microcontroller based numerical relay having 4 element relay (3O/C+1E/F). Relay should have display of phase current and trip history.  |       |           |                             |                   |
|             | 1 No. 0-15 kV Digital voltmeter with selector switch, Digital ammeter with selector switch , Digital energy meter, Digital KWH meter.  |       |           |                             |                   |
|             | Digital frequency meter,   |       |           |                             |                   |
|             | 1 Set of undervoltage relay and Overvoltage relay  |       |           |                             |                   |
|             | Trip circuit supervision relay,Auxiliary relays with shunt trip coil for transformer protection  |       |           |                             |                   |
|             | 1 No. Master Trip relay  |       |           |                             |                   |
|             | 1 No. Digital Power factor meter   |       |           |                             |                   |
|             | 1 No. phase reversal relay   |       |           |                             |                   |
|             | 1 No. Hooter   |       |           |                             |                   |
|             | 8 window annunciator   |       |           |                             |                   |
|             | 1- No. Set of terminal block with 20% extra terminal for connection with 2.5 sq.mm 4 core copper conductor PVC insulated PVC sheathed copper cable from panel to transformer   |       |           |                             |                   |

| S.No.       | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|-------|-----------|-----------------------------|-------------------|
|             | <b>HT Panel as mentioned above</b>   | Set   | 1         | 475000                      | 475000            |
| <b>1.02</b> | <b>TRANSFORMER</b>   |       |           |                             |                   |
|             | Supply, installation, testing and commissioning of 630 kVA, 11/0.433 kV, 3 Phase, 4 wire, 50 Hz., ON-AN Transformer Vector group copper bound Class F insulation with outdoor duty type off load tap changer on HV Side range -7.5% ,0, +5% in the steps of 2.5% per step. Cable box connection at primary and secondary end (LT side) shall be connected through CABLE, complete with all accessories including first filling of oil, double float buchholz relay protection, high winding temperature, oil temperture sensors and gauges etc. confirming to IS 2026 (Part -1 & Part -2 ) including interconnection of control cables,as per detailed technical specifications and as required. |       |           |                             |                   |
|             | <b>Transformer as mentioned above</b>  | Set   | 1         | 864500                      | 864500            |
| <b>1.03</b> | <b>H.T. CABLE</b>  |       |           |                             |                   |
|             | Supply of following sizes of 11 kV grade 3 Core aluminium conductor XLPE armoured power cable as per IS : 7098.  |       |           |                             |                   |
|             | i) 3 Core, 185 sq mm   | Meter | 500       | 1629                        | 814500            |
| <b>1.04</b> | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.  |       |           |                             |                   |
|             | i) upto 185 Sq mm  | Meter | 400       | 243                         | 97200             |
| <b>1.05</b> | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.   |       |           |                             |                   |
|             | i) upto 185 Sq mm  | Metre | 50        | 50                          | 2500              |
| <b>1.06</b> | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct /cable trayas required.  |       |           |                             |                   |
|             | i) upto 185 Sq mm  | Metre | 50        | 43                          | 2150              |
| <b>1.07</b> | Supplying and making end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size 3 Core, XLPE aluminium conductor cable of 11kV grade as required.  |       |           |                             |                   |
|             | i) 185 sqmm 3 core (Heat Shrunken Type ) Indoor Type   | Each  | 4         | 6657                        | 26628             |
|             | ii) 185 sqmm 3 core (Heat Shrunken Type ) Outdoor Type   | Each  | 2         | 8930                        | 17860             |

| S.No.       | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|---|-------|-----------|-----------------------------|-------------------|
| <b>1.08</b> | Supplying and laying of 150 mm dia Double Walled Corrugated HDPE pipe as per IS 14930 with fittings and clamps etc as reqd.   |       |           |                             |                   |
|             | i) 150 mm dia   | Metre | 20        | 1247                        | 24940             |
| <b>1.09</b> | Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required.  |       |           |                             |                   |
|             | i) 300 mm dia   | Metre | 20        | 503                         | 10060             |
|             | ii) 250 mm dia  | Metre | 20        | 403                         | 8060              |
| <b>1.10</b> | S/laying of G.I pipe with required socket underground at the depth of 750 mm below complete in all respect.   |       |           |                             |                   |
|             | i) 100 mm dia   | Meter | 100       | 903                         | 90300             |
| <b>1.11</b> | <b>Providing &amp; Fixing of Safety Equipment</b>   |       |           |                             |                   |
|             | i) Supply and fixing HT & LT Danger Board Fabricated from 10 Gauge M.S Sheet as per I.E. rules  | Each  | 4         | 85                          | 340               |
|             | ii) Supply & erection of the following Safety and testing Equipment including miscellaneous items like Clamps, nuts & Bolts, rawl plugs etc as sub-e laces in the Substation building as required.  |       |           |                             |                   |
|             | a) Supply and Installation of Fire Buckets 13, round bottom made of G.I Sheet 9-11 litre capacity, duly painted as per fire brigade design, supported on hanging bracket chained and locked, initially filled with fine river sand, water as per directions of Engineer-in-charge | SET   | 3         | 336                         | 1008              |
|             | b) Supply and fixing of Carbon Dioxide (Co2) type fire Extinguishers 6.5 Kg Capacity (ISI Marked IS : 2878 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.                            | Each  | 10        | 13408                       | 134080            |
|             | c) Supply and fixing of fire Extinguishers, dry chemical type 5.00 Kg Capacity (ISI Marked IS : 2171 & TAC approved) complete with initial charge and wall bracket, along with supply of all materials and labour for proper completion of work.                                  | Each  | 2         | 3978                        | 7956              |
|             | d) Supplying, storing, handling and fixing in position First Aid Medical Box complete as per technical specifications as required.  | Each  | 1         | 1079                        | 1079              |
|             | e) Shock treatment Chart (Prescribed under I.E rules duly framed with glass and supported from back with hard board or soft board with supply of all material labour labour T & P for proper Completion of work.  | Each  | 2         | 224                         | 448               |
|             | f) Supplying and laying of 1800 mm X 900mmx12mm thick chequered type rubber matting of testes quality.  | Each  | 10        | 2219                        | 22190             |

| S.No. | Description.   | Unit. | TOTAL QTY | Rate in Figures (in Rs.) | Amount (in Rs) |
|-------|--|-------|-----------|--------------------------|----------------|
| 1.12  | Providing and fixing of M.S Slotted angle iron with fixing materials and painting for cable racks in trenches /on wall etc. as required  | KG    | 100       | 67                       | 6700           |
| 1.13  | Providing and fixing of M.S Slotted angle 'C' channel /Ladder type rack /tray includingn fixing material grouted in wall or haning with M.S rod hanger from ceiling including 2 coat synthetic enamel painting over 1 coat of res oxide primer etc. as required  | KG    | 100       | 143                      | 14300          |
| 1.14  | Fabrication and Installing following size of preforted M.S Cable tray including Horizontal and vertical bends, reducers,tee, crossmember and other accessories as required and duly Suspended from the ceiling with M.S 12mm rod suspenders and including painting etc. as required.   |       |           |                          |                |
|       | i) 150mmwidth x 50mm depth x1.6mm thickness  | Metre | 20        | 433                      | 8660           |
|       | ii) 450mmwidth x 50mm depth x2.0mm thickness   | Metre | 20        | 1047                     | 20940          |
|       | iii) 600mmwidth x 50mm depth x2.0mm thickness  | Metre | 20        | 1809                     | 36180          |
|       | <b>TOTAL SUBHEAD 1: H.T. SUB STATION as mentioned above</b>  |       |           |                          | <b>2687579</b> |
| 2.00  | <b>SUBHEAD 2: MAIN LT PANEL.</b>   |       |           |                          |                |
| 2.01  | <b>MAIN L.T. PANEL</b>   |       |           |                          |                |
|       | Supply, installation, testing and commissioning of LT Panel, cubicle type, totally enclosed, free standing type, dust ,damp and vermin proof panel , powder coated, made up of CRCA sheet, complete with aluminum busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, and having incoming and outgoing switchgears with cable alley in front as mentioned below and complete as per technical specifications and as required. |       |           |                          |                |
|       | <b>Note :</b>  |       |           |                          |                |
|       | 1 All ACBs shall have spare contacts   |       |           |                          |                |
|       | 2 All relays to operate at 240Volts, Single phase, 50Hz., AC supply.   |       |           |                          |                |
|       | 3 All ACBs shall have Ics=Icu=Icw=50KA for 1 second.   |       |           |                          |                |
|       | 4 All MCCBs shall have Ics=Icu .   |       |           |                          |                |
| A.    | <b>INCOMER:</b>  |       |           |                          |                |
|       | i) <b>1No. ACB Panels each having following:</b>   |       |           |                          |                |
|       | 1000 A, 415/500V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit & earth Fault trip including under voltage release and lockable trip push button. ACB should have Icw=Ics = 50 KA for 1 sec.   |       |           |                          |                |
|       | Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB   |       |           |                          |                |
|       | Push button to CLOSE the ACB.  |       |           |                          |                |

| S.No.       | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|-------|-----------|-----------------------------|-------------------|
|             | R, Y & B Phase indicating lamps (LED type) with 2A control SP MCBs   |       |           |                             |                   |
|             | 1 No. 0 to 500 V Digital voltmeter with selector switch.   |       |           |                             |                   |
|             | Digital Ampere Metre with ASS and Digital Energy meter with suitable set of CT's   |       |           |                             |                   |
|             | One set of dual core dual ratio CT of 1000/500/5/5A for capacitor panel.   |       |           |                             |                   |
| <b>B.</b>   | <b>BUSBARS :</b>   |       |           |                             |                   |
|             | 1250 Amps Phase Four Pole busbars of aluminum.   |       |           |                             |                   |
| <b>C.</b>   | <b>OUTGOING.</b>   |       |           |                             |                   |
|             | <b>All Outgoing Should Have Following</b>  |       |           |                             |                   |
|             | <b>1</b> Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.   |       |           |                             |                   |
|             | <b>2</b> Indicating lamps (LED Type) with 2A protection MCBs to indicate ON, OFF, TRIP .   |       |           |                             |                   |
|             | <b>3</b> Digital Ampere Metre of suitable range with suitable set of CT's and ASS.   |       |           |                             |                   |
|             | <b>4</b> Digital Energy meter  |       |           |                             |                   |
|             | <b>i) 2 Nos. - 630Amp 415 volts, 35 KA ( Ics) TP+NL MCCB with variable current settings and having microprocessor based O/L, S/C &amp; E/F protection release.</b> |       |           |                             |                   |
|             | <b>ii) 2 Nos.- 400Amp 415 volts, 35 KA ( Ics) TP+NL MCCB with variable current settings and having microprocessor based O/L, S/C &amp; E/F protection release.</b> |       |           |                             |                   |
|             | <b>iii) 2 Nos. -250Amp 415 volts, 35 KA (Isc), TP+NL MCCB with thermal magnetic release having variable current settings .</b>                                     |       |           |                             |                   |
|             | <b>iv) 2 Nos. - 160Amp 415 volts, 35 KA (Isc), TP+NL MCCB with thermal magnetic release having variable current settings .</b>                                     |       |           |                             |                   |
|             | <b>v) 5 Nos. - 100 Amp 415 volts, 25 KA (Isc), TP+NL MCCB with thermal magnetic release having variable current settings .</b>                                     |       |           |                             |                   |
|             | <b>vi) 3 Nos. -63 Amp 415 volts,16 KA (Isc), TP+NL MCCB with thermal magnetic release having variable current settings .</b>                                       |       |           |                             |                   |
|             | <b>Main LT Panel as mentioned above.</b>   | Set   | 1         | 877135                      | 877135            |
| <b>2.02</b> | <b>CAPACITOR PANEL</b>   |       |           |                             |                   |
|             | <b>CAPACITOR PANEL 250 KVAR</b>  |       |           |                             |                   |

| S.No. | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|--|-------|-----------|-----------------------------|-------------------|
|       | Supply, installation, testing and commissioning of M.V. cubicle type totally enclosed free standing type, powder coated, dust, damp and vermin proof Capacitor Panel complete with busbars, M.V. danger notice plate, ammeter, ammeter selector switch, indicating lamps, CT's, Ultra heavy duty, APP type Capacitors suitable for non linear loads upto 20% with 14% D-tunned reactors, operating losses of capacitor shall not more than 0.45 W / KVAR, Power contactors suitable for capacitor switching or Capacitor duty with current limiting contactor circuit to suppress switching inrush current interconnections with suitable capacity aluminium leads/solid aluminium strips, rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as per technical Specification as required. |       |           |                             |                   |
|       | <b>A. INCOMER :</b>  |       |           |                             |                   |
|       | 500Amp 415 volts, 50 KA ( Ics= Icu) TP MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.  |       |           |                             |                   |
|       | Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.  |       |           |                             |                   |
|       | Indicating lamps (LED Type) with 6A protection MCBs to indicate ON, OFF, TRIP .  |       |           |                             |                   |
|       | 1 No. 0 to 500 V Digital voltmeter with selector switch.   |       |           |                             |                   |
|       | Digital ammeter with selector switch with one set Suitable C.Ts.   |       |           |                             |                   |
|       | Day & Night mode selector switch   |       |           |                             |                   |
|       | Suitable steps Intelligent microprocessor based Automatic Power factor Correction relay having measurment sensitivity of 1 % or better.  |       |           |                             |                   |
|       | Extension of incoming busbars for connection of multicore armoured aluminium cables.   |       |           |                             |                   |
|       | <b>B. METERING :</b>   |       |           |                             |                   |
|       | 1 set of digital Amp. Meter, digital Power factor meter and Digital voltmeter  |       |           |                             |                   |
|       | <b>C. BUSBARS :</b>  |       |           |                             |                   |
|       | 630 Amp FP busbars of aluminum   |       |           |                             |                   |
|       | <b>D. OUTGOINGS :</b>  |       |           |                             |                   |
|       | <b>i) 3 Nos . MCCB as per following details/ specification:</b>  |       |           |                             |                   |
|       | 100 Amps, 415 volts, 25 KA, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to supress switching inrush current.  |       |           |                             |                   |
|       | ON/ OFF delay timers for switching capacitor circuit.  |       |           |                             |                   |



| S.No.       | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|-------|-----------|-----------------------------|-------------------|
|             | "ON" and "OFF" LED indicating lamp and 2A control SP MCBs  |       |           |                             |                   |
|             | Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.            |       |           |                             |                   |
|             | 50 kVAR Ultra heavy duty APP type Capacitors suitable for non linear loads upto 20%, operating losses not more than 0.45 W per KVAR .                              |       |           |                             |                   |
|             | <b>ii) 3 Nos . MCCB as per following details/ specification:</b>   |       |           |                             |                   |
|             | 63 Amps, 415 volts, 25 KA, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to suppress switching inrush current |       |           |                             |                   |
|             | ON/ OFF delay timers for switching capacitor circuit.  |       |           |                             |                   |
|             | "ON" and "OFF" LED indicating lamp and 2A control SP MCBs  |       |           |                             |                   |
|             | Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.            |       |           |                             |                   |
|             | 25 kVAR Ultra heavy duty APP type Capacitors suitable for non linear loads upto 20%, operating losses not more than 0.45 W per KVAR .                              |       |           |                             |                   |
|             | <b>iii) 3 Nos . MCCB as per following details/ specification:</b>  |       |           |                             |                   |
|             | 32 Amps, 415 volts, 25 KA, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to suppress switching inrush current |       |           |                             |                   |
|             | ON/ OFF delay timers for switching capacitor circuit.  |       |           |                             |                   |
|             | "ON" and "OFF" LED indicating lamp and 2A control SP MCBs  |       |           |                             |                   |
|             | Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.            |       |           |                             |                   |
|             | 10 kVAR Ultra heavy duty APP type Capacitors suitable for non linear loads upto 20%, operating losses not more than 0.45 W per KVAR .                              |       |           |                             |                   |
|             | <b>Capacitor panel as mentioned above.</b>   | Set   | 1         | 570000                      | 570000            |
|             | <b>TOTAL SUBHEAD 2:MAIN LT PANEL as mentioned above</b>  |       |           |                             | <b>1447135</b>    |
| <b>3.00</b> | <b>SUBHEAD 3 : DG SET &amp; ACCESSORIES</b>  |       |           |                             |                   |
|             | <b>DG SET OF 125 KVA</b>   |       |           |                             |                   |

| S.No. | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|--|-------|-----------|-----------------------------|-------------------|
|       | Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 125 KVA Prime Power Ratings , 415 volt at 1500 RPM, 0.8 power factor suitable for 50 Hz, 3 phase system , suitable bhp, Water cooled Radiator type diesel engine- alternator set mounted on common base frame, return fuel cooler, battery & battery charger, Anti Vibration mounting pads, Engine alternator safeties, electronic governor including all accessories, their wiring and control cable between DG set and panel etc. is also in the scope of supply, including its connections etc. complete as per technical specification. DG set should be PLC/PC compatible. This includes the following: |       |           |                             |                   |
|       | - Supplying and fixing of suitable sizes Heavy class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe chimney as per CPCB norms for exhaust of DG sets.  |       |           |                             |                   |
|       | - Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 24 gauge aluminium sheet cladding etc. as required for the under mentioned dia pipe.   |       |           |                             |                   |
|       | - Supply, installation, testing and commissioning of suitable size fuel pipe for connecting diesel engine to individual day service tank including supply and fixing of required valves & filters etc. as required.  |       |           |                             |                   |
|       | - Fabrication of supports for exhaust pipe, fuel pipe or for any other purpose out of suitable M.S. structural steel including supplying and applying of enamel paint of approved shade after one coat of steel primer of reputed company.   |       |           |                             |                   |
|       | - Supplying and fixing of suitable capacity cable adapter box for alternator.  |       |           |                             |                   |
|       | - Providing and fixing oil tank of 990 litres capacity complete with suitable M.S. fabricated MS stand oil level indicator gauge tank and stand duly painted, complete with float switches etc. as required.   |       |           |                             |                   |
|       | - Factory assembled Sound proof Canopy as per pollution control board requirement to achieve noise level desired during night condition, with base frame, doors, inspection window, fresh air supply fans etc  |       |           |                             |                   |
|       | - Any other item required for completion of system above (D.G. set).   |       |           |                             |                   |
|       |  |       |           |                             |                   |
|       | <b>A. DG AMF PANEL</b>   |       |           |                             |                   |
|       | Supply, installation, testing and commissioning of AMF Panel for above 125 KVA DG Set cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of 14/ 16SWG CRCA sheet, (load bearing members 14 SWG and doors 16 SWG) ,complete with aluminum busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coated and having capacity to change over Main power and DG supply .  |       |           |                             |                   |
|       | DG should start automatically and will have automatic change over at LT panel through auto change over arrangement of suitable capacity in the panel.  |       |           |                             |                   |
|       | Indicating lamps with 6A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB   |       |           |                             |                   |

| S.No.       | Description.   | Unit.      | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|------------|-----------|-----------------------------|-------------------|
|             | Push button to CLOSE the ACB.  |            |           |                             |                   |
|             | 1 set of suitable set of CT for measurement and protection.  |            |           |                             |                   |
|             | R, Y & B Phase indicating lamps (LED type) with 6A control SP MCBs   |            |           |                             |                   |
|             | 1 set of Digital multi function meter with LCD display and measurement of parameters like voltages, currents, p.f, frequency, active and reactive power and energies etc                 |            |           |                             |                   |
|             | <b>B. AMF panel should have following protection and AMF components for above mentioned DG set.</b>  |            |           |                             |                   |
|             | - Auto/manual/test/off selector switch   |            |           |                             |                   |
|             | - 2 Nos over voltage relay, 2 nos. reverse power relay and 2 nos. under voltage relay.   |            |           |                             |                   |
|             | - 3 sets of current transformers 15 P 10 accuracy for protection and 15 VA class -1 for metering   |            |           |                             |                   |
|             | - Energy analyzer unit to indicate current voltage frequency power factor and KWH  |            |           |                             |                   |
|             | - Indicating lamps for load on mains and load on set.  |            |           |                             |                   |
|             | - Fuse for instruments.  |            |           |                             |                   |
|             | - Battery charger, complete with transformer/rectifier, DC voltmeter and ammeter, selector switch for trickle, off and boost the current adjustment.                                     |            |           |                             |                   |
|             | - Main supply failure monitor.   |            |           |                             |                   |
|             | - Restoration timer.   |            |           |                             |                   |
|             | - Control unit with three impulse automatic engine start / stop and failure to start lockout.  |            |           |                             |                   |
|             | - Impulse counter with locking and reset facility.   |            |           |                             |                   |
|             | - On/Off/ Control circuit switch with indicator.   |            |           |                             |                   |
|             | - Audio/ Video annunciation for :  |            |           |                             |                   |
|             | a) High winding temperature.   |            |           |                             |                   |
|             | b) Low lubricating oil pressure  |            |           |                             |                   |
|             | c) Engine over speed   |            |           |                             |                   |
|             | d) Engine fails to start   |            |           |                             |                   |
|             | e) Full load/ maximum load warning.  |            |           |                             |                   |
|             | <b>C. ENCLOSURE :</b>  |            |           |                             |                   |
|             | Fabrication, PVC Sleeving, Control/Power Wiring and necessary electrical/ mechanical interlocking etc any other item required for proper functioning of the system complete as required. |            |           |                             |                   |
|             | <b>DG SET WITH AMF Panel as mentioned above</b>  | <b>Set</b> | <b>1</b>  | <b>945678</b>               | <b>945678</b>     |
| <b>3.02</b> | <b>SOUND PROOF DG SETS OF 62.5 KVA.<br/>DG SET OF 62.5 KVA.</b>  |            |           |                             |                   |

| S.No. | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|--|-------|-----------|-----------------------------|-------------------|
|       | Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 62.5 KVA Prime Power Ratings , 415 volt at 1500 RPM, 0.8 power factor suitable for 50 Hz, 3 phase system , suitable bhp,Water cooled Radiator type diesel engine- alternator set mounted on common base frame, return fuel cooler, battery & battery charger, Anti Vibration mounting pads, Engine alternator safeties, electronic governor including all accessories, their wiring and control cable between DG set and panel etc. is also in the scope of supply, including its connections etc. complete as per technical specification. DG set should be PLC/PC compatible. This includes the following: |       |           |                             |                   |
|       | - Supplying and fixing of suitable sizes Heavy class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe chimney as per CPCB norms for exhaust of DG set.   |       |           |                             |                   |
|       | - Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 24 gauge aluminium sheet cladding etc. as required for the under mentioned dia pipe.   |       |           |                             |                   |
|       | - Supply, installation, testing and commissioning of suitable size fuel pipe for connecting diesel engine to individual day service tank including supply and fixing of required valves & filters etc. as required.  |       |           |                             |                   |
|       | - Fabrication of supports for exhaust pipe, fuel pipe or for any other purpose out of suitable M.S. structural steel including supplying and applying of enamel paint of approved shade after one coat of steel primer of reputed company.   |       |           |                             |                   |
|       | - Supplying and fixing of suitable capacity cable adapter box for alternator.  |       |           |                             |                   |
|       | - Providing and fixing oil tank of 990 litres capacity complete with suitable M.S. fabricated MS stand oil level indicator gauge tank and stand duly painted, complete with float switches etc. as required.   |       |           |                             |                   |
|       | - Factory assembled Sound proof Canopy as per pollution control board requirement to achieve noise level desired during night condition, with base frame, doors, inspection window, fresh air supply fans etc  |       |           |                             |                   |
|       | - Any other item required for completion of system above (D.G. set). In Case Of Heat exchanger type, Cooling tower as per Manufacturing Recommendation including its pump , connection to heat exchange etc Complete as required in ready to use condition is in the scope of the contractor in place of Radiator.   |       |           |                             |                   |
|       | <b>A. DG AMF PANEL</b>   |       |           |                             |                   |
|       | Supply, installation, testing and commissioning of AMF Panel for above 62.5 KVA DG Set cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of 14/ 16SWG CRCA sheet, (load bearing members 14 SWG and doors 16 SWG) ,complete with aluminum busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coated and having capacity to change over Main power and DG supply .   |       |           |                             |                   |
|       | DG should start automatically and will have automatic change over at LT panel through auto change over arrangement of suitable capacity in the panel.  |       |           |                             |                   |

| S.No.       | Description.   | Unit.      | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|------------|-----------|-----------------------------|-------------------|
|             | Indicating lamps with 6A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB  |            |           |                             |                   |
|             | Push button to CLOSE the ACB.  |            |           |                             |                   |
|             | 1 set of suitable set of CT for measurement and protection.  |            |           |                             |                   |
|             | R, Y & B Phase indicating lamps (LED type) with 6A control SP MCBs   |            |           |                             |                   |
|             | 1 set of Digital multi function meter with LCD display and measurement of parameters like voltages, currents, p.f, frequency, active and reactive power and energies etc                 |            |           |                             |                   |
|             | <b>B. AMF panel should have following protection and AMF components for above mentioned DG set.</b>  |            |           |                             |                   |
|             | - Auto/manual/test/off selector switch   |            |           |                             |                   |
|             | - 2 Nos over voltage relay, 2 nos. reverse power relay and 2 nos. under voltage relay.   |            |           |                             |                   |
|             | - 3 sets of current transformers 15 P 10 accuracy for protection and 15 VA class -1 for metering   |            |           |                             |                   |
|             | - Energy analyzer unit to indicate current voltage frequency power factor and KWH  |            |           |                             |                   |
|             | - Indicating lamps for load on mains and load on set.  |            |           |                             |                   |
|             | - Fuse for instruments.  |            |           |                             |                   |
|             | - Battery charger, complete with transformer/rectifier, DC voltmeter and ammeter, selector switch for trickle, off and boost the current adjustment.                                     |            |           |                             |                   |
|             | - Main supply failure monitor.   |            |           |                             |                   |
|             | - Restoration timer.   |            |           |                             |                   |
|             | - Control unit with three impulse automatic engine start / stop and failure to start lockout.  |            |           |                             |                   |
|             | - Impulse counter with locking and reset facility.   |            |           |                             |                   |
|             | - On/Off/ Control circuit switch with indicator.   |            |           |                             |                   |
|             | - Audio/ Video annunciation for :  |            |           |                             |                   |
|             | a) High winding temperature.   |            |           |                             |                   |
|             | b) Low lubricating oil pressure  |            |           |                             |                   |
|             | c) Engine over speed   |            |           |                             |                   |
|             | d) Engine fails to start   |            |           |                             |                   |
|             | e) Full load/ maximum load warning.  |            |           |                             |                   |
|             | <b>C. ENCLOSURE :</b>  |            |           |                             |                   |
|             | Fabrication, PVC Sleeving, Control/Power Wiring and necessary electrical/ mechanical interlocking etc any other item required for proper functioning of the system complete as required. |            |           |                             |                   |
|             | <b>DG SET WITH AMF Panel as mentioned above</b>  | <b>Set</b> | <b>1</b>  | <b>651463</b>               | <b>651463</b>     |
|             | <b>TOTAL SUBHEAD 3: DG SETS</b>  |            |           |                             | <b>1597141</b>    |
| <b>4.00</b> | <b>SUBHEAD 4: FLOOR PANELS</b>   |            |           |                             |                   |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
|       | Supply, installation, testing and commissioning of following FLOOR PANELS wall mounted/free standing type totally enclosed, powder coated, dust, damp and vermin proof, indoor type complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as per technical specification and as required.   |       |           |                             |                   |
| 4.01  | <b>A) FLOOR PANEL (NORMAL SUPPLY )</b>  |       |           |                             |                   |
|       | <b>INCORDER:</b> 1 no 630 Amp 415 volts, 35 KA (Ics= Icu), FP microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release. Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. R,Y&B phase indicating lamp (LED type) with 6A control SP MCB . ON, OFF, TRIP indication for MCCB with 6A Control SP MCB. 1 No. 0 to 500 V Digital voltmeter with selector switch and Digital ammeter with selector switch with one set of C.Ts.                         |       |           |                             |                   |
|       | <b>a)</b>   |       |           |                             |                   |
|       | <b>b) BUSBARS:</b> 800 Amp FP Aluminium busbars   |       |           |                             |                   |
|       | <b>c) OUTGOING:</b> 20 nos. 63 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.   |       |           |                             |                   |
|       | <b>GROUND FLOOR as mentioned above</b>  | SET   | 1         | 153306                      | 153306            |
| 4.02  | <b>GROUND FLOOR (Emergency Supply)</b>  |       |           |                             |                   |
|       | <b>INCORDER 1:</b> 1 no.250 Amp 415 volts, 35 KA (Isc=Icu), Motorized FP MCCB with thermal magnetic release having variable current settings .Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. R,Y&B phase indicating lamp (LED type) with 6A control SP MCB . ON, OFF, TRIP indication for MCCB with 6A Control SP MCB. 1 No. 0 to 500 V Digital voltmeter with selector switch , Digital ammeter with selector switch with one set of C.Ts. & Digital energy meter , with necessary interconnection as required . |       |           |                             |                   |
|       | <b>i)</b>   |       |           |                             |                   |
|       | <b>INCORDER 2:</b> 1 nos.160 Amp 415 volts, 35 KA (Isc), Motorized FP MCCB with thermal magnetic release having variable current settings .Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. R,Y&B phase indicating lamp (LED type) with 6A control SP MCB . ON, OFF, TRIP indication for MCCB with 6A Control SP MCB. 1 No. 0 to 500 V Digital voltmeter with selector switch , Digital ammeter with selector switch with one set of C.Ts & Digital energy meter , with necessary interconnection as required .     |       |           |                             |                   |

| S.No.       | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|--|-------|-----------|-----------------------------|-------------------|
| b)          | <b>BUS COUPLER :</b> 1 no.250 Amp 415 volts, 35 KA (Isc=Icu), Motorized FP MCCB with thermal magnetic release having variable current settings .Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.Indicating lamps (LED Type) with 2A protection MCBs to indicate ON, OFF, TRIP Digital Ampere Metre of suitable range with suitable set of CT's and ASS.& Digital energy meter , with necessary interconnection as required . |       |           |                             |                   |
| c)          | <b>BUSBARS:</b> 400 Amp TPN Aluminium busbars  |       |           |                             |                   |
| d)          | <b>OUTGOING:</b>   |       |           |                             |                   |
| i)          | 3 nos 100 Amp 415 volts, 25 KA (Isc=Icu), TP+NL MCCB with thermal magnetic release having variable current settings .Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers with 6A control SP MCB . ON, OFF, TRIP indication for MCCB with 6A Control SP MCB. Digital ammeter with selector switch with one set of C.Ts. and Digital Energy Meter  |       |           |                             |                   |
| ii)         | 3 nos 63 Amp 415 volts, 25 KA (Isc=Icu), TP+NL MCCB with thermal magnetic release having variable current settings .Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. ON, OFF, TRIP indication for MCCB with 6A Control SP MCB. and Digital ammeter with selector switch with one set of C.Ts.and Digital Energy Meter  |       |           |                             |                   |
| iii)        | 4 no. 63 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.  |       |           |                             |                   |
| iv)         | 20 no. 40 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.   |       |           |                             |                   |
| v)          | 3 no.40Amps , 240, 9 KA ,Double Pole, Miniature Circuit Breaker.   |       |           |                             |                   |
| vi)         | 3 no.63 Amps , 240, 9 KA ,Double Pole, Miniature Circuit Breaker.  |       |           |                             |                   |
|             | <b>GROUND FLOOR (Emergency Supply) as mentioned above</b>  | Set   | 1         | 373217                      | 373217            |
|             | <b>TOTAL SUB HEAD 4 : FLOOR PANEL as mentioned above</b>   |       |           |                             | <b>526523</b>     |
|             | <b>SUBHEAD 5: MCB DISTRIBUTION BOARDS.</b>   |       |           |                             |                   |
| <b>5.00</b> | <b>MCB DISTRIBUTION BOARD</b>  |       |           |                             |                   |
| <b>5.01</b> | i) S/F of surface/flush mounting 4 ways TPN distribution board (Legrand Lexic) without MCB with additional metal door complete in all respect and as directed at site.   | Each  | 14        | 2819                        | 39466             |

| S.No. |     | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|-----|---|-------|-----------|-----------------------------|-------------------|
|       | ii  | S/F of surface/flush mounting 6 ways TPN distribution board without (Legrand Lexic) MCB with additional metal door complete in all respect and as directed at site.                                 | Each  | 5         | 3402                        | 17010             |
|       | iii | S/F of surface/flush mounting 8 ways TPN distribution board (Legrand Lexic) without MCB with additional metal door complete in all respect and as directed at site.                                 | Each  | 20        | 4114                        | 82280             |
| 5.02  | i   | S/fixing of MS loose wire box 200 X 250 X 75 mm deep made from 16 SWG MS sheet complete with 3 mm thick phenolic sheet cover.   | Each  | 14        | 181                         | 2534              |
|       | ii  | S/fixing of MS loose wire box 250 x 300 X 75 mm deep made from 16 SWG MS sheet complete with 3 mm thick phenolic sheet cover.   | Each  | 5         | 271                         | 1355              |
|       | iii | S/fixing of MS loose wire box 300 x 450 X 75 mm deep made from 16 SWG MS sheet complete with 3 mm thick phenolic sheet cover.   | Each  | 20        | 361                         | 7220              |
| 5.03  |     | S/F of surface/flush mounting 8 ways SPN distribution board (Legrand Lexic )without MCB with additional metal door complete in all respect and as directed at site.                                 | Each  | 10        | 1187                        | 11870             |
| 5.04  |     | S/F of 6 Amp. to 32 Amp SPMCB (10KA) Legrand Lexic  | Each  | 818       | 219                         | 179142            |
| 5.05  |     | S/F of 40Amp. 4P MCB (10KA) Legrand Lexic   | Each  | 14        | 1967                        | 27538             |
| 5.06  |     | S/F of 63Amp. 4P MCB (10KA) Legrand Lexic   | Each  | 24        | 1967                        | 47208             |
| 5.07  |     | Supplying & Fixing and making connection of following rating, Four pole, 30mA ELCB /RCCB of Din Rail Mounting Complete in all respect as per Direction and saifsaction to the Engineer in charge.   |       |           |                             |                   |
|       | i)  | 25 Amps   | Each  | 2         | 3029                        | 6058              |
|       | i)  | 40 Amps   | Each  | 16        | 3083                        | 49328             |
|       | ii) | 63 Amps   | Each  | 16        | 3283                        | 52528             |
| 5.08  |     | S/F of 40Amp. DP MCB (10KA) Legrand Lexic   | Each  | 10        | 997                         | 9970              |
| 5.09  |     | S/F of 63Amp. DP MCB (10KA) Legrand Lexic   | Each  | 2         | 997                         | 1994              |
| 5.10  |     | Supplying & Fixing and making connection of following rating, double pole, 30mA ELCB /RCCB of Din Rail Mounting Complete in all respect as per Direction and saifsaction to the Engineer in charge. |       |           |                             |                   |
|       | i)  | 40amp   | Each  | 2         | 2210                        | 4420              |



| S.No. |     | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|-----|--|-------|-----------|-----------------------------|-------------------|
|       | ii) | 63 amps  | Each  | 2         | 2738                        | 5476              |
| 5.11  |     | Supplying and fixing Single pole Blanking plate in the existing MCB DB complete as required.   | Each  | 30        | 9                           | 270               |
|       |     | <b>TOTAL SUB HEAD-5: MCB DISTRIBUTION BOARDS as mentioned above.</b>   |       |           |                             | <b>545667</b>     |
| 6.00  |     | <b>SUBHEAD 6: WIRING<br/>WIRING</b>  |       |           |                             |                   |
| 6.01  |     | Wiring point for light with 1 sq. mm. FR PVC insulated multistrand single core copper conductor cable in heavy (wage rigid steel conduit pipe partly concealed in the wall & partly laid in slab along with the reinforcement before concreting, complete with 14 SWG copper earth continuity wire, modular type switch , GI modular type box & ceiling rose /angle (batten holder on 3mm thick phenolic laminated backelite sheet etc.complete in all respects, as directed including matching colour wash. | Each  | 1200      | 843                         | 1011600           |
| 6.02  |     | Same as above but for 5 A plug point on board (inclusive of Supply of 5 Amp Switch and Socket)   | Each  | 110       | 557                         | 61270             |
| 6.03  |     | Same as above but for call bell point.   | Each  | 15        | 832                         | 12480             |
| 6.04  |     | same as above but for exhaust fan with 1.5 sqm   | Each  | 40        | 1214                        | 48560             |
| 6.05  |     | same as above but for ceiling fan / fresh air fan  | Each  | 255       | 942                         | 240210            |
| 6.06  |     | same as above but for 2 Way light point  | Each  | 45        | 1045                        | 47025             |
| 6.07  |     | Wiring for seperate plug point with 1.5 sq. mm. FR PVC insulated multistrand single core copper conductor cable in heavy guage rigid steel conduit pipe partly concealed in the wall & partly laid in slab along with the reinforcement before concreting, complete with 1.5 sq.mm copper earth continuity wire, modular type switch , GI modular type box & a terminal ceiling rose (angle /batten holder complete in all respects, as directed including matching colour wash.                             | Each  | 115       | 606                         | 69690             |
| 6.08  | i   | Supply and wiring of submain with 2X 2.5 sq.mm. FR PVC insulated 1100 V grade multistrand single core copper conductor cable in 20 mm dia in Heavy guage rigid steel conduit partly laid in slab and partly concealed in wall, with one no.14 SWG copper earth continuity wire etc, complete in all respects including matching colour wash.   | Meter | 3513      | 182                         | 639275            |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
| ii    | Same as above but for 2 X 1.5 sq.mm copper wire and one no.14 SWG copper earth continuity wire  | Meter | 1725      | 166                         | 286350            |
| iii   | Same as above but for 2X 4.0 sq.mm copper wire and one no.14 SWG copper earth continuity wire   | Meter | 3735      | 203                         | 758205            |
| iv    | Same as above but for 2X 6.0 sq.mm copper wire and one no.14 SWG copper earth continuity wire   | Meter | 400       | 243                         | 97200             |
| v     | Same as above but for 2X 10.0 sq.mm copper wire and one no.14 SWG copper earth continuity wire  | Meter | 1000      | 352                         | 352000            |
| vi    | Same as above but for 4X 6.0 sq.mm copper wire and two no.14 SWG copper earth continuity wire   | Meter | 925       | 341                         | 315425            |
| vii   | Same as above but for 4X 10.0 sq.mm copper wire and two no.14 SWG copper earth continuity wire  | Meter | 350       | 621                         | 217350            |
| viii  | S/fixing of Hexagonal fan box 16 SWG, including phenolic fan sheet.   | Each  | 220       | 97                          | 21340             |
| 6.09  | Supplying and fixing of power plug, 5A /250 volt flush type switch, 3 pin 5A flush type universal modular socket, complete on concealed GI Box modular type including supply of all material, labour T& P etc. required for proper completion of work                                       | Each  | 115       | 342                         | 39330             |
| 6.10  | Supplying and fixing of power plug, 16A /250 volt flush type switch, 6 pin 16A flush type universal modular socket, complete on concealed GI Box modular type including supply of all material, labour T& P etc. required for proper completion of work                                     | Each  | 115       | 442                         | 50830             |
| 6.11  | Supplying and fixing of power plug, 10A /250 volt flush type switch, three nos 3 pin 5/6 A flush type universal modular socket, complete on concealed GI Box modular type including supply of all material, labour T& P etc. required for proper completion of work (computer point)        | Each  | 40        | 774                         | 30960             |
| 6.12  | Supplying and fixing of power plug 20A /250 volt flush type switch, one number 6 pin 16A flush and two nos 3 pin 5/6 amps type universal modular socket complete on concealed GI Box modular type including supply of all material, labour T& P etc. required for proper completion of work | Each  | 140       | 1007                        | 140980            |
| 6.13  | Supplying and fixing of power plug 20A /250 volt flush type switch 5 pin 20A flush type universal modular socket complete on concealed GI Box modular type including supply of all material, labour T& P etc. required for proper completion of work  | Each  | 15        | 500                         | 7500              |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
| 6.14  | S /F sheet steel enclosure surface /flush mounting fitted with 20 Amp. 2 pin and earth metal clad scraping earth plug and socket complete in all respect.including MCB (AC BOX)   | Each  | 40        | 571                         | 22840             |
| 6.15  | supplying and fixing of 63 amps 440 volts , TPN, Industrial type , socket outlets with metal enclosed plug Top along with 63 amp "c" series TP MCB in sheet steel enclouser ,on surface or in recess with chained metal cover for socket and complete with connection , testing and commisioning etc.as required.   | Each  | 4         | 1615                        | 6460              |
| 6.16  | supplying and fixing of 100 amps 440 volts , TPN, Industrial type , socket outlets with metal enclosed plug Top along with 100 amp "c" series TP MCB in sheet steel enclouser ,on surface or in recess with chained metal cover for socket and complete with connection , testing and commisioning etc.as required. | Each  | 3         | 1900                        | 5700              |
| 6.17  | supply and fixing of call bell ofapproved make on polished MDFEG /Teak wood board including making connection   | Each  | 20        | 133                         | 2660              |
| 6.18  | Supply and fixing of 16 ways bell Indicator on PMDFEG ./ Teak wood board including making connection etc. complete in all respects.   | Each  | 5         | 3159                        | 15795             |
|       | <b>TOTAL SUBHEAD: 6- WIRING as mentioned above</b>  |       |           |                             | <b>4501035</b>    |
|       | <b>SUBHEAD: 7 - LIGHT FIXTURE AND FANS</b>  |       |           |                             |                   |
| 7.00  | <b>LIGHT FIXTURES AND FANS</b>  |       |           |                             |                   |
| 7.01  | Supply of following light fixture with high efficiency electronic ballast, starter, tubes/lamps, capacitor, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.  |       |           |                             |                   |
| i     | Supply and Fixing of Factory wired, Box / Channel type T-5 enenrgy saver without reflector & with end cover for 1 no.s 28 watt t-5 lamp with 1x28 watt T-5 lamp complete in all respect (CAT AA )   | Each  | 322       | 1515                        | 487830            |
| ii    | Supply and Fixing 1X36 watt surface mounted type flourescent light fixture with opal acrylic diffuser (Philips TCS019 1XTL-D36W EBT or approved equivalent) (136AC1)  | Each  | 15        | 1995                        | 29925             |
| iii   | Supply and fixing of factory wired, Surface /Pendent Mounting extruded aluminium mirror optics fitting with electronic ballast & Bright anodized aluminium reflector designed for 2nos 28 wattT-5 lamp & with T-5 2 No. 28 watt lamp complete in all respect (CAT AA)   | Each  | 192       | 5051                        | 969792            |

| S.No.       |     | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------------|-----|---|-------|-----------|-----------------------------|-------------------|
|             | iv  | Supply and fixing of factory wired, industrial type tube light fitting of extruded aluminium channel & aluminium reflector with decorative plastic end covers and mounting brackets suitable for and with 1 nos 28 watt , T-5 lamp complete in all respect (CAT AA) | Each  | 305       | 2114                        | 644770            |
|             | v   | Supply and Fixing of 2X 36 watt recess mounted clean room flourscent light fixture with bottom opening and toughened glass (Philips TBS 670 2X36W TL-D FOP GT or approved equivalent). (236CRF)   | Each  | 71        | 9030                        | 641130            |
| <b>7.02</b> |     | Supply of following compact flourescent light fixture with electronic ballast, starter, capacitor, yellow light lamps, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.   |       |           |                             |                   |
|             | i   | Supply and fixing industrial bluk head type fitting of cast Aluminium body, having heat resistant glass cover and M.S Galvanized wire guard suitable for and with 9/10 watt CFL Complete in all respect. (CAT AA)   | Each  | 42        | 770                         | 32340             |
|             | ii  | Supply and Fixing of Factory wired, HPF box type, florescent tube light fitting Suitable for 1x18 watt decorative mirror fluroescent tube complete including tube etc. on surface complete in all respect   | Each  | 48        | 205                         | 9840              |
|             | iii | Supply and Fixing Batten /angle holder with complete in all respect.  | Each  | 30        | 42                          | 1260              |
|             | iv  | Supply and Fixing of Fancy type round ceiling fitting made of polycarbonate suitable for and 1 X18 watt CFL complete in all respect   | Each  | 110       | 897                         | 98670             |
|             | v   | Supply and Fixing of round ceiling fitting suitable for & with 1x9 watt CFL complete in all respect   | Each  | 44        | 1186                        | 52184             |
|             | vi  | S/fixing of 15 watt C.F.L.  | Each  | 20        | 159                         | 3180              |
| <b>7.03</b> | i   | Supply & Fixing of 1200mm Sweep Ceiling fan ISI Marked complete with fan down rod of required size  | Each  | 250       | 1425                        | 356250            |
|             | ii  | S/F of fan regulator modular type (2/3 Module)  | Each  | 250       | 628                         | 157000            |
|             | iii | Supply and fixing of fan hook fabricated M.S. rod for ceiling fan each.   | each  | 250       | 131                         | 32750             |

| S.No.  | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|--|--|-------|-----------|-----------------------------|-------------------|
| 7.04   | Supply and fixing of 300 mm sweep 900 RPM exhaust fan heavy duty with the help of MS fasteners, including making connections, making of hole in wall fixing of MS drum & MS louvers of required size                                     | Each  | 30        | 3012                        | 90360             |
| 7.05   | Supply and fixing of 400 mm Sweep 900 RPM exhaust fan heavy duty with the help of fasteners, including making connections, making of hole in wall fixing of MS drum & MS louvers of required size.                                       | Each  | 10        | 4836                        | 48360             |
| 7.06   | Supply of 400 mm sweep, crompton greaves model high flow 16" wall mounted fan complete with double ball bearing, motor, blades, capacitor etc suitable for single phase 230 volts, 50 Hz., AC supply, complete as required.              | Each  | 4         | 1805                        | 7220              |
| 7.07   | Installation, testing and commissioning of wall mounted fan up to 400 mm sweep including supply and fixing wall bracket arrangement complete as required.  | Each  | 4         | 95                          | 380               |
| <b>TOTAL SUBHEAD 7 : LIGHT FIXTURE &amp; FANS as mentioned above</b> |  |       |           |                             | <b>3663241</b>    |
| <b>SUB HEAD 8 : TELEPHONE SYSTEM.</b>                                |  |       |           |                             |                   |
| 8.00   | <b>TELEPHONE SYSTEM</b>  |       |           |                             |                   |
|  | Supplying drawing, connecting and testing of 0.5mm dia annealed copper conductor PVC insulated PVC sheathed telephone Wire/cables in Existing M.S/ PVC conduit or racks as required.   |       |           |                             |                   |
|  | i 2 pair Telephone cable. (0.5 sq mm)  | Meter | 800       | 22                          | 17600             |
| 8.01   | Supply and laying of 20mm dia heavy 16 SWG (1.5mm thick) rigid steel conduit ISI marked complete with bends,deep J/B.binding wire chuck nut and cotton waste In wall/slab before concreting etc. complete in all respects.               | Metre | 700       | 81                          | 56700             |
|  | ii Same as above but 25 mm dia rigid steel conduit   | Metre | 100       | 92                          | 9200              |
| 8.02   | Supply, fixing, connecting and testing of telephone modular sockets modular plate anodised MS box and blanking plate in surface / recessed including connectionetc as required.  |       |           |                             |                   |
|  | i Telephone socket outlet (RJ-11 telephone Jack Single with Shutter)   | Each  | 30        | 170                         | 5100              |
|  | ii Telephone socket outlet (RJ- 11 telephone Jack double with Shutter)   | Each  | 10        | 219                         | 2190              |
| 8.03   | Supplying, Installation, testing and commissioning of following sizes of telephone distribution board in M.S. hinged type lockable box duly painted complete with Krone type tag block etc. including terminations of cable as required. |       |           |                             |                   |
|  | i 50 Pair  | Each  | 1         | 2850                        | 2850              |
|  | ii 20 Pair   | Each  | 1         | 1900                        | 1900              |
|  | iii 10 Pair  | Each  | 6         | 1425                        | 8550              |

| S.No. | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|--|-------|-----------|-----------------------------|-------------------|
| 8.04  | Supplying and drawing of following pairs 0.5mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured telephone cable on surface/tray with saddels including termination of cables at both sides in Krone Tag Block etc. complete as required.   |       |           |                             |                   |
|       | i 10 Pair  | Metre | 100       | 200                         | 20000             |
|       | ii 20 Pair   | Metre | 50        | 285                         | 14250             |
| 8.05  | Supplying and drawing of following pairs 0.5 mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured jelly filled telephone cable in the existing trench/ hume pipe/ GI pipe etc with saddels etc. including terniation of cables in both sides at krone tag block complete as required.   |       |           |                             |                   |
|       | i 100 Pair   | Metre | 100       | 903                         | 90300             |
| 8.06  | EPABX System   |       |           |                             |                   |
|       | Supply, installation testing and commissioning of a digital EPABX system having 16 trunk lines (P&T Lines), 8 digital extensions and 96 analog extensions expandable type including software & FCBC of suitable capacity for eight hour back-up with SMF battries as approved by engineer incharge complete as per technical specifications & as required. Model as approved by Engieer incharge out of approved makes | Set   | 1         | 380000                      | 380000            |
| 8.07  | Supply, installation, testing and commissioning of Main Distribution Frame (MDF) crone type for above EPABX with box as per technical specifications and as required.  | Set   | 1         | 19000                       | 19000             |
| 8.08  | Supply, installation, testing and commissioning of analog push button type telephone instrument having hold-on and tone/pulse switch facility suitable for the connection with the above EPABX system complete as per technical specification and as required : Model as approved by Engieer incharge out of approved makes  | Set   | 40        | 1045                        | 41800             |
| 8.09  | Supply, installation, testing and commissioning of digital phone sets (KTS) with display, 12 storage keys and speaker suitable for the connection with the above EPABX system complete as per technical specification and as required : Model as approved by Engineer incharge out of approved makes   | Set   | 2         | 5605                        | 11210             |
|       | <b>SUB HEAD 8 : TELEPHONE SYSTEM &amp;EPABX as mentioned above.</b>  |       |           |                             | <b>680650</b>     |
|       | <b>SUBHEAD 9: CONDUITING FOR COMPUTER SYSTEM .</b>   |       |           |                             |                   |
| 9.00  | <b>CONDUITING FOR COMPUTER SYSTEM .</b>  |       |           |                             |                   |

| S.No. |    | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|----|--|-------|-----------|-----------------------------|-------------------|
| 9.01  | i  | Supply and laying of 20mm dia heavy 16 SWG (1.5mm thick) rigid steel conduit ISI marked complete with bends,deep J/B.binding wire chuck nut and cotton waste In wall/slab before concreting etc. complete in all respects.           | Metre | 400       | 113                         | 45200             |
|       | ii | Same as above but 25 mm dia rigid steel conduit  | Metre | 555       | 126                         | 69930             |
| 9.02  |    | Supplying and fixing two module modular plate (suitable for RJ-45 computer socket) with GI box complete as required.   | Each  | 37        | 233                         | 8621              |
|       |    | <b>TOTAL SUB HEAD:9 CONDUITING FOR COMPUTER SYSTEM as mentioned above.</b>   |       |           |                             | <b>123751</b>     |
|       |    | <b>SUB HEAD 10 : CONDUITING FOR TV OUTLETS</b>   |       |           |                             |                   |
| 10.00 |    | <b>CONDUITING FOR TV OUTLETS</b>   |       |           |                             |                   |
| 10.01 | i  | Supply and laying of 20mm dia heavy 16 SWG (1.5mm thick) rigid steel conduit ISI marked complete with bends,deep J/B.binding wire chuck nut and cotton waste In wall/slab before concreting etc. complete in all respects.           | Metre | 150       | 113                         | 16950             |
|       | ii | Same as above but 25 mm dia rigid steel conduit  | Metre | 100       | 126                         | 12600             |
| 10.02 |    | Supplying and fixing 2 module modular metal box in recess with modular cover plate including fixing 1 no. coaxial TV outlet connection and all accessories complete as required  | Each  | 10        | 221                         | 2210              |
| 10.03 |    | Supply and drawing Coaxial TV Cable RG - 6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required. | Metre | 50        | 69                          | 3450              |
|       |    | <b>TOTAL SUB HEAD 10: CONDUITING FOR TV OUTLETS as mentioned above.</b>  |       |           |                             | <b>35210</b>      |
|       |    | <b>SUB HEAD 11 : FIRE DETECTION AND ALARM SYSTEM.</b>  |       |           |                             |                   |
| 11.00 |    | <b>FIRE DETECTION AND ALARM SYSTEM</b>   |       |           |                             |                   |
| 11.01 |    | Supply and drawing of sheilded & twisted following sizes of PVC insulated FRLS copper conductor cable in surface/recessed MS conduit (including Supplying and fixing of MS Conduit) complete as required.                            |       |           |                             |                   |
|       | i  | 2X1.5 sqmm   | Metre | 1000      | 114                         | 114000            |
|       | ii | 4x 1.5 Sqmm  | Meter | 50        | 154                         | 7700              |
| 11.02 |    | Supply, installation, testing and commissioning of the following addressable type fire detection and alarm accessories as per technical specification & complete with connections etc. as required.                                  |       |           |                             |                   |
|       | i  | Optical type Smoke Detector  | Each  | 164       | 3354                        | 550056            |

| S.No.        |     | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|--------------|-----|--|-------|-----------|-----------------------------|-------------------|
|              | ii  | Heat Detector  | Each  | 2         | 2850                        | 5700              |
|              | iii | Manual Call bell   | Each  | 12        | 4750                        | 57000             |
|              | iv  | Fire Alarm Bell / Hooter of suitable range to cover the complete floor, in MS enclosure.   | Each  | 12        | 5415                        | 64980             |
|              | v   | Response indicator   | Each  | 90        | 200                         | 18000             |
|              |     |  |       |           |                             |                   |
|              |     | Supply, Installation, testing and commissioning of 2 loop microprocessor based addressable type Fire Detection & Alarm Panel complete with inbuilt power supply, battery charger with SMF batteries for minimum 24 hours back-up. The panel shall have a communication module. The panel should have rectifier, loop card, minimum 80 character LCD unit to indicate fire/fault signals with address provision for external/ internal printer to print the details complete as per technical specifications and requirement of Local Fire Authority and as required. |       |           | 194180                      |                   |
| <b>11.03</b> |     |  | Set   | 1         |                             | 194180            |
| <b>11.04</b> |     | Supply testing and commissioning of isolator module as per specifications.   | nos.  | 6         | 3800                        | 22800             |
| <b>11.05</b> |     | Supply, Installation, testing and commissioning of addressable monitor modules.  | Each  | 2         | 4285                        | 8570              |
| <b>11.06</b> |     | Supply, Installation, testing and commissioning of addressable control modules.  | Each  | 2         | 3895                        | 7790              |
|              |     |  |       |           |                             |                   |
| <b>11.07</b> |     | Supplying, drawing, connecting, testing & commissioning of 4 core, 1.5 sq. mm, 1100 volts FRLS copper conductor with PVC armoured cable with steel brading for mechanical protection and over all shielded with aluminium myler tape complete as required.   | Metre | 100       | 190                         | 19000             |
|              |     |  |       |           |                             |                   |
|              |     | <b>TOTAL SUB HEAD 11 : FIRE DETECTION AND ALARM SYSTEM as mentioned above</b>  |       |           |                             | <b>1069776</b>    |
|              |     |  |       |           |                             |                   |
|              |     | <b>SUB HEAD 12 : LIFTS</b>   |       |           |                             |                   |
| <b>12.00</b> |     | Design, manufacture, supply, installation, testing and commissioning of following 20 passenger (1360 Kg) Hospital lift, serving different floors in the lift shaft including machine room at top. The lift should be as per detailed specification/ drawing enclosed as required and as under:   |       |           |                             |                   |
|              |     | - Travel: As per architectural drawing.  |       |           |                             |                   |
|              |     | - Controller: A.C. variable voltage & variable frequency   |       |           |                             |                   |
|              |     | Speed : 0.75 MPS.  |       |           |                             |                   |
|              |     | - Automatic rescue device complete with dry maintenance free batteries as required.  |       |           |                             |                   |
|              |     | - Operation: Microprocessor based single automatic push button/ simplex selective collective/duplex collective selective with / without attendant.   |       |           |                             |                   |
|              |     | - 415 V, 3 phase, 50 Hz, 4 wire system   |       |           |                             |                   |



| S.No.        | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|--------------|---|-------|-----------|-----------------------------|-------------------|
|              | - Type of doors: a) Car : Power operated, horizontal sliding stainless steel scratch proof (b) Landing doors: Lift landing doors shall have a fire resistance of one hour. Stainless steel scratch proof.   |       |           |                             |                   |
|              | - Car Enclosure : Scratch proof stainless steel   |       |           |                             |                   |
|              | - Mirror of suitable size to be fixed inside the lift car.  |       |           |                             |                   |
|              | - Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.   |       |           |                             |                   |
|              | - Telephone with minimum two connections one at operator's room and other at guard/ security room and the emergency signal with re-chargeable batteries as source of supply be made in the lift car.        |       |           |                             |                   |
|              | - Toe guard, IR curtain on full height, two phase fireman's drive control/ switch and potential free contacts etc to be provided.   |       |           |                             |                   |
|              | <b>i</b> Floors : (Ground+ 5 Floor) (6 Stops & 6 Openings)  | Each  | 2         | 2850000                     | 5700000           |
| <b>12.01</b> | Supply and fixing of hoisting beam ISMB 300 X 140 (44.2 kg/mt)cut to size We lifting & shifting upto the machine room. Complete in all respects.  | Meter | 4         | 4061                        | 16244             |
| <b>12.02</b> | Supply and fixing of MS trap door in machine room floor slab. Trap door made of 6 mm thick MS plate weilded on MS angle frame made of 40 X 40 X 6mm MS angle, complete with hinges and locking arrangement. | SQ.M  | 2         | 4061                        | 8122              |
|              | <b>TOTAL SUB HEAD 12: LIFTS as mentioned above</b>  |       |           |                             | <b>5724366</b>    |
|              | <b>SUB HEAD 13: LT CABLES</b>   |       |           |                             |                   |
| <b>13.00</b> | <b>LT CABLES</b>  |       |           |                             |                   |
| <b>13.01</b> | Supply of following sizes of 1.1 kV grade multicore aluminum conductor armoured XLPE cable as per IS 7098.  |       |           |                             |                   |
|              | <b>i</b> 3.5C X 300 Sq.mm   | Metre | 324       | 1112                        | 360288            |
|              | <b>ii</b> 3.5C X 185 Sq.mm  | Metre | 324       | 1092                        | 353808            |
|              | <b>iii</b> 3.5C X 120 Sq.mm   | Metre | 252       | 745                         | 187740            |
|              | <b>iv</b> 3.5C X 25 Sq.mm   | Metre | 240       | 222                         | 53280             |
|              | <b>v</b> 4C X 10 sq.mm  | Metre | 70        | 160                         | 11200             |
|              | <b>vi</b> 4C X 6 sq.mm  | Metre | 50        | 124                         | 6200              |
|              | <b>vii</b> 4C X 4 sq.mm   | Metre | 50        | 108                         | 5400              |
|              | <b>viii</b> 2 Core 10 Sq mm   | Metre | 200       | 111                         | 22200             |
| <b>13.02</b> | Supply , Laying , termination of cable including lugs and cable gland on surface/ tray/trench of following sizes of 1.1 kV grade XLPE armoured cable with copper conductor as per IS 7098.                  |       |           |                             |                   |
|              | <b>i</b> 2x2.5 sq mm  | Metre | 30        | 190                         | 5700              |

| S.No.        |      | Description.   | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|--------------|------|--|-------|-----------|-----------------------------|-------------------|
|              | ii   | 4x 2.5 sqmm  | Metre | 50        | 523                         | 26150             |
|              | iii  | 16x 2.5 sqmm   | Metre | 30        | 1520                        | 45600             |
| <b>13.03</b> |      | Laying of one number PVC insulated and PVC sheathed power cable 1.1kV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required          |       |           |                             |                   |
|              | i    | Upto 35 sq. mm   | Metre | 366       | 172                         | 62952             |
|              | ii   | Above 35 sq. mm and upto 120 sq. mm  | Metre | 151       | 179                         | 27065             |
|              | iii  | Above 120 sq. mm and upto 400 sq. mm   | Metre | 389       | 204                         | 79315             |
| <b>13.04</b> |      | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.  |       |           |                             |                   |
|              | i    | Above 35 sq. mm and upto 95 sq. mm   | Metre | 122       | 14                          | 1708              |
|              | ii   | Above 95 sq. mm and upto 120 sq. mm  | Metre | 50        | 29                          | 1462              |
|              | iii  | Above 120 sq. mm and upto 400 sq. mm   | Metre | 65        | 50                          | 3240              |
| <b>13.05</b> |      | Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.   |       |           |                             |                   |
|              | i    | Upto 35 sq. mm   | Metre | 183       | 21                          | 3843              |
|              | ii   | Above 35 sq. mm and upto 95 sq. mm   | Metre | 76        | 64                          | 4838              |
|              | iii  | Above 95 sq. mm and upto 120 sq. mm  | Metre | 97        | 73                          | 7096              |
|              | iv   | Above 120 sq. mm and upto 400 sq. mm   | Metre | 194       | 102                         | 19829             |
| <b>13.06</b> |      | Supplying and making end termination with suitable size aluminium lugs including double compression glands of following sizes of 1.1. kv grade multicore aluminum conductor PVC insulated and PVC sheathed |       |           |                             |                   |
|              | i    | 3.5C X 300 Sq.mm   | Each  | 12        | 855                         | 10260             |
|              | ii   | 3.5C X 185 Sq.mm   | Each  | 6         | 371                         | 2226              |
|              | iii  | 3.5C X 120 Sq.mm   | Each  | 6         | 214                         | 1284              |
|              | iv   | 3.5C X 25 Sq.mm  | Each  | 4         | 190                         | 760               |
|              | v    | 4C X 10 sq.mm  | Each  | 4         | 143                         | 572               |
|              | vi   | 4C X 6 sq.mm   | Each  | 8         | 128                         | 1024              |
|              | vii  | 4C X 4 sq.mm   | Each  | 10        | 114                         | 1140              |
|              | viii | 2 Core 10 Sq mm  | Each  | 10        | 105                         | 1050              |
| <b>13.07</b> |      | Supply and fixing of crimping, solder less, copper tin electroplated lugs of Dowel's! ismail make suitable for 10 sq.mm cables , including tapping with insulating tape, complete in all respects.         | Each  | 400       | 10                          | 4000              |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
| 13.08 | Supply and fixing of crimping, solder less, copper tin electroplated lugs of Dowel's! ismail make suitable for 1.5 sq.mm to 6 sq.mm cables , including tapping with insulating tape, complete in all respects.  | Each  | 60        | 16                          | 960               |
|       | <b>TOTAL SUB HEAD 13: LT CABLES as mentioned above</b>  |       |           |                             | <b>1312189</b>    |
| 14.00 | <b>SUB HEAD :14 EARTHING, SAFETY EQUIPMENTS AND MISC. ITEMS</b>   |       |           |                             |                   |
| 14.01 | Supply and burying of 600mmX600mmX6.0mm GI plate vertically for earthing with its top at least 3 meters below ground level complete with 20mm dia GI pipe ("B" class) and funnel for watering and 30cm square C..I. frame with hinged cover masonry housing alternate layers of charcoal i coke and salt at least 150mm thick all round etc. as per direction of Engineer-in-charge complete in all respects. | Metre | 10        | 4298                        | 42980             |
| 14.02 | Same as above but with copper plate of size 600 X 600 X 3mm   | Set   | 8         | 8701                        | 69608             |
| 14.03 | Supply and laying of 32mmX6mm GI. strip from earth electrode directly in the ground as required complete in all respects.   | Meter | 1200      | 147                         | 176400            |
| 14.04 | same as above but copper strip of size 32mm X 6 mm  | Meter | 400       | 874                         | 349600            |
| 14.05 | Supply and fixing of vertical down conductor 32 X 6mm GI strip on approved clamps on surface for lightening conductor for upto 5 Story building   | Meter | 300       | 262                         | 78600             |
| 14.06 | Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)  | Meter | 30        | 98                          | 2940              |
| 14.07 | Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.   | Metre | 40        | 371                         | 14840             |
| 14.08 | Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.  | Metre | 30        | 968                         | 29040             |
| 14.09 | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.  | Metre | 100       | 126                         | 12600             |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
| 14.10 | Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.  | Metre | 100       | 771                         | 77100             |
| 14.11 | Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm) | Metre | 30        | 678                         | 20340             |
| 14.12 | Providing and laying of copper strip of 50 mm X 5 mm for earthing and connection etc. as required.  | Metre | 20        | 1615                        | 32300             |
| 14.13 | Providing and laying of GI of 50 mm X 5 mm for earthing and connection etc. as required.  | Metre | 15        | 261                         | 3915              |
| 14.14 | Supplying and fixing Foam type 9 ltrs capacity fire extinguishers as approved by ISI complete as required.  | Set   | 1         | 3800                        | 3800              |
|       | <b>TOTAL SUB HEAD 14: EARTHING, SAFETY EQUIPMENT AND MISC. ITEMS as mentioned above</b>   |       |           |                             | <b>914063</b>     |
| 15.00 | <b>SUB HEAD 15 : LIGHTNING PROTECTION</b>   |       |           |                             |                   |
| 15.01 | Earthing with 600 mm X 600 mm X 6 mm thick GI plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt) complete as required.   | Set   | 12        | 3151                        | 37812             |
| 15.02 | Extra for using charcoal and salt for GI or copper plate earth electrode as required.   | Set   | 12        | 998                         | 11976             |
| 15.03 | Supply and fixing of vertical air termination finial rod comprising of 300mm long X25mm dia. Copper rod with one pointed prong and 100mm dia X3mm thick base plate etc. complete in all respects.   | Each  | 20        | 704                         | 14080             |
| 15.04 | Providing and and fixing GI tape 20mm X 3 mm thick on parapet or surface of wall for lightning conductor as required. (For horizontal runs).  | Metre | 180       | 61                          | 10980             |
| 15.05 | Providing and and fixing GI tape 20mm X 3 mm thick on parapet or surface of wall for lightning conductor as required. (For vertical runs).  | Metre | 100       | 86                          | 8600              |
| 15.06 | Providing and fixing testing joint, made of 20mmX3mm thick GI strip, 125 mm. long, with 4 no.'s of GI bolts, nuts, check nuts, bar shaddles, and spring washers etc. complete as required.  | Each  | 12        | 66                          | 792               |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
| 15.07 | Providing and laying GI tape, 32 mm X 6 mm thick, from test joint upto earth electrode directly in ground as required.  | Metre | 180       | 128                         | 23040             |
| 15.08 | Making of joints in GI strip i/c fixing with GI nut & bolt and soldering  | Metre | 200       | 40                          | 8000              |
| 15.09 | Making of joints in copper strip i/c fixing with GI nut & bolt and soldering  | Metre | 100       | 139                         | 13900             |
|       | <b>TOTAL SUB HEAD 15: LIGHTNING PROTECTION as mentioned above</b>   |       |           |                             | <b>129180</b>     |
| 16.00 | <b>SUB HEAD 16: OUT DOOR LIGHTING</b>   |       |           |                             |                   |
|       | <b>OUT DOOR LIGHTING</b>  |       |           |                             |                   |
| 16.01 | i Supply, erection, testing and commissioning of external swaged steel tubular pole with following specifications & items :   |       |           |                             |                   |
|       | ii Supply & fixing steel tubular pole 9 meter long designated 410 SP-27 in 1:3:6 cement concrete foundation including excavation back filling etc (Single arm of suitable length each around 1.5 Metre), with base plate 450mmX450mmX6mm , Length of Section bottom -5 (M.T) ,Middle- 2 (M.T), Top- 2 (M.T) and outside Diameter and thickness of Section bottom - 11.43x 5.40 (M.M), Middle- 88.9X 4.85(M.M), Top- 76.1X 3.25(M.M) weight of pole 108Kg , complete as per requirement with two coats of spray paints (shade as approved) |       |           |                             |                   |
|       | iii Supply and fixing of factory wired totally enclosed intergral street light fitting having top opening , Single piece , powder coated die cast aluminum housing , Glaskot' pot optics reflector ,side entry /mounting arrangement with full frame glass accessories suitable for and with 250 watt H.P.S.V - T lamp , Confirming to IP66 , Complete in all respect but on pole   |       |           |                             |                   |
|       | iv Suitable size 32 A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 16A DP MCB complete as required - 1 Set   |       |           |                             |                   |
|       | v Suitable number(s) 40mm dia Class-B GI Pipe(s) from above control box to upto 0.5 metre below ground level for power cable entry  |       |           |                             |                   |

| S.No. | Description.  | Unit. | TOTAL QTY | Rate in Figures<br>(in Rs.) | Amount<br>(in Rs) |
|-------|---|-------|-----------|-----------------------------|-------------------|
|       | vi Providing foundation including excavation, shuttering, alingment of poles, casting etc. including lean concrete at the bottom as per CPWD/ BIS specifications.   |       |           |                             |                   |
|       | The above installations shall be completed as CPWD specifications and as required   |       |           |                             |                   |
|       | A Street Tubular Poles(9M) Single Arm with one set of light fixture as mention above  | Set   | 14        | 17841                       | 249774            |
| 16.02 | i Supply & fixing of wall roof type service Bracket of 50 mm dia 4 Meter long fabricated from class "B" G.I pipe Cplmte with two bends , Sockets , wall Clamp. 7/3.15 mm G.I Stay wire, Stay Insulators etc. Complete in all respect  |       |           |                             |                   |
|       | ii Supply and fixing of factory wired totally enclosed intergral street light fitting having top opening , Single piece , powder coated die cast aluminum housing , Glaskot' pot optics reflector ,side entry /mounting arrangement with full frame glass accessories suitable for and with 250 watt H.P.S.V - T lamp , Confirming to IP66 , Complete in all respect but on wall  |       |           |                             |                   |
|       | The above installations shall be completed as CPWD specifications/ BIS specifications. and as required  | set   | 6         | 10593                       | 63558             |
| 16.03 | <b>Road Lighting Panel</b>  |       |           |                             |                   |
|       | Supply, installation, testing and commissioning of following outdoor type with canopy, M.V. cubicle type, powder coated totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, bus bars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, connection of incoming and outgoing cables with thimbles and having following incoming and outgoing switchgears complete as required. |       |           |                             |                   |
|       | <b>INCOMER:</b>   |       |           |                             |                   |
|       | 1 No. 100 Amp 415 volts, FP MCCB with variable current setting, Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.   |       |           |                             |                   |
|       | 1 Set of phase indicating lamp with HRC fuses   |       |           |                             |                   |
|       | 1 Set of timer & 63A TP contactor with nuetral link (for street lights control) .   |       |           |                             |                   |
|       | <b>BUSBARS:</b>   |       |           |                             |                   |
|       | 100 Amp TPN Aluminum busbars  |       |           |                             |                   |
|       | <b>OUTGOING:</b>  |       |           |                             |                   |
|       | i 4 nos. 32 Amp TPN MCB with on /off indiation  |       |           |                             |                   |
|       | ii 20 Nos. 16 Amp 240 volts, DP MCB   | 1     | 1         | 57000                       | 57000             |
|       | <b>Feeder Pillar as mention above</b>   |       |           |                             |                   |
|       | <b>TOTAL SUB HEAD 16: OUTDOOR LIGHTING as mentioned above.</b>  |       |           |                             | <b>370332</b>     |
|       | <b>GRAND TOTAL FOR ALL ELECTRICAL WORKS.</b>  |       |           |                             | <b>25327838</b>   |

| <b>BILL OF QUANTITIES FOR HVAC WORKS FOR 100 BED HOSPITAL, ALIGARH (U.P.)</b>   |   |                         |                         |  |                                 |
|---|---|-------------------------|-------------------------|--|---------------------------------|
| <b>ITEM NO</b><br><b>1</b>  | <b>DESCRIPTION OF ITEM</b><br><b>2</b>  | <b>QTY.</b><br><b>3</b> | <b>UNIT</b><br><b>4</b> | <b>RATE IN FIGURES</b><br><b>(in RS)</b><br><b>5</b> | <b>AMOUNT (Rs.)</b><br><b>6</b> |
| The prices are to be quoted in the below mentioned form and shall include the supply, installation, testing & commissioning at site of all the equipments, ancillary materials as specified and all such items what so ever which may be required to fulfill the intent and purpose as laid down in the specifications and or the drawings. |   |                         |                         |  |                                 |
| <b>1.0</b>  | <b>SPLIT AIR CONDITIONERS</b>   |                         |                         |  |                                 |
|   | Supply , installation , testing and commisioning of voltas/ Bluestar/ equivalent make HI wall split air conditioner comprising of the following.                                  |                         |                         |  |                                 |
|   | a) Outdoor condensing Units   |                         |                         |  |                                 |
|   | b) Indoor Evaporative Units with cordless remote.   |                         |                         |  |                                 |
|   | c)Interconnecting Refrigerant and drain piping with insulation wherever required, refrigerant and oil. The unit shall include refrigerant piping, power cabling and drain piping. |                         |                         |  |                                 |
|   | c) Safety and operational controls.   |                         |                         |  |                                 |
|   | e) Hiwall splits shall be suitable for single phase power supply and complete with suitable rating voltage stablizer.   |                         |                         |  |                                 |
|   | f) Mounting arrangement and structural supports for outdoor unit are included.  |                         |                         |  |                                 |
|   | g) The units should have 3 star rating from BEE.  |                         |                         |  |                                 |
| 1.1   | Capacity : 1.5 TR   | 2                       | Nos.                    | 41012  | 82024                           |
| 1.2   | Capacity : 2.0 TR   | 25                      | Nos.                    | 49514  | 1237850                         |

| ITEM<br>NO<br>1 | DESCRIPTION OF ITEM<br>2   | QTY.<br>3 | UNIT<br>4 | RATE IN FIGURES<br>(in RS)<br>5 | AMOUNT (Rs.)<br>6 |
|-----------------|--|-----------|-----------|---------------------------------|-------------------|
| 1.3             | Extra for Supply & installation of Copper piping with fittings complete with nitrile Rubber Insulation for connecting Indoor & Outdoor Units.  | 54        | Rmt       | 600                             | 32400             |
| 1.3             | Extra for Supply & Installation of drain water PVC Pipe from Indoor Unit to Outside Drain Point.   | 54        | Rmt       | 171                             | 9234              |
| <b>2.0</b>      | <b>Window Air Conditioner</b>  |           |           |                                 |                   |
|                 | Supply , installation , testing and commisioning of voltas/ Bluestar/ equivalent make Window Acs complete with electrical cabling as required along with mounting arrangement and Voltage stablizer. The units should have 3 star rating from BEE. |           |           |                                 |                   |
|                 | Capacity   |           |           |                                 |                   |
| 2.1             | 1.5 TR   | 3         | Nos.      | 30327                           | 90981             |
| 2.2             | 2.0 TR   | 2         | Nos.      | 33960                           | 67920             |
|                 | <b>TOTAL</b>   |           |           |                                 | <b>1520409</b>    |