

**KALPANA CHAWLA GOVERNMENT MEDICAL COLLEGE,  
KARNAL, HARYANA**

**Tender**

**For**

**Repair/renovation of existing General Hospital, Karnal  
and completion of two newly constructed housing blocks  
of erstwhile police lines.**

**Volume-V**

**Bill of Quantities (B.O.Q.)**

**November' 2012**



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(CONSULTANTS & ENGINEERS FOR MEGA HOSPITALS & LABORATORIES)  
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**Tender No. HSCC/KCGMC/CIVIL/RW/2012**

# **CIVIL WORKS**

**Project Name: Renovation work at General Hospital & Balance work of existing  
Housing units at Kalpana Chawala Government Medical College Karnal**

**ABSTRACT OF COST(Civil Work)**

| <b>S.No</b> | <b>DESCRIPTION OF WORK</b> | <b>AMOUNT (Rs)</b> |
|-------------|----------------------------|--------------------|
| 1           | EARTHWORK                  |                    |
| 2           | CONCRTE WORK               |                    |
| 3           | REINFORCED CEMENT CONCRETE |                    |
| 4           | BRICK WORK                 |                    |
| 5           | DOORS & WINDOWS            |                    |
| 6           | STEEL WORK                 |                    |
| 7           | FLOORING                   |                    |
| 8           | CEILING & ROOFING          |                    |
| 9           | FINISHING                  |                    |
| 10          | MISCELLANEOUS              |                    |
| 11          | Road Work and Development  |                    |
|             | <b>TOTAL</b>               |                    |

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| BOQ for Civil work |  |           |      |                     |                      |                          |
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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>1.00</b>        | <b>EARTH WORK</b>  |           |      |                     |                      |                          |
| 1.01               | Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :  |           |      |                     |                      |                          |
| a)                 | All kinds of soil  | 2500.00   | Sqm  |                     |                      |                          |
| 1.02               | Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. |           |      |                     |                      |                          |
| a)                 | All kinds of soil.   | 70.00     | cum  |                     |                      |                          |
| 1.03               | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.   |           |      |                     |                      |                          |
|                    |  | 2061.00   | cum  |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 1.04               | Supplying and filling in plinth with jamuna sand under floors including, watering. ramming consolidating and dressing complete.                       | 16.00     | cum  |                     |                      |                          |
| 1.05               | Supplying and stacking of good earth at site including royalty and carriage up to 1 km (earth measured in stacks will be reduced by 20% for payment). | 600.00    | cum  |                     |                      |                          |
|                    | <b>Total</b>  |           |      |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>2.00</b>        | <b>Concrete Work</b>   |           |      |                     |                      |                          |
| 2.01               | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:  |           |      |                     |                      |                          |
| a)                 | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)   | 23.00     | cum  |                     |                      |                          |
| b)                 | 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).  | 5.00      | cum  |                     |                      |                          |
| c)                 | 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)   | 60.00     | cum  |                     |                      |                          |
| 2.02               | Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc. up to floor five level, excluding the cost of centering, shuttering and finishing: |           |      |                     |                      |                          |
| a)                 | 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)   | 6.00      | cum  |                     |                      |                          |

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| 1                  | 2   | 3         | 4                | 5                   | 6                    | 7                        |
| 2.03               | Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 12.5mm nominal size).   | 11.00     | sqm              |                     |                      |                          |
| 2.04               | Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer specification .   | 3.00      | per 50 kg cement |                     |                      |                          |
| 2.05               | Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil. | 11.00     | sqm              |                     |                      |                          |
| 2.06               | Providing and laying in position cement concrete 1:5:10 (1 Cement : 5 fine sand : 10 broken brick bats 40 mm nominal size) including consolidation etc all complete.  | 230.00    | Cum              |                     |                      |                          |
| <b>Total</b>       |   |           |                  |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| <b>3.00</b>        | <b>REINFORCED CEMENT CONCRETE</b>   |           |      |                     |                      |                          |
| 3.01               | Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. |           |      |                     |                      |                          |
|                    | (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).  |           |      |                     |                      |                          |
| a)                 | All works upto plinth level   | 25.00     | cum  |                     |                      |                          |
| b)                 | All work above plinth level upto floor V level  | 42.00     | cum  |                     |                      |                          |



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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 3.02               | Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. |           |      |                     |                      |                          |
|                    | (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately). Fly ash conforming to grade 1 of IS: 3812 (Part-1) only be used as part replacement of OPC as per IS:456. Uniform blending with cement to be ensured in accordance with clause 5.2 and 5.2.1 of IS:456-2000 in the items of BMC and RMC.   |           |      |                     |                      |                          |
| a)                 | All works upto plinth level   | 10.00     | cum  |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| b)                 | All work above plinth level upto floor V level  | 10.00     | cum  |                     |                      |                          |
| 3.03               | Add or deduct for providing richer or leaner mixes respectively at all floor levels.  |           |      |                     |                      |                          |
| a)                 | Providing M-30 grade concrete instead of M-25 grade BMC/ RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum)                                    | 17.00     | cum  |                     |                      |                          |
| 3.04               | Centering and shuttering including strutting, propping etc. and removal of form for:  |           |      |                     |                      |                          |
| a)                 | Foundations, footings, bases of columns, etc. for mass concrete.  | 18.00     | sqm  |                     |                      |                          |
| b)                 | Suspended floors, roofs, landings, balconies and access platform.   | 157.00    | sqm  |                     |                      |                          |
| c)                 | Shelves (Cast in situ)  | 5.00      | sqm  |                     |                      |                          |
| d)                 | lintels, beams, plinth beams. girders. bressumers and cantilevers.  | 190.00    | sqm  |                     |                      |                          |
| e)                 | Columns, Pillars, Piers, Abutments, Posts and Struts.   | 86.00     | sqm  |                     |                      |                          |
| f)                 | Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like. | 4.00      | sqm  |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 3.05               | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. |           |      |                     |                      |                          |
| a)                 | Thermo-Mechanically Treated bars   | 8980.00   | Kg   |                     |                      |                          |
| 3.06               | Add for using extra cement in the items of design mix over and above the specified cement content therein.                                     | 200.00    | Qtl  |                     |                      |                          |
|                    |  |           |      |                     |                      |                          |
|                    | <b>Total</b>   |           |      |                     |                      |                          |

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| <b>4.00</b>        | <b>BRICK WORK</b>  |           |      |                     |                      |                          |
| 4.01               | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:  |           |      |                     |                      |                          |
| a)                 | Cement mortar 1:6 (1 cement: 6 coarse sand)  | 30.00     | cum  |                     |                      |                          |
| 4.02               | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in : |           |      |                     |                      |                          |
| a)                 | Cement mortar 1:4 (1 cement : 4 coarse sand)   | 10.00     | cum  |                     |                      |                          |
| b)                 | Cement mortar 1:6 (1 cement: 6 coarse sand)  | 113.00    | cum  |                     |                      |                          |
| 4.03               | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in :  |           |      |                     |                      |                          |
| a)                 | cement mortar 1:4 (1 cement: 4 coarse sand)  | 20.00     | sqm  |                     |                      |                          |

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| 4.04               | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.  |           |       |                     |                      |                          |
| a)                 | Cement mortar 1:4 (1 cement :4 coarse sand)   | 189.00    | sqm   |                     |                      |                          |
| 4.05               | Extra for providing and placing in position 2 Nos. 6mm dia. M.S. bars at every third course of half brick masonry (with F.P.S. bricks).   | 189.00    | sqm   |                     |                      |                          |
| 4.06               | 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). | 315.00    | Metre |                     |                      |                          |
|                    | <b>Total</b>  |           |       |                     |                      |                          |

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| 1                  | 2  | 3         | 4     | 5                   | 6                    | 7                        |
| <b>5.00</b>        | <b>DOORS, WINDOWS AND FITTINGS</b>   |           |       |                     |                      |                          |
| 5.01               | Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer- in-charge: |           |       |                     |                      |                          |
| a)                 | Profile C  |           |       |                     |                      |                          |
| i)                 | Fixing with adjustable lugs with split end tail to each jamb   | 50.00     | metre |                     |                      |                          |
| 5.02               | Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with :   |           |       |                     |                      |                          |
| a)                 | 4.0 mm thick glass panes   | 400.00    | sqm   |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 5.03               | Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters : |           |      |                     |                      |                          |
| a)                 | 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.  | 666.00    | sqm  |                     |                      |                          |
| b)                 | 25 mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws  | 370.00    | sqm  |                     |                      |                          |
| 5.04               | Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of shutters (over all area of door shutter to be measured).  | 1076.00   | sqm  |                     |                      |                          |
| 5.05               | Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured) :   |           |      |                     |                      |                          |
| a)                 | Rectangular or square.   | 279.00    | sqm  |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 5.06               | Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws  |           |      |                     |                      |                          |
| a)                 | 35 mm thick shutters-Second class teak wood  |           |      |                     |                      |                          |
| i)                 | With ISI marked stainless steel butt hinges of required size   | 265.00    | sqm  |                     |                      |                          |
| 5.07               | Providing and fixing flat pressed 3 layer particle board medium density exterior grade (Grade I) or graded wood particle board IS : 3087 marked, to frame, backing or studding with screws etc. complete (Frames, backing or studding to be paid separately) :                                 |           |      |                     |                      |                          |
| a)                 | 18 mm thick  | 893.00    | sqm  |                     |                      |                          |
| 5.08               | Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. |           |      |                     |                      |                          |
| a)                 | 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws   | 74.00     | sqm  |                     |                      |                          |



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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 5.09               | Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete   |           |      |                     |                      |                          |
| a)                 | 20 mm dia  | 84.00     | mtr  |                     |                      |                          |
| 5.10               | 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).   | 55.00     | sqm  |                     |                      |                          |
| 5.11               | Providing glass panes, with wooden fillets wherever necessary.   |           |      |                     |                      |                          |
| a)                 | Float glass panes of thickness 4 mm  | 25.00     | Sqm  |                     |                      |                          |
| 5.12               | 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.  | 1332.00   | sqm  |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 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.3 | 8.00      | each |                     |                      |                          |
| 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  | 340.00    | each |                     |                      |                          |
| b)                 | 250x16 mm  | 40.00     | each |                     |                      |                          |
| 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  | 378.00    | each |                     |                      |                          |
| b)                 | 150x10 mm  | 660.00    | each |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 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  | 815.00    | each |                     |                      |                          |
| b)                 | 100 mm  | 250.00    | each |                     |                      |                          |
| 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   | 298.00    | each |                     |                      |                          |
| 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. | 48.00     | each |                     |                      |                          |
| 5.19               | Providing and fixing ISI marked oxidised M.S. handles conforming to IS:4992 with necessary screws etc. complete :   |           |      |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| a)                 | 100 mm   | 722.00    | Each |                     |                      |                          |
| 5.20               | Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.   |           |      |                     |                      |                          |
| a)                 | 250 mm weighing not less than 150 gms  | 360.00    | Each |                     |                      |                          |
| 5.21               | Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete |           |      |                     |                      |                          |
| a)                 | 40 mm  | 168.00    | each |                     |                      |                          |
| 5.22               | Providing and fixing bright finished brass hasp and staple (safety type) with necessary screws etc. complete   |           |      |                     |                      |                          |
| a)                 | 150 mm   | 168.00    | each |                     |                      |                          |

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| BOQ for Civil work |  |           |      |                     |                      |                          |
|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 5.23               | 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)                 | Powder coated aluminium (minimum thickness of powder coating 50 micron)  | 3225.00   | kg   |                     |                      |                          |
| 5.24               | For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).  |           |      |                     |                      |                          |

**Project Name: Renovation work at General Hospital & Balance work of existing  
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| BOQ for Civil work |  |           |      |                     |                      |                          |
|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| a)                 | Powder coated aluminium (minimum thickness of powder coating 50 micron)  | 855.00    | kg   |                     |                      |                          |
| 5.25               | Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators a with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS : 1285 fixed with dash fastener of required dia and size(Dash fastener to be paid for separately). | 53.00     | kg   |                     |                      |                          |
| 5.26               | 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.                                   |           |      |                     |                      |                          |
| a)                 | Pre-laminated particle board with decorative lamination on both sides.   | 190.00    | Sqm  |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 5.27               | Providing and fixing glazing in aluminium 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   | 307.00    | sqm  |                     |                      |                          |
| 5.28               | 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  | 54.00     | each |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 5.29               | Providing and fixing powder coated aluminium grills (minimum thickness of powder coating 50 micron) of required size and approved pattern and quality made out with special extruded sections conforming to relevent IS Codes, fixed with rawl plugs and screws or with expansion hold fasteners fixed with suitable means as approved and as directed by Engineer in Charge including C.P. brass / stainless steel screws, all complete as per architectural drawings/ directions of Engineer-in-charge. | 189.00    | kg   |                     |                      |                          |
| 5.30               | 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.  | 42.00     | each |                     |                      |                          |
|                    |   |           |      |                     |                      |                          |
|                    | <b>Total</b>  |           |      |                     |                      |                          |



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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| <b>6.00</b>        | <b>Steel Works</b>  |           |      |                     |                      |                          |
| 6.01               | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming cost with approved steel primer all complete. |           |      |                     |                      |                          |
| a)                 | Fixed to steel windows by welding.  | 1500.00   | kg   |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 6.02               | Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 |           |      |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
|                    | 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete. |           |      |                     |                      |                          |
| a)                 | 75 mm overall thickness partition with 12.5 mm thick double skin fire rated board conforming to IS: 2095: part I  | 50.00     | sqm  |                     |                      |                          |
| 6.03               | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.   | 2000.00   | kg   |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 6.04               | Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). |           |      |                     |                      |                          |
| a)                 | Fixing with carbon steel galvanised dash fastener of required dia and size (to be paid for separately)   | 1000.00   | kg   |                     |                      |                          |
| 6.05               | 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  | 2440.00   | Kg   |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 6.06               | Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. |           |      |                     |                      |                          |
| a)                 | E.R.W. tubes   | 1460.00   | kg   |                     |                      |                          |
| 6.07               | Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.   |           |      |                     |                      |                          |
| a)                 | 10.29.1 Galvanised M.S. Wire gauze with 0.63 mm dia wire and 1.4 mm aperture on both sides   | 574.00    | sqm  |                     |                      |                          |
|                    | <b>Total</b>   |           |      |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>7.00</b>        | <b>Flooring</b>  |           |      |                     |                      |                          |
| 7.01               | 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  | 72.00     | sqm  |                     |                      |                          |
| b)                 | Udaipur green marble   | 133.00    | sqm  |                     |                      |                          |
| 7.02               | 18mm thick Prepolished Granite (Base Rate 150/- Sqft) in Risers, skirting and dado/wall cladding over 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement including pointing with white cement mixed with pigment matching the shade of granite stone all complete | 210.00    | sqm  |                     |                      |                          |
| 7.03               | Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :  |           |      |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| a)                 | 25 mm thick.   | 130.00    | sqm  |                     |                      |                          |
| 7.04               | Kota stone slabs 25 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.   | 15.00     | sqm  |                     |                      |                          |
| 7.05               | 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. | 2751.00   | sqm  |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 7.06               | Providing and laying 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. | 629.00    | sqm  |                     |                      |                          |
| 7.07               | 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   | 100.00    | sqm  |                     |                      |                          |
| 7.08               | 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 skirting, riser of steps, 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.         |           |      |                     |                      |                          |



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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| a)                 | Size of Tile 600x600 mm   | 300.00    | sqm  |                     |                      |                          |
| 7.09               | Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.   |           |      |                     |                      |                          |
| a)                 | Size of Tile 600x600 mm   | 30.00     | sqm  |                     |                      |                          |
| 7.10               | Providing and laying Vitrified tiles in floor with different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS:15622 , of approved brand & manufacturer, in all colours and shade, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS : 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately). |           |      |                     |                      |                          |
| a)                 | Size of Tile 600x600 mm   | 259.00    | sqm  |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit  | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4     | 5                   | 6                    | 7                        |
| 7.11               | 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)                 | Granite of any colour and shade  |           |       |                     |                      |                          |
| i                  | Area of slab upto 0.50 sqm   | 12.00     | sqm   |                     |                      |                          |
| ii                 | Area of slab over 0.50 sqm.  | 130.00    | sqm   |                     |                      |                          |
| 7.12               | Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc complete as per design approved by Engineer-in-Charge   |           |       |                     |                      |                          |
| a)                 | Granite work.  | 489.00    | metre |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit  | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4     | 5                   | 6                    | 7                        |
| 7.13               | Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.   | 256.00    | metre |                     |                      |                          |
| 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.      | 69.00     | Nos   |                     |                      |                          |
| 7.15               | Chequered terrazo tiles 22 mm thick with graded marble chips of size up to 6 mm in floors jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : |           |       |                     |                      |                          |
| a)                 | Medium shade using 50%white cement 50% ordinary cement  | 10.00     | sqm   |                     |                      |                          |
| 7.16               | Rubbing & polishing of marble chips flooring to granolithic finish include minor repair etc.  | 2132.00   | sqm   |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 7.17               | Providing & fixing 2 mm thick homogeneous jointless, scratch resistant, chemical resistant, anti fungal and anti bacterial PVC Vinyl flooring and skirting/ coving good for laboratories of approved quality including the cost of suitable adhesive and coving material of approved quality and manufacture.   | 750.00    | sqm  |                     |                      |                          |
| 7.18               | Providing and laying 3mm thick chemical resistant monolithic resinous (epoxy) flooring and coving/ skirting of required colour into two or more coats by non slippery, anti-fungal, anti bacteria, scratch proof protective finish over concrete substrate including preparing surface by mechanical means captive shot blasting/ grinding etc as required complete to the satisfaction of engineer. The concrete floor must be checked for moisture content using thermo Hygrometer and should have moisture content less than 5% and no rising dampness in floor, for which nothing extra is payable. | 50.00     | sqm  |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 7.19               | 40 mm thick marble chips flooring, rubbed and polished to granolithic finish, under layer 31 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size) and top layer 9 mm thick with white, black, chocolate, grey, yellow or green marble chips of sizes from 4 mm to 7 mm nominal size, laid in cement marble powder mix 3:1 (3 cement : 1 marble powder) by weight in proportion of 4:7 (4 cement marble powder : 7 marble chips) by volume, including cement slurry etc. complete. |           |      |                     |                      |                          |
|                    | Medium shade pigment with 50% white cement and 50% ordinary cement   | 1200.00   | sqm  |                     |                      |                          |
|                    | <b>Total</b>   |           |      |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>8.00</b>        | <b>CEILING &amp; ROOFING</b>   |           |      |                     |                      |                          |
| 8.01               | Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :  |           |      |                     |                      |                          |
| 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.)  | 726.00    | sqm  |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 8.02               | Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement: 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound to IS : 2645 and approved by Engineer - in - charge to required slope and treating similarly the |           |      |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
|                    | adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge 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 3mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge : |           |      |                     |                      |                          |
| a)                 | With average thickness of 120mm and minimum thickness at khurra as 65 mm.   | 185.00    | sqm  |                     |                      |                          |
|                    | <b>Total</b>  |           |      |                     |                      |                          |



**Project Name: Renovation work at General Hospital & Balance work of existing  
Housing units at Kalpana Chawala Government Medical College Karnal**

| BOQ for Civil work |  |           |      |                     |                      |                          |
|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>9.00</b>        | <b>Finishing</b>   |           |      |                     |                      |                          |
| 9.01               | 15 mm cement plaster on the rough side of single or half brick wall of mix :   |           |      |                     |                      |                          |
| a)                 | 1:6 (1 cement: 6 fine sand)  | 517.00    | sqm  |                     |                      |                          |
| 9.02               | 12 mm cement plaster of mix:   |           |      |                     |                      |                          |
| a)                 | 1:6 (1 cement: 6 fine sand)  | 828.00    | sqm  |                     |                      |                          |
| 9.03               | 15 mm cement plaster on the rough side of single or half brick wall of mix:  |           |      |                     |                      |                          |
| a)                 | 1:6 (1 cement: 6 fine sand)  | 800.00    | sqm  |                     |                      |                          |
| 9.04               | 18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finished with a top layer 6mm thick cement plaster 1:6 (1 cement: 6 fine sand). | 2725.00   | sqm  |                     |                      |                          |
| 9.05               | 6 mm cement plaster of mix:  |           |      |                     |                      |                          |
| a)                 | 1:3 (1 cement: 3 fine sand)  | 658.00    | sqm  |                     |                      |                          |
| 9.06               | Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.   | 1200.00   | sqm  |                     |                      |                          |

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|--------------------|---|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 9.07               | Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete. | 13552.00  | Sqm  |                     |                      |                          |
| 9.08               | Neat cement punning   | 50.00     | sqm  |                     |                      |                          |
| 9.09               | Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.  | 1000.00   | sqm  |                     |                      |                          |
| 9.10               | White washing with lime to give an even shade:  |           |      |                     |                      |                          |
| a)                 | New work (three or more coats)  | 900.00    | sqm  |                     |                      |                          |
| 9.11               | Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade  |           |      |                     |                      |                          |
| a)                 | New work (two or more coats) over and including priming coat with cement primer.  | 15052.00  | sqm  |                     |                      |                          |
| 9.12               | Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface :  |           |      |                     |                      |                          |
| a)                 | Water thinnable cement primer   | 12000.00  | sqm  |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 9.13               | Finishing walls with water proofing cement paint of required shade :   |           |      |                     |                      |                          |
| a)                 | New work (Two or more coats applied @ 3.84 kg/10 sqm)  | 4000.00   | sqm  |                     |                      |                          |
| 9.14               | 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).  | 525.00    | sqm  |                     |                      |                          |
| 9.15               | Finishing walls with textured exterior paint of required shade:  |           |      |                     |                      |                          |
| a)                 | New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including base coat of water proofing cement paint applied @ 2.20kg/1 0 sqm. | 4500.00   | sqm  |                     |                      |                          |
| 9.16               | Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :  |           |      |                     |                      |                          |
| a)                 | Two or more coats on new work  | 12000.00  | sqm  |                     |                      |                          |

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|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 9.17               | Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :   |           |      |                     |                      |                          |
| a)                 | Two or more coats on new work  | 3000.00   | sqm  |                     |                      |                          |
| 9.18               | Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:   |           |      |                     |                      |                          |
| a)                 | Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture including cleaning of rust etc complete                               | 3728.00   | sqm  |                     |                      |                          |
| 9.19               | Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete | 18000.00  | sqm  |                     |                      |                          |
| 9.20               | Cleaning of existing MS door and window frame and shiutters including removing rust, dust etc all complete and applying a coat of ready mixed primer of approved brand and manufacture         | 1500.00   | Sqm  |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 9.21               | 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. | 20.00     | sqm  |                     |                      |                          |
| 9.22               | Applying chemical resistant epoxy resin wall coating over plastered surface including preparing of the surface, applying acrylic primer, putty and painting of approved brand and manufacture.   |           |      |                     |                      |                          |
| a)                 | New work (three or more coats) over and including priming coat with acrylic primer and putty.  | 500.00    | sqm  |                     |                      |                          |
|                    |  |           |      |                     |                      |                          |
|                    |  |           |      |                     |                      |                          |
|                    | <b>Total</b>   |           |      |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <b>10.0</b>        | <b>Miscellaneous</b>   |           |      |                     |                      |                          |
| 10.01              | Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq. meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground within 50 metres lead : |           |      |                     |                      |                          |
| a)                 | With cement mortar 1:4 (1 cement : 4 fine sand)  | 200.00    | sqm  |                     |                      |                          |
| 10.02              | Making the opening in brick masonry including dismantling in floor or walls by cutting masonry and making good the damages to walls, flooring and jambs complete, to match existing surface i/c disposal of mulba/ rubbish to the nearest municipal dumping ground.                                    |           |      |                     |                      |                          |
| a)                 | For door/ window/ clerestory window  | 20.00     | sqm  |                     |                      |                          |
| 10.03              | Renewing glass panes, with wooden fillets wherever necessary:  |           |      |                     |                      |                          |
| a)                 | Float glass panes of thickness 4 mm  | 50.00     | sqm  |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit  | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4     | 5                   | 6                    | 7                        |
| 10.04              | Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.   | 22000.00  | sqm   |                     |                      |                          |
| 10.05              | Painting (one or more coats) on rain water, soil, waste and vent pipes and fittings with synthetic enamel paint of approved brand and manufacture and required colour on old work :                  |           |       |                     |                      |                          |
| a)                 | 75 mm diameter pipes   | 150.00    | metre |                     |                      |                          |
| b)                 | 100 mm diameter pipes  | 200.00    | metre |                     |                      |                          |
| 10.06              | Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.   |           |       |                     |                      |                          |
| a)                 | Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)   | 40.00     | cum   |                     |                      |                          |
| b)                 | Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)   | 70.00     | cum   |                     |                      |                          |
| 10.07              | Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. |           |       |                     |                      |                          |

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| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| a)                 | In cement mortar  | 60.00     | cum  |                     |                      |                          |
| 10.08              | Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead : |           |      |                     |                      |                          |
| a)                 | Of area 3 sq. metres and below  | 20.00     | each |                     |                      |                          |
| b)                 | Of area beyond 3 sq. metres   | 12.00     | each |                     |                      |                          |
| 10.09              | Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :   |           |      |                     |                      |                          |
| a)                 | Of area 3 sq. metres and below  | 5.00      | each |                     |                      |                          |
| b)                 | Of area beyond 3 sq. metres   | 5.00      | each |                     |                      |                          |
| 10.10              | Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.  |           |      |                     |                      |                          |
| a)                 | For thickness of tiles 10 mm to 25 mm   | 300.00    | sqm  |                     |                      |                          |
| 10.11              | Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.          | 50.00     | sqm  |                     |                      |                          |



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| Item No            | Description Of Item   | Total Qty | Unit  | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4     | 5                   | 6                    | 7                        |
| 10.12              | Dismantling G.I. pipes (external work) including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means including stacking of pipes within 50 metres lead as per direction of Engineer-in-charge :       |           |       |                     |                      |                          |
| a)                 | 15 mm to 40 mm nominal bore   | 300.00    | metre |                     |                      |                          |
| b)                 | Above 40 mm nominal bore  | 50.00     | metre |                     |                      |                          |
| 10.13              | Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.  | 50.00     | each  |                     |                      |                          |
| 10.14              | Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.   | 300.00    | sqm   |                     |                      |                          |
| 10.15              | Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable surplus material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge. | 100.00    | sqm   |                     |                      |                          |

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|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 10.16              | Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved. | 100.00    | cum  |                     |                      |                          |
| 10.17              | Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.  | 36.00     | each |                     |                      |                          |

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|--------------------|---|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item   | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 10.18              | Providing and fixing 8mm thick clear multi wall 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. |           |      |                     |                      |                          |
|                    | 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. ( Plan Area shall be measured for the payment) ( Framing to be paid separately )   | 30.00     | sqm  |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 10.19              | Supplying and placing Double seater multiseater chair with perforated metal sheet duly powder coated with arms in capsule pipe, side in 2" round pipe and bottom support in 3" x 1/2" in 14 gauge.   | 10.00     | nos. |                     |                      |                          |
| 10.20              | Supplying and placing Triple seater multiseater chair with perforated metal sheet duly powder coated with arms in capsule pipe, side in 2" round pipe and bottom support in 3" x 1/2" in 14 gauge.   | 10.00     | nos. |                     |                      |                          |
| 10.21              | 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. | 276.00    | sqm  |                     |                      |                          |
| <b>Total</b>       |  |           |      |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| <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. | 2500.00   | SQM  |                     |                      |                          |
| 11.02              | Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres.   |           |      |                     |                      |                          |
| a)                 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | 5.00      | Mtr  |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 11.03              | Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/expansion, construction & longitudinal joints ( 10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint fillers, sealants, dowel bars with sleeve/ tie bars to be paid separately). |           |      |                     |                      |                          |
|                    | Note:- Cement content considered in M-30 is @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.  |           |      |                     |                      |                          |

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| 1                  | 2   | 3         | 4     | 5                   | 6                    | 7                        |
| a)                 | Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer  | 260.00    | cum   |                     |                      |                          |
| 11.04              | Extra for providing and mixing hardening compound of approved quality as per manufacturer's specification in cement concrete  | 200.00    | litre |                     |                      |                          |
| 11.05              | Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads& lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge |           |       |                     |                      |                          |
| a)                 | With material conforming to Grade-II (size range 53 mm to 0.075 mm ) having CBR Value-25  | 200.00    | cum   |                     |                      |                          |

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| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 11.06              | Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-in- charge. | 125.00    | cum  |                     |                      |                          |
| 11.07              | Providing and laying C.C. pavement of mix M25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).  | 72.00     | Cum  |                     |                      |                          |



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| Item No            | Description Of Item   | Total Qty | Unit                                   | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2   | 3         | 4                                      | 5                   | 6                    | 7                        |
| 11.08              | Providing and laying in position bitumen hot sealing compound for expansion joints etc  |           |  |                     |                      |                          |
| a)                 | Using grade 'A' sealing compound.   | 3500.00   | Per cm depth per cm width per m length |                     |                      |                          |
| 11.09              | Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction and of approved size and design/ shape laid in required colour and pattern over and including 50mm thick compacted bed of fine sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. | 500.00    | sqm                                    |                     |                      |                          |

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| 1                  | 2   | 3         | 4    | 5                   | 6                    | 7                        |
| 11.10              | 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). | 35.00     | Cum  |                     |                      |                          |
| 11.11              | 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).   | 150.00    | Cum  |                     |                      |                          |

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| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 11.12              | 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).   | 25.00     | Cum  |                     |                      |                          |
| 11.13              | 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.   | 500.00    | Sqm  |                     |                      |                          |
| 11.14              | 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).  | 25.00     | Cum  |                     |                      |                          |
| 11.15              | Fine dressing of the ground  | 500.00    | Sqm  |                     |                      |                          |
| 11.16              | 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  | 500.00    | Sqm. |                     |                      |                          |

**Project Name: Renovation work at General Hospital & Balance work of existing  
Housing units at Kalpana Chawala Government Medical College Karnal**

| BOQ for Civil work |  |           |      |                     |                      |                          |
|--------------------|--|-----------|------|---------------------|----------------------|--------------------------|
| Item No            | Description Of Item  | Total Qty | Unit | Rate in Figures(Rs) | Rate in Words(in Rs) | Amount in Figures(in Rs) |
| 1                  | 2  | 3         | 4    | 5                   | 6                    | 7                        |
| 11.17              | Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately): |           |      |                     |                      |                          |
| a)                 | Holes 1.2 m dia and 1.2 m deep.  | 20.00     | Each |                     |                      |                          |
| b)                 | Holes 60 cm dia, and 60 cm deep.   | 30.00     | Each |                     |                      |                          |
|                    |  |           |      |                     |                      |                          |
|                    | <b>Sub Total</b>   |           |      |                     |                      |                          |

# **PHE Works**

## ABSTRACT

**Name of Work: Estimate of Balance & Renovation work of proposed building at KCGMC, Karnal**

| <b>S.No.</b> | <b>DESCRIPTION</b>         | <b>Amount in figures(in Rs.)</b> |
|--------------|----------------------------|----------------------------------|
| <b>A</b>     | <b>PLUMBING WORK</b>       |                                  |
| 1.00         | SANITARY FIXTURES          |                                  |
| 2.00         | SOIL, WASTE AND VENT PIPES |                                  |
| 3.00         | WATER SUPPLY               |                                  |
| 4.00         | SEWERAGE AND DRAINAGE      |                                  |
| 5.00         | EARTH WORK                 |                                  |
| 6.00         | RAIN WATER PIPING          |                                  |
| 7.00         | BOREWELL                   |                                  |
| 8.00         | RAIN WATER HARVESTING      |                                  |
|              | <b>TOTAL</b>               |                                  |

Design & Engineering Department

Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal

| Sl. No.     | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
|-------------|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| 1           | 2            | 3   | 4    | 5          |                          |                         |                           |
| <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)          | 17.1.1       | White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests   | each | 20.00      |                          |                         |                           |
| 1.02        | 17.3         | Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : |      |            |                          |                         |                           |
| a)          | 17.3.2       | W.C. pan with ISI marked black solid plastic seat and lid   | each | 70.00      |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 1.03   | 17.4         | Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : |      |            |                          |                         |                           |
| a)   | 17.4.2       | Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern  | each | 16.00      |                          |                         |                           |
| 1.04   | 17.7         | 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 :  |      |            |                          |                         |                           |
| a)   | 17.7.2       | White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap  | each | 140.00     |                          |                         |                           |
| 1.05   | 17.10        | 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)   | 17.10.2      | Kitchen sink without drain board   |      |            |                          |                         |                           |
| ai)  | 17.10.2.1    | 610x510 mm bowl depth 200 mm   | each | 40.00      |                          |                         |                           |
| 1.06   | 17.14        | Extra for using coloured W.C. pan instead of white W.C. pan :  |      |            |                          |                         |                           |



| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| a)   | 17.14.1      | Orissa pattern W.C. pan 580x440 mm   | each | 20.00      |                          |                         |                           |
| 1.07   | 17.32        | Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :  |      |            |                          |                         |                           |
| a)   | 17.32.2      | Rectangular shape 453x357 mm   | each | 140.00     |                          |                         |                           |
| 1.08   | 17.33        | Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.                      | each | 82.00      |                          |                         |                           |
| 1.09   | 17.34        | Providing and fixing toilet paper holder :   |      |            |                          |                         |                           |
| a)   | 17.34.2      | Vitreous china   | each | 70.00      |                          |                         |                           |
| 1.10   | 17.71        | 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 | 140.00     |                          |                         |                           |
| 1.11   | NS           | 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 | 60.00      |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 1.12   | NS           | 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 | 40.00      |                          |                         |                           |
| 1.13   | NS           | Providing and fixing CP brass towel rail size of 600x20 mm of approved make complete with CP brackets fixed to wooden cleats with CP brass screws(Jaquar model no.1111 or equivalent model of other approved make) | Each | 140.00     |                          |                         |                           |
| 1.14   | NS           | Providing and fixing brass coat hook of approved quality and make complete with material of fixing   | Each | 90.00      |                          |                         |                           |
| 1.15   | NS           | Providing and fixing stainless steel grab bar 25mm dia of required length minimum 750 mm with PVC cleats, C.P. brass screws etc. complete.   | Each | 10.00      |                          |                         |                           |
| 1.16   | NS           | 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 | 32.00      |                          |                         |                           |
|  |              |  |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 1.17   | NS           | Supply , installation, testing and commissioning of compact floor mounted pedestal base surgical scrub sink tailor made to suit the site available compatiabile 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 satain 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 1.4mX0.54mX0.84m with 1 user elbow operated mixture tap, soap dispensers, drain outlet ,thermostatic control of water temperature   | Each | 1.00       |                          |                         |                           |
| b)   |              | Tailor made surgical scrub sink (4 bay) Approximate size 2.4mX0.54mX0.84m with 3 user elbow operated mixture tap, two soap dispensers, two drain outlet ,thermostatic control of water temperature   | Each | 1.00       |                          |                         |                           |
| <b>SubTotal(Sanitary Fixtures)</b>   |              |  |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| <b>2.00</b>  |              | <b>SOIL, WASTE AND VENT PIPES</b>   |       |            |                          |                         |                           |
| 2.01   | 17.35        | Providing and fixing soil, waste and vent pipes.  |       |            |                          |                         |                           |
| a)   | 17.35.1      | 100 mm dia.   |       |            |                          |                         |                           |
| i)   | 17.35.1.2    | Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989   | Metre | 600.00     |                          |                         |                           |
| 2.02   | NS           | Providing and fixing soil, waste and vent pipes IS 13592 & fittings (IS: 14735) suitable to rubber ring joints, which includes bends, rubber ring, jointing, junctions, cleanout plug, cowls, offsets, collar, M.S. holder- bat clamps, access pieces etc. complete including jointing.                                     |       |            |                          |                         |                           |
| a)   |              | 110 mm dia PVC SWR socketed pipe with rubber ring joints as per IS: 13592 Type-B  | Metre | 100.00     |                          |                         |                           |
| b)   |              | 90 mm dia PVC SWR socketed pipe with rubber ring joints as per IS: 13592 Type-B   | Metre | 40.00      |                          |                         |                           |
| 2.03   | 17.37        | Providing and fixing M.S holder-bat clamps of approved design to PVC/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)   | 17.37.1      | for 100 mm dia. pipe  | Each  | 180.00     |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 2.04   | 17. 38       | Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.                       |      |            |                          |                         |                           |
| a)   | 17.38.1      | 100 mm  |      |            |                          |                         |                           |
| a i)   | 17.38.1.2    | Sand cast iron S&S as per IS-3989   | Each | 50.00      |                          |                         |                           |
| 2.05   | 17. 39       | Providing and fixing plain bend of required degree.   |      |            |                          |                         |                           |
| a)   | 17.39.1      | 100 mm  |      |            |                          |                         |                           |
| a i)   | 17.39.1.2    | Sand cast iron S&S as per IS:3989   | Each | 80.00      |                          |                         |                           |
| 2.06   | 17. 40       | Providing and fixing heel rest sanitary bend.   |      |            |                          |                         |                           |
| a)   | 17.40.1      | 100 mm dia  |      |            |                          |                         |                           |
| a.i)   | 17.40.1.2    | sand cast iron S&S as per IS-3989   | Each | 60.00      |                          |                         |                           |
| 2.07   | 17. 43       | Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete. |      |            |                          |                         |                           |
| a)   | 17.43.1      | 100x100x100mm   |      |            |                          |                         |                           |
| a.i)   | 17.43.1.2    | sand cast iron S&S as per IS-3989   | Each | 60.00      |                          |                         |                           |
| 2.08   | 17. 44       | Providing and fixing single equal plain junction of required degree   |      |            |                          |                         |                           |
| a)   | 17.44.1      | 100x100x100mm   |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| a)   | 17.44.1.2    | sand cast iron S&S as per IS-3989   | Each | 2.00       |                          |                         |                           |
| 2.09   | 17.55        | Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete   |      |            |                          |                         |                           |
| a)   | 17.55.1      | 100 mm  |      |            |                          |                         |                           |
| a i)   | 17.55.1.2    | sand cast iron S&S as per IS-3989   | Each | 20.00      |                          |                         |                           |
| 2.10   | 17.56        | Providing and fixing terminal guard.  |      |            |                          |                         |                           |
| a)   | 17.56.1      | 100 mm  | Each | 20.00      |                          |                         |                           |
| a i)   | 17.56.1.2    | sand cast iron S&S as per IS-3989   |      |            |                          |                         |                           |
| 2.11   | 17.57        | Providing and fixing collar   |      |            |                          |                         |                           |
| a)   | 17.57.1      | 100 mm  |      |            |                          |                         |                           |
| a i)   | 17.57.1.2    | Sand cast iron S&S as per IS-3989   | Each | 60.00      |                          |                         |                           |
| 2.12   | 17.58        | Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:   |      |            |                          |                         |                           |
| a)   | 17.58.1      | 100 mm  | Each | 500.00     |                          |                         |                           |
| 2.13   | NS           | 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 | 100.00     |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |       |            |                          |                         |                           |
|--|--------------|--|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| 2.14   | 17.59        | Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :   |       |            |                          |                         |                           |
| a)   | 17.59.1      | 100 mm   | Each  | 20.00      |                          |                         |                           |
| 2.15   | 17.60        | 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)   | 17.60.1      | 100 mm inlet and 100 mm outlet   |       |            |                          |                         |                           |
| a i)   | 17.60.1.1    | Sand cast iron S&S as per IS-3989  | Each  | 100.00     |                          |                         |                           |
| 2.16   | 17.61        | 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)   | 17.61.1      | 100 mm diameter pipe   | Metre | 200.00     |                          |                         |                           |
| 2.17   | 17.65        | 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)   | 17.65.1      | 100 mm diameter pipe   | Metre | 500.00     |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |       |            |                          |                         |                           |
|--|--------------|--|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| 2.18   | NS           | 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. Pipe will be paid separately. | Each  | 32.00      |                          |                         |                           |
| 2.19   | NS           | 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  | 60.00      |                          |                         |                           |
| 2.20   | NS           | 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  | 32.00      |                          |                         |                           |
| 2.21   | NS           | 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 SCI/centrifugally S&S pipe diameter.                                   |       |            |                          |                         |                           |
| a)   |              | 100 mm dia   | Metre | 100.00     |                          |                         |                           |
| 2.22   | NS           | 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 SCI/centrifugally S&S pipe diameter.                                   |       |            |                          |                         |                           |
| a)   |              | 110/90 mm dia  | Metre | 200.00     |                          |                         |                           |



| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| 2.23   | NS           | 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  | 10.00      |                          |                         |                           |
| 2.24   | NS           | 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  | 108.00     |                          |                         |                           |
| 2.25   | NS           | Providing and fixing GI. pipes complete with GI fittings including painting, jointing, testing the cost of cutting the chases 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 | 69.00      |                          |                         |                           |
| b)   |              | 40 mm dia nominal bore (Sink, Urinal to floor trap)   | Metre | 42.00      |                          |                         |                           |
| c)   |              | 50 mm dia nominal bore (Floor Drain to Floor Trap)  | Metre | 39.00      |                          |                         |                           |
| 2.26   | NS           | Providing & fixing SS floor trap grating 143x143x5mm thick screwable with SS fixed frame of 150x150 mm size as per approved make & model  | each  | 100.00     |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 2.27   | NS           | 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 | 30.00      |                          |                         |                           |
| <b>SUB TOTAL(SOIL, WASTE AND VENT PIPES)</b>   |              |   |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |       |            |                          |                         |                           |
|--|--------------|--|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| <b>3.00</b>  |              | <b>WATER SUPPLY</b>  |       |            |                          |                         |                           |
| 3.01   | 18.1         | Providing and fixing Polyethelene-Aluminium-Polyethelene (PE-AL-PE) Composite Pressure Pipes conforming to IS - 15450, U.V. stabilized with carbon black having thermal stability for hot & cold water supply, capable to withstand temperature up to 80 OC, including all special fittings of composite material (engineering plastic blend and brass inserts wherever required) e.g. elbows, tees, reducers, couplers & connectors etc., with clamps at 1.00 metre spacing. This includes testing of joints complete as per direction of the Engineer in charge. |       |            |                          |                         |                           |
|  |              | <b>Internal work - Exposed on wall</b>   |       |            |                          |                         |                           |
| a)   | 18.1.1       | 1216 (16 mm OD) pipe   | Metre | 50.00      |                          |                         |                           |
| b)   | 18.1.2       | 1620 (20 mm OD) pipe   | Metre | 150.00     |                          |                         |                           |
| c)   | 18.1.3       | 2025 (25 mm OD) pipe   | Metre | 25.00      |                          |                         |                           |
| d)   | 18.1.4       | 2532 (32 mm OD) pipe   | Metre | 50.00      |                          |                         |                           |
| e)   | 18.1.5       | 3240 (40 mm OD) pipe   | Metre | 100.00     |                          |                         |                           |
| f)   | 18.1.6       | 4050 (50 mm OD) pipe   | Metre | 100.00     |                          |                         |                           |
| 3.02   | 18.10        | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.   |       |            |                          |                         |                           |
|  |              | <b>Internal work - Exposed on wall</b>   |       |            |                          |                         |                           |
| a)   | 18.10.1      | 15 mm dia nominal bore   | Metre | 170.00     |                          |                         |                           |
| b)   | 18.10.2      | 20 mm dia nominal bore   | Metre | 150.00     |                          |                         |                           |
| c)   | 18.10.3      | 25 mm dia nominal bore   | Metre | 200.00     |                          |                         |                           |
| d)   | 18.10.4      | 32 mm dia nominal bore   | Metre | 90.00      |                          |                         |                           |
| e)   | 18.10.5      | 40 mm dia nominal bore   | Metre | 40.00      |                          |                         |                           |
| f)   | 18.10.6      | 50 mm dia nominal bore   | Metre | 50.00      |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| 3.03   | 18.11        | Providing and fixing G.I. Pipes complete with G.I. fittings and clamps, i/c making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall : |       |            |                          |                         |                           |
| a)   | 18.11.1      | 15 mm dia nominal bore  | Metre | 760.00     |                          |                         |                           |
| b)   | 18.11.2      | 20 mm dia nominal bore  | Metre | 260.00     |                          |                         |                           |
| c)   | NS           | 25 mm dia nominal bore  | Metre | 50.00      |                          |                         |                           |
| 3.04   | 18.12        | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.  |       |            |                          |                         |                           |
|  |              | <b>External work</b>  |       |            |                          |                         |                           |
| a)   | 18.12.6      | 50 mm dia nominal bore  | Metre | 40.00      |                          |                         |                           |
| b)   | 18.12.7      | 65 mm dia nominal bore  | Metre | 40.00      |                          |                         |                           |
| 3.05   | 18.13        | 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)   | 18.13.2      | 50 to 80 mm nominal bore  | Each  | 12.00      |                          |                         |                           |
| 3.06   | 18.17        | providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)   |       |            |                          |                         |                           |
| a)   | 18.17.1      | 25 mm nominal bore  | Each  | 50.00      |                          |                         |                           |
| b)   | 18.17.2      | 32 mm nominal bore  | Each  | 14.00      |                          |                         |                           |
| c)   | 18.17.3      | 40 mm nominal bore  | Each  | 18.00      |                          |                         |                           |
| d)   | 18.17.4      | 45 mm nominal bore  | Each  | 8.00       |                          |                         |                           |
| e)   | 18.17.5      | 65 mm nominal bore  | Each  | 4.00       |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 3.07   | 18. 18       | Providing and fixing ball valve (brass) of approved quality, High or low pressure with plastic floats complete   |      |            |                          |                         |                           |
| a)   | 18.18.1      | 15mm   | Each | 8.00       |                          |                         |                           |
| b)   | 18.18.2      | 20mm   | Each | 8.00       |                          |                         |                           |
| 3.08   | 18.20        | Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main   |      |            |                          |                         |                           |
| a)   | 18.20.3      | 25 mm nominal bore   | Each | 2.00       |                          |                         |                           |
| 3.09   | 18. 21       | Providing and fixing unplasticised PVC connection pipe with brass unions:  |      |            |                          |                         |                           |
| a)   | 18.21.2      | 45 cm length   |      |            |                          |                         |                           |
| a i)   | 18.21.2.1    | 15 mm nominal bore   | Each | 382.00     |                          |                         |                           |
| 3.10   | 18. 32       | 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)   | 18.32.1      | With F.P.s bricks  | Each | 6.00       |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| 3.11   | 18.33        | 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)   | 18.33.1      | With F.P.s bricks  | each  | 5.00       |                          |                         |                           |
| 3.12   | 18.38        | Painting 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   |       |            |                          |                         |                           |
| a)   | 18.38.1      | 15 mm nominal outer dia pipes  | Metre | 170.00     |                          |                         |                           |
| b)   | 18.38.2      | 20 mm nominal outer dia pipes  | Metre | 150.00     |                          |                         |                           |
| c)   | 18.38.3      | 25 mm nominal outer dia pipes  | Metre | 200.00     |                          |                         |                           |
| d)   | 18.38.4      | 32 mm nominal outer dia pipes  | Metre | 90.00      |                          |                         |                           |
| e)   | 18.38.5      | 40 mm nominal outer dia pipes  | Metre | 40.00      |                          |                         |                           |
| f)   | 18.38.6      | 50 mm nominal outer dia pipes  | Metre | 50.00      |                          |                         |                           |
| 3.13   | 18.40        | Painting GI pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.  |       |            |                          |                         |                           |
| a)   | 18.40.6      | 50 mm diameter pipe  | Metre | 40.00      |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item   | Unit      | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4         | 5          |                          |                         |                           |
| b)   | 18.40.7      | 65 mm diameter pipe   | Metre     | 40.00      |                          |                         |                           |
| 3.14   | 18.41        | Providing and filling sand of grading zone V or coarser grade all-around the G.I./CPVC pipes in external work   |           |            |                          |                         |                           |
| a)   | 18.41.6      | 50 mm diameter pipe   | Metre     | 40.00      |                          |                         |                           |
| b)   | 18.41.7      | 65 mm diameter pipe   | Metre     | 40.00      |                          |                         |                           |
| 3.15   | 18.46        | Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work)   |           |            |                          |                         |                           |
| a)   | 18.46.1      | 15 mm nominal bore  | Metre     | 10.00      |                          |                         |                           |
| b)   | 18.46.2      | 20 mm nominal bore  | Metre     | 10.00      |                          |                         |                           |
| c)   | 18.46.3      | 25 mm nominal bore  | Metre     | 6.00       |                          |                         |                           |
| d)   | 18.46.4      | 32 mm nominal bore  | Metre     | 8.00       |                          |                         |                           |
| e)   | 18.46.5      | 40 mm nominal bore  | Metre     | 8.00       |                          |                         |                           |
| f)   | 18.46.6      | 50 mm nominal bore  | Metre     | 4.00       |                          |                         |                           |
| g)   | 18.46.7      | 65 mm nominal bore  | Metre     | 4.00       |                          |                         |                           |
| 3.16   | 18.48        | 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. |           |            |                          |                         |                           |
|  | a)           | Treated water Tank and Untreated water tank   | per litre | 70,000.00  |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 3.17   | 18.49        | Providing and fixing C.P brass bib cock of approved quality confirming to IS:8931.  |      |            |                          |                         |                           |
| a)   | 18.49.1      | 15 mm nominal bore  | Each | 90.00      |                          |                         |                           |
| 3.18   | 18.50        | 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)   | 18.50.1      | 15 mm nominal bore  | Each | 120.00     |                          |                         |                           |
| 3.19   | 18.53        | Providing and fixing C.P. brass angle valve for basin mixer and geyser/cisterns points of approved quality conforming to IS:8931.   |      |            |                          |                         |                           |
| a)   | 18.53.1      | 15 mm nominal bore  | Each | 382.00     |                          |                         |                           |
| 3.20   | 18.52        | Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.  |      |            |                          |                         |                           |
| a)   | 18.52.1      | 15mm nominal bore.  | Each | 81.00      |                          |                         |                           |
| 3.21   | 18.60        | 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)   | 18.60.1      | 80mm dia nominal bore   | Each | 1.00       |                          |                         |                           |



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| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 3.22   | 18.62        | 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)   | 18.62.4      | 40 mm nominal bore, 206 mm long weighin not less than 690 gms   | Each | 18.00      |                          |                         |                           |
| b)   | 18.62.5      | 50 mm nominal bore, 242 mm long weighin not less than 1240 gms  | Each | 18.00      |                          |                         |                           |
| 3.23   | 18.76        | Cutting holes upto 30x30 cm in walls including making good the same   |      |            |                          |                         |                           |
| a)   | 18.76.1      | with common burnt clay F.P.S.(non modular) bricks   | Each | 150.00     |                          |                         |                           |
| 3.24   | 18.77        | 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 | 150.00     |                          |                         |                           |
| 3.25   | NS           | Extra for providing wash basin push type pillar tap in place of normal pillar tap   | Each | 50.00      |                          |                         |                           |
| 3.26   | NS           | Extra for providing bath wall mixer with bend pipe on upper side (Jaquar model CON273 or equivalent approved) in place of normal concealed cock 2 nos. and 1 no. long nose tap  | Each | 40.00      |                          |                         |                           |

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| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| 3.27   | NS           | 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  | 36.00      |                          |                         |                           |
| b)   |              | 20 mm diameter  | Each  | 52.00      |                          |                         |                           |
| 3.28   | NS           | 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  | 10.00      |                          |                         |                           |
| b)   |              | 25 mm diameter  | Each  | 10.00      |                          |                         |                           |
| c)   |              | 32 mm diameter  | Each  | 6.00       |                          |                         |                           |
| d)   |              | 40 mm diameter  | Each  | 2.00       |                          |                         |                           |
| 3.29   | NS           | 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 | 100.00     |                          |                         |                           |
| b)   |              | 32 mm to 50 mm diameter   | Meter | 20.00      |                          |                         |                           |
| 3.30   | NS           | Providing and fixing C.P. brass Overhead (Rain Fall) shower (100mm) with arm and wall flange complete including cutting and making good the walls wherever required.  | Each  | 40.00      |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 3.31   | NS           | 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)   | a)           | 25 Litre Capacity  | Each | 40.00      |                          |                         |                           |
| 3.32   | NS           | 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 | 16.00      |                          |                         |                           |

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| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 3.33   | NS           | Supplying, installing, testing and commissioning horizontal monobloc 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 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 250 lpm  |      |            |                          |                         |                           |
|  |              | Head 50M  | Each | 2.00       |                          |                         |                           |
| b)   |              | <b>Domestic water pumps (Raw water Transfer pump to terrace tank)</b>   |      |            |                          |                         |                           |
|  |              | Capacity 150 lpm  |      |            |                          |                         |                           |
|  |              | Head 50M  | Each | 2.00       |                          |                         |                           |
|  |              | <b>SUB TOTAL(Water Supply)</b>  |      |            |                          |                         |                           |

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| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| <b>4.00</b>  |              | <b>SEWARAGE &amp; DRAINAGE</b>  |       |            |                          |                         |                           |
| 4.01   | 19. 1        | Providing laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the pro-portion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete.  |       |            |                          |                         |                           |
| a)   | 19.1.1       | 100 mm diameter   | Metre | 80.00      |                          |                         |                           |
| 4.02   | 19. 2        | 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)   | 19.2.1       | 100 mm diameter S.W. pipe/RCC NP2   | Metre | 40.00      |                          |                         |                           |
| b)   | 19.2.2       | 150 mm diameter S.W. pipe/RCC NP2   | Metre | 500.00     |                          |                         |                           |
| c)   | 19.2.3       | 250 mm diameter S.W. pipe/RCC NP2   | Metre | 220.00     |                          |                         |                           |
| 4.03   | 19. 4        | Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating, brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:. |       |            |                          |                         |                           |
| a)   | 19.4.2       | 150x100mm size P type   |       |            |                          |                         |                           |
| a.i)   | 19.4.2.1     | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Each  | 34.00      |                          |                         |                           |

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| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| 4.04   | 19. 6        | 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)   | 19.6.2       | 150 mm dia R.C.C. pipe   | Metre | 500.00     |                          |                         |                           |
| b)   | 19.6.3       | 250 mm dia R.C.C. pipe   | Metre | 220.00     |                          |                         |                           |
| 4.05   | 19. 7        | 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)   | 19.7.1       | 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)   | 19.7.1.1     | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Each  | 22.00      |                          |                         |                           |
| 4.06   | 19. 8        | Extra depth for manholes   |       |            |                          |                         |                           |
| a)   | 19.8.1       | Size 90 x 80 cm  |       |            |                          |                         |                           |

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| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| a i)   | 19.8.1.1     | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Metre | 3.00       |                          |                         |                           |
| 4.07   | 19. 9        | 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)   | 19.9.1       | 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)   | 19.9.1.1     | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Each  | 6.00       |                          |                         |                           |
| 4.08   | 19. 10       | Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m  |       |            |                          |                         |                           |
| a)   | 19.10.1      | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5  | Metre | 2.00       |                          |                         |                           |
|  |              |  |       |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| 4.09   | 19. 11       | Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 ( 1 cement: 4 coarse sand) inside 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 nominalsize) finished with a floating coat of neat cement complete as per standard design. |       |            |                          |                         |                           |
| a)   | 19.11.1      | 1.68 m deep with SFRC cover and frame(heavy duty HD-20 grade designation) 560 mm internal diameter conforming to IS: 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominalsize) including centering shuttering all complete. (Excavation, foot rests and 12 mm tick cement plaster at the external surface shall be paid for separately)   |       |            |                          |                         |                           |
| a.i)   | 19.11.1.1    | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Each  | 4.00       |                          |                         |                           |
| 4.10   | 19. 12       | Extra depth for circular type manhole 1.22 m internal dia (at bottom) with beyond 1.68 m to 2.29 m  |       |            |                          |                         |                           |
| a)   | 19.12.1      | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5   | Metre | 1.00       |                          |                         |                           |



| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 4.11   | 19. 16       | 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 | 40.00      |                          |                         |                           |
| 4.12   | 19. 21       | 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)   | 19.21.1      | For pipes 100 to 250 mm dia   | Each | 3.00       |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
| 4.13   | 19.22        | Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid sand cast Iron drop pipe and bend encased all-round with cement concrete 1 :5:1 0 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement: 4 coarse sand) plastered with cement mortar 1:3 (1 cement: 3 coarse sand) on, inside of the manhole wall lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement: 1 fine sand) joints between sand cast iron tee and S.W. pipe, making required channels complete as per standard design and specifications: |      |            |                          |                         |                           |
| a)   | 19.22.2      | 150 mm dia. sand cast iron drop connection   | Each | 3.00       |                          |                         |                           |
| 4.14   | 19.27        | 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)   | 19.27.1      | With common burnt clay F.P.S. (non modular) bricks of class designation  | Each | 26.00      |                          |                         |                           |
|  |              |  |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |       |            |                          |                         |                           |
|--|--------------|--|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| 4.15   | NS           | 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 75 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 | 160.00     |                          |                         |                           |
|  |              | 45cm drain 75cm average depth  |       |            |                          |                         |                           |
| b)   |              | With F.P.S bricks  | Metre | 100.00     |                          |                         |                           |
| <b>SUB TOTAL(SEWERAGE AND DRAINAGE)</b>  |              |  |       |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| <b>5.00</b>  |              | <b>EARTH WORK</b>   |       |            |                          |                         |                           |
| 5.01   | 2.6          | Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means in foundation,trenches or drains(not exceeding 1.5m in width or 10 sqm on plan) ,including dressing of sides and ramming of bottoms, lift upto 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m   |       |            |                          |                         |                           |
| a)   | 2.6.1        | All kinds of soil   | cum   | 53.00      |                          |                         |                           |
| 5.02   | 2.10         | 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)   | 2.10.1       | All kinds of soil   |       |            |                          |                         |                           |
| a.ii)  | 2.10.1.2     | Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia   | metre | 610.00     |                          |                         |                           |
| 5.03   | 2.25         | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m  | cum   | 17.00      |                          |                         |                           |
|  |              | <b>SUB TOTAL(EARTH WORK)</b>  |       |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| <b>6.00</b>  |              | <b>RAIN WATER PIPING</b>  |       |            |                          |                         |                           |
| 6.01   | 12.41        | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.                            |       |            |                          |                         |                           |
|  |              | 75 mm diameter  |       |            |                          |                         |                           |
| a)   | 12.41.2      | 110 mm diameter   | Metre | 250        |                          |                         |                           |
| b)   | NS           | 160 mm diameter   | Metre | 90         |                          |                         |                           |
| 6.02   | 12.42        | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion. |       |            |                          |                         |                           |
| a)   | 12.42.4      | Single tee without door   |       |            |                          |                         |                           |
| i)   | 12.42.4.2    | 110x110x110 mm  | each  | 12         |                          |                         |                           |
| ii)  | NS           | 160x160x160 mm  | each  | 4          |                          |                         |                           |
| b)   | 12.42.5      | Bend 87.5°  |       |            |                          |                         |                           |
| i)   | 12.42.5.2    | 110 mm bend   | each  | 12         |                          |                         |                           |
| ii)  | NS           | 160 mm bend   | each  | 4          |                          |                         |                           |
| c)   | 12.42.6      | Shoe (Plain)  |       |            |                          |                         |                           |
| i)   | 12.42.6.2    | 110 mm Shoe   | each  | 12         |                          |                         |                           |
| ii)  | NS           | 160 mm Shoe   | each  | 4          |                          |                         |                           |
| 6.03   | 12.43        | Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length,   |       |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| a)   | 12.43.2      | 110 mm dia  | each | 84         |                          |                         |                           |
| b)   | NS           | 160 mm dia  | each | 28         |                          |                         |                           |
| 6.04   | 12.44        | 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 | 16         |                          |                         |                           |
| <b>SUB TOTAL(Rain Water pipe &amp; fitting)</b>                                      |              |   |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |       |            |                          |                         |                           |
|--|--------------|--|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4     | 5          |                          |                         |                           |
| <b>7.00</b>  |              | <b>BOREWELL(1 No)</b>  |       |            |                          |                         |                           |
| 7.01   | NS           | 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 450mm 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 | 30.0       |                          |                         |                           |
| b)   |              | 30-60m   | metre | 30.0       |                          |                         |                           |
| c)   |              | 60-90m   | metre | 30.0       |                          |                         |                           |
| d)   |              | 90-120 m   | metre | 30.0       |                          |                         |                           |
| 7.02   | NS           | Extra additional for drilling in Ordinary Rock if any found  | metre | 25.0       |                          |                         |                           |
| 7.03   | NS           | Extra additional for drilling in Hard Rock if any found  | metre | 25.0       |                          |                         |                           |
| 7.04   | NS           | Providing and lowering uPVC casing/housing pipe 200mm dia. with wall thickness 10 mm conforming to IS :12818 including sockets of standard design.   | metre | 70.0       |                          |                         |                           |
| 7.05   | NS           | 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)   |              | 200 mm dia uPVC socketed pipe with wall thickness 10.0 mm  | metre | 80.0       |                          |                         |                           |
| 7.06   | NS           | 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  | 1.0        |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |          |            |                          |                         |                           |
|--|--------------|---|----------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit     | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4        | 5          |                          |                         |                           |
| 7.07   | NS           | Providing and laying rounded pea gravel washed & served 3 to 6 mm nominal boreas per relevant ISI code.   | Cum      | 16.0       |                          |                         |                           |
| 7.08   | NS           | Providing and laying cement concrete 1:2:4 mix for sanitary sealing of well at top.   | Cum      | 1.0        |                          |                         |                           |
| 7.09   | NS           | Supplying, lowering and fixing in position reducer ,PVC bail plug with "U" hooks as per IS:2800-1964.   | Each     | 1.0        |                          |                         |                           |
| 7.10   | NS           | 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. |          |            |                          |                         |                           |
|  | i)           |   |          |            |                          |                         |                           |
| a)   |              | Development of Tube well by high capacity air compressor till the clear water discharge but not more than 100 hours.  | per hour | 80.0       |                          |                         |                           |
| 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 | 50.0       |                          |                         |                           |
| 7.11   | NS           | Tranportation, mobilisation and demobilisation or drilling equipment and ancillary equipment to site including clearing and cleaning the site after completion of work.   | set      | 1.0        |                          |                         |                           |
| 7.12   | NS           | Providing and fixing brass full way valve with C.I. wheel of approved make, tested to a pressure of 21 kg/sqcm.   |          |            |                          |                         |                           |
| a)   |              | 100 mm dia  | Each     | 1.0        |                          |                         |                           |



| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| 7.13   | NS           | Providing and fixing gunmetal non return valve of approved make tested to a pressure of 21kg/sqcm.  |       |            |                          |                         |                           |
|  | a)           | 100 mm dia  | Each  | 1.0        |                          |                         |                           |
| 7.14   | NS           | 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. |       |            |                          |                         |                           |
|  | a)           | 100 mm dia  | Metre | 100.0      |                          |                         |                           |
| 7.15   | NS           | Providing & filling sand of grading zone V or coarser grade all around GI pipe in external work   |       |            |                          |                         |                           |
|  | a)           | 100 mm dia  | Metre | 100.0      |                          |                         |                           |
| 7.16   | NS           | Submersible pumps   |       |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |  |      |            |                          |                         |                           |
|--|--------------|--|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item  | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3  | 4    | 5          |                          |                         |                           |
|  |              | Providing and installing submersible pump and electrical panel suitable for 8" 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 500 litre per minute at 70-120 m head along with a directly coupled submersible type squirrel cage electric induction <b>10 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  | 1.0        |                          |                         |                           |
| 7.17   |              | Carrying out Electrical logging of Borewell before lowering of pipe for analysiing of water quality including Electrical logging report, calculation etc.  | Job  | 1.0        |                          |                         |                           |
|  |              | <b>SUBTOTAL (BOREWELL)</b>   |      |            |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |       |            |                          |                         |                           |
|--|--------------|---|-------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit  | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4     | 5          |                          |                         |                           |
| <b>8.00</b>  |              | <b>RAIN WATER HARVESTING(4 NOS.)</b>  |       |            |                          |                         |                           |
| 8.01   | NS           | 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  | 4.0        |                          |                         |                           |
| 8.02   | NS           | 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 | 120.0      |                          |                         |                           |
| 8.03   | NS           | Extra for drilling in Ordinary Rock   | Metre | 20.0       |                          |                         |                           |
| 8.04   | NS           | Extra for drilling in Hard Rock   | Metre | 20.0       |                          |                         |                           |
| 8.05   | NS           | Providing and lowering of 200 mm dia uPVC blank/ slotted pipe with ribs, special fittings, jointing conforming to IS 12818 - 1992.  | Metre | 120.0      |                          |                         |                           |

| Name of Work: BOQ of Balance & Renovation work of proposed building at KCGMC, Karnal |              |   |      |            |                          |                         |                           |
|--|--------------|---|------|------------|--------------------------|-------------------------|---------------------------|
| Sl. No.  | DSR-2012 No. | Description of Item   | Unit | Total Qty. | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2            | 3   | 4    | 5          |                          |                         |                           |
| 8.06   | NS           | 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 | 4.0        |                          |                         |                           |
|  |              | <b>SUBTOTAL (RAIN WATER HARVESTING)</b>   |      |            |                          |                         |                           |

# **Fire Fighting Works**

| <b>Name of Work: BOQ of Balance work of proposed building at KCGMC, Karnal</b> |                                      |  |                                  |
|--|--------------------------------------|--|----------------------------------|
| <b>S.No</b>  | <b>DESCRIPTION OF WORK</b>           |  | <b>Amount in figures(in Rs.)</b> |
| <b>1</b>   | <b>Sub Total(Fire Fighting work)</b> |  |                                  |
|  | <b>GRAND TOTAL</b>                   |  |                                  |
|  |                                      |  |                                  |
|  |                                      |  |                                  |

| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |  |       |           |                          |                      |                           |
|--|---------|--|-------|-----------|--------------------------|----------------------|---------------------------|
| Item No  | DSR No. | Description Of Item  | Unit  | Total Qty | Rate in words(in Rupees) | Rate figures(in Rs.) | Amount in figures(in Rs.) |
| 1  | 2       | 3  | 4     | 5         | 6                        | 7                    | 8                         |
| 1.00   |         | <b>FIRE FIGHTING SYSTEM</b>  |       |           |                          |                      |                           |
| 1.01   |         | 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) |       |           |                          |                      |                           |
| a)   | NS      | 100 mm dia (with Flanged joints)   | Metre | 70.0      |                          |                      |                           |
| 1.02   | NS      | 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  | 14.0      |                          |                      |                           |
| 1.03   |         | 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  | 24.0      |                          |                      |                           |
| 1.04   | NS      | 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  | 4.0       |                          |                      |                           |

| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |   |      |           |                          |                      |                           |
|--|---------|---|------|-----------|--------------------------|----------------------|---------------------------|
| Item No  | DSR No. | Description Of Item   | Unit | Total Qty | Rate in words(in Rupees) | Rate figures(in Rs.) | Amount in figures(in Rs.) |
| 1.05   | NS      | 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 | 14.0      |                          |                      |                           |
| 1.06   | NS      | 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 | 2.0       |                          |                      |                           |
| 1.07   |         | 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)   | NS      | 150 mm dia  | Each | 4.0       |                          |                      |                           |



| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |  |      |           |                          |                         |                           |
|--|---------|--|------|-----------|--------------------------|-------------------------|---------------------------|
| Item No  | DSR No. | Description Of Item  | Unit | Total Qty | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1.08   | 18.3    | 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. |      |           |                          |                         |                           |
| a)   | 18.34.1 | with F.P.S. bricks   | Each | 2.0       |                          |                         |                           |
| 1.09   |         | 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, conforming 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.   |      |           |                          |                         |                           |
|  | NS      | Connection from downcomer/ riser with stop valve (gun metal) & M.S. Pipe   | Each | 12.0      |                          |                         |                           |
| 1.10   | NS      | 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 | 4.0       |                          |                         |                           |

| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |   |      |           |                          |                      |                           |
|--|---------|---|------|-----------|--------------------------|----------------------|---------------------------|
| Item No  | DSR No. | Description Of Item   | Unit | Total Qty | Rate in words(in Rupees) | Rate figures(in Rs.) | Amount in figures(in Rs.) |
| 1.11   | 18.48   | 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 | 50000.0   |                          |                      |                           |
| 1.12   |         | 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)   | NS      | 4.5kg capacity cylinder   | Each | 12.0      |                          |                      |                           |
| 1.13   | NS      | Providing and fixing 9 liters capacity fire extinguisher water type gas pressure conforming to IS marking, fixed to wall.   | Each | 12.0      |                          |                      |                           |
| 1.14   |         | Providing and fixing ABC type fire extinguishers complete in all respects.  |      |           |                          |                      |                           |
| a)   | NS      | Capacity 5.0 Kg.  | Each | 12.0      |                          |                      |                           |
| 1.15   |         | Providing and fixing C.I. non-return valve complete with gunmetal seat, bolts, nuts washer & rubber insertions as required conforming to IS:5312.   |      |           |                          |                      |                           |
| a)   | NS      | 100 mm dia  | Each | 4.0       |                          |                      |                           |

| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |  |      |           |                          |                         |                           |
|--|---------|--|------|-----------|--------------------------|-------------------------|---------------------------|
| Item No  | DSR No. | Description Of Item  | Unit | Total Qty | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| 1.16   |         | Supplying, installing, testing and commissioning of electric motor driven type automatic pressurisation, pump set suitable for automatic operation of terrace down corner and consisting of the following (as per CPWD specifications Part V-1985) for fire fighting and its amendmndts).  |      |           |                          |                         |                           |
| 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 characterstic 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 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  |         | Suitable cement concrete pump foundation with vibration damping arrangememnt with cushy foot mounting as required  |      |           |                          |                         |                           |

| Name of Work:BOQ of Balance work of proposed building at KCGMC, Karnal |         |   |      |           |                          |                         |                           |
|--|---------|---|------|-----------|--------------------------|-------------------------|---------------------------|
| Item No  | DSR No. | Description Of Item   | Unit | Total Qty | Rate in words(in Rupees) | Rate in figures(in Rs.) | Amount in figures(in Rs.) |
| e  | NS 1    | No. 3 Phase, DOL starter of 7.5 HP with thermal overload relay, Push Buttons and Switches,power cable of suitable size from motor to starter including cable gland ,lugs,earth connection etc complete as required. | set  | 4.0       |                          |                         |                           |
|  |         | <b>Sub Total (Fire Fighting items)</b>  |      |           |                          |                         |                           |

# **Electrical Works**

| SUMMARY OF COST FOR ELECTRICAL WORKS . |   |                              |                       |
|--|---|------------------------------|-----------------------|
| S.No.                                  | DESCRIPTION   | Amount<br>In Figure (In Rs.) | Amount in Words (Rs.) |
| 1                                      | SUB HEAD 1 : DG SET & ACCESSORIES                         |                              |                       |
| 2                                      | SUB HEAD 2 :MV PANELS & FEEDER PILLARS :                  |                              |                       |
| 3                                      | SUB HEAD- 3: MCB DISTRIBUTION BOARDS.                     |                              |                       |
| 4                                      | SUB HEAD 4: WIRING  |                              |                       |
| 5                                      | SUB HEAD 5:- REWIRING                                     |                              |                       |
| 6                                      | SUB HEAD: 6 - LIGHT FIXTURE AND FANS                      |                              |                       |
| 7                                      | SUB HEAD : TELEPHONE SYSTEM :                             |                              |                       |
| 8                                      | SUB HEAD 8: CONDUTING FOR TV OUTLETS                      |                              |                       |
| 9                                      | SUB HEAD 9 : FIRE DETECTION AND ALARM                     |                              |                       |
| 10                                     | SUB HEAD 10: LIGHTENING PROTECTION                        |                              |                       |
| 11                                     | SUB HEAD 11 : LIFTS                                       |                              |                       |
| 12                                     | SUB HEAD 12 : LT CABLES                                   |                              |                       |
| 13                                     | SUB HEAD 13: EARTHING SAFETY EQUIPMENT<br>AND MISC. ITEMS |                              |                       |
| 14                                     | SUB HEAD 14: OUT DOOR LIGHTING                            |                              |                       |
| 15                                     | SUB Head 15:Window Air Conditioner                        |                              |                       |
|  | GRAND TOTAL FOR ALL ELECTRICAL WORKS                      |                              |                       |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| 1.00  | 2  | 3     | 4   | 7                        | 8                      | 9             |
| 1.00  | <b>SUB HEAD 1 : DG SET &amp; ACCESSORIES</b>   |       |     |                          |                        |               |
|       | <b>SOUND PROOF DG SETS OF 75 KVA.</b>  |       |     |                          |                        |               |
|       | <b>DG SET OF 75 KVA.</b>   |       |     |                          |                        |               |
| 1.01  | Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 75 KVA Prime Power Ratings , 415 volt at 1500 RPM, 0.8 power factor suitable for 50 Hz, 3 phase system , suitable bhp, 0.85 load factor, water cooled heat exchanger 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 as per technical specification. This includes the following: |       |     |                          |                        |               |
|       | - Supplying and fixing of suitable sizes High class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe for exhaust of DG sets including pollution control board norms and as required.   |       |     |                          |                        |               |
|       | - Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 22 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.  |       |     |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| -     | 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, light fixtures for illumination with switch, wiring for light fixtures and power sockets, etc.  |       |     |                          |                        |               |
| -     | Any other item required for completion of system above (D.G. set)  |       |     |                          |                        |               |
| A.    | <b>DG AMF PANEL WITH AUTO CHANGEOVER SCHEME :</b>  |       |     |                          |                        |               |
|       | Supply, installation, testing and commissioning of DG , 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 aluminium busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coated and having incoming and outgoing switchgears as mentioned below and complete as required. |       |     |                          |                        |               |
| B.    | Auto changeover arrangement through 160 A rating MCCB along with the following AMF components.   |       |     |                          |                        |               |
| C.    | <b>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 - I 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.  |       |     |                          |                        |               |



**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No.       | Description.   | Unit.      | QTY      | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------------|--|------------|----------|--------------------------|------------------------|---------------|
|             | - Battery charger, complete with transformer/rectifier, DC voltmeter and ammeter, selector switch for trickle, off and boost the current adjustment.                                     |            |          |                          |                        |               |
|             | - Main supply failure monitor.   |            |          |                          |                        |               |
|             | - Supply failure timer   |            |          |                          |                        |               |
|             | - 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 stator temperature.  |            |          |                          |                        |               |
|             | b) Low lubricating oil pressure  |            |          |                          |                        |               |
|             | c) Engine over speed   |            |          |                          |                        |               |
|             | d) Engine fails to start   |            |          |                          |                        |               |
|             | e) Full load/ maximum load warning.  |            |          |                          |                        |               |
|             | <b>D. 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. |            |          |                          |                        |               |
|             | E. Suitable control cable for connection from Main LT panel to AMF panel & AMF panel to DG set includes supply, installation & testing of cable.   |            |          |                          |                        |               |
|             | <b>DG SET WITH AMF Panel and Auto change over arrangement as mentioned above</b>   | <b>Set</b> | <b>1</b> |                          |                        |               |
|             | <b>TOTAL SUBHEAD 3: DG SETS</b>  |            |          |                          |                        |               |
| <b>2.00</b> | <b>SUB HEAD 2 :MV PANELS &amp; FEEDER PILLARS :</b>  |            |          |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
|       | Supply, installation, testing and commissioning of following outdoor type feeder pillar with canopy, M.V. cubicle type totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, powder coated and having following incoming and outgoing switchgears complete as required.  |       |     |                          |                        |               |
| 2.01  | <b>MAIN FEEDER PILLAR :</b>   |       |     |                          |                        |               |
|       | a) <b>INCOMER:</b>  |       |     |                          |                        |               |
|       | 160 Amp 415 volts, 25 KA (Isc), FP MCCB with thermal magnetic release having variable current settings .  |       |     |                          |                        |               |
|       | R,Y&B phase indicating lamp (LED type) with 2A control SP MCB   |       |     |                          |                        |               |
|       | Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.  |       |     |                          |                        |               |
|       | b) <b>BUSBARS:</b>  |       |     |                          |                        |               |
|       | 200 Amp FP Aluminium busbars  |       |     |                          |                        |               |
|       | c) <b>OUTGOING:</b>   |       |     |                          |                        |               |
|       | 20 no. 40 Amps , 415 volts, 9 KA ,double Pole, Miniature Circuit Breaker, with ON/ OFF indication.  |       |     |                          |                        |               |
|       | <b>MAIN FEEDER PILLAR : as mentioned above</b>  | Set   | 2   |                          |                        |               |
| 2.02  | <b>MV PANEL :</b>   |       |     |                          |                        |               |
|       | Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, wall mounted type, powder coated, 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. |       |     |                          |                        |               |
|       | <b>MAIN EMERGENCY MV PANEL :</b>  |       |     |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
|       | <b>a) INCOMER:</b>   |       |     |                          |                        |               |
|       | 160 Amp 415 volts, 25 KA (Isc), FP MCCB with thermal magnetic release having variable current settings .   |       |     |                          |                        |               |
|       | R,Y&B phase indicating lamp (LED type) with 2A control SP MCB  |       |     |                          |                        |               |
|       | Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. |       |     |                          |                        |               |
|       | 1 No. 0 to 500 V Digital voltmeter with selector switch.   |       |     |                          |                        |               |
|       | 1 No. 0 to 160 Amp Digital ammeter with selector switch with one set of 160/5A C.Ts.   |       |     |                          |                        |               |
|       | <b>b) BUSBARS:</b>   |       |     |                          |                        |               |
|       | 300 Amp FP Aluminium busbars   |       |     |                          |                        |               |
|       | <b>c) OUTGOING:</b>  |       |     |                          |                        |               |
|       | <b>i 2 Nos. MCCB as per following details / specifications:</b>  |       |     |                          |                        |               |
|       | 125 Amps,415 volts, TPN, 35 KA Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .                           |       |     |                          |                        |               |
|       | "ON" LED indicating lamp and 2A control SP MCB   |       |     |                          |                        |               |
|       | Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. |       |     |                          |                        |               |
|       | <b>ii 1 Nos. MCCB as per following details / specifications:</b>   |       |     |                          |                        |               |
|       | 63 Amps,415 volts, TPN, 35 KA Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .                            |       |     |                          |                        |               |
|       | "ON" LED indicating lamp and 2A control SP MCB   |       |     |                          |                        |               |
|       | Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. |       |     |                          |                        |               |
|       | <b>MAIN EMERGENCY MV PANEL as mentioned above :</b>  | Set   | 1   |                          |                        |               |
| 2.03  | <b>SUB MV PANEL (Emergency) :</b>  |       |     |                          |                        |               |
|       | <b>a) INCOMER:</b>   |       |     |                          |                        |               |
|       | 125 Amp 415 volts, 25 KA (Isc), FP MCCB with thermal magnetic release having variable current settings .   |       |     |                          |                        |               |

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| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
|       | R,Y&B phase indicating lamp (LED type) with 2A control SP MCB   |       |     |                          |                        |               |
|       | Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.  |       |     |                          |                        |               |
|       | 1 No. 0 to 500 V Digital voltmeter with selector switch.  |       |     |                          |                        |               |
|       | 1 No. 0 to 120 Amp Digital ammeter with selector switch with one set of 120/5A C.Ts.  |       |     |                          |                        |               |
|       | <b>b) BUSBARS:</b>  |       |     |                          |                        |               |
|       | 300 Amp FP Aluminium busbars  |       |     |                          |                        |               |
|       | <b>c) OUTGOING:</b>   |       |     |                          |                        |               |
|       | i) 7 no. 25 Amps , 415 volts, 9 KA ,double Pole, Miniature Circuit Breaker, with ON/ OFF indication.  |       |     |                          |                        |               |
|       | ii) 4 no. 63 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.   |       |     |                          |                        |               |
|       | <b>EMERGENCY PANEL as mentioned above</b>   | Set   | 2   |                          |                        |               |
| 2.04  | <b>METER BOARD</b>  |       |     |                          |                        |               |
|       | Supplying,Installation,testing and Commissioning of 10 numbers 40 amp single phase digital KWH meters mounted on the common base with cable alley for incoming cables from the feeder pillar and a cable alley for out going cables to individual MCB DB installed in flats. The MCB will be of following rating in the out going of every energy meter. Energy meter duly approved, tested and sealed by state electricity board, in individual lockable cubical .The cubicle should be fabricated with 2 mm thick MS powder coated sheet with a suitable size glass on the door of cubicle inorder to read the meter reading . It should be wall mounted inside the cubicle, as per technical specifications & as required. |       |     |                          |                        |               |
|       | a Energy meter single phase 40 amps with 40 ampsDP MCB in the outgoing duly wired.  |       |     |                          |                        |               |
|       | <b>Meter board as mentioned above</b>   | Each  | 4   |                          |                        |               |
|       | <b>TOTAL SUB HEAD 2 : MV PANEL</b>  |       |     |                          |                        |               |
|       | <b>SUB HEAD- 3: MCB DISTRIBUTION BOARDS.</b>  |       |     |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No.       | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------------|---|-------|-----|--------------------------|------------------------|---------------|
| <b>3.00</b> | <b>MCB DISTRIBUTION BOARD</b>   |       |     |                          |                        |               |
| 3.01        | Supplying & fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, recess/surface complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder coated including earthing etc. as per technical specifications and as required. Before procurement of DB the contractor has to take approval of DB schedule/ drawing of each DB.(but without MCB & RCCB), |       |     |                          |                        |               |
|             | i 4 way (8+12), Double door   | Each  | 1   |                          |                        |               |
|             | ii 6 way (8+18), Double door  | Each  | 1   |                          |                        |               |
|             | iii 8 way (8+24), Double door   | Each  | 1   |                          |                        |               |
| 3.02        | Supplying & fixing 6 Amps to 32 Amps rating, 240 volts,'B' series, miniature circuit breaker suitable for lighting & other loads of following poles in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications & as required.   |       |     |                          |                        |               |
|             | i Single pole   | Each  | 60  |                          |                        |               |
|             | ii Single pole & neutral (DP)   | Each  | 10  |                          |                        |               |
|             | iii Triple pole & neutral (FP)  | Each  | 3   |                          |                        |               |
| 3.03        | Supplying & fixing following rating, double pole, 240 volts, Miniature Circuit Breaker (MCB),in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.  |       |     |                          |                        |               |
|             | i 63 Amps   | Each  | 1   |                          |                        |               |
| 3.04        | Supplying & fixing following rating, four pole, 415 volts, Miniature Circuit Breaker (MCB),in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.  |       |     |                          |                        |               |
|             | i 40 Amps   | Each  | 2   |                          |                        |               |
|             | ii 63 A mps   | Each  | 1   |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| 3.05  | Supplying & fixing following rating, four pole, 415 volts, Residual Current Circuit Breaker (RCCB) having a sensitivity current upto 300mA in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.   |       |     |                          |                        |               |
|       | iii 40 Amps  | Each  | 2   |                          |                        |               |
|       | v 63 A mps   | Each  | 1   |                          |                        |               |
| 3.06  | Supplying & fixing following way, single pole and neutral, prewired, sheet steel, MCB distribution board, 240 volts, on recess/surface complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. Before procurement of DB the contractor has to take approval of DB schedule/ drawing of each DB from the Electrical Engineer, HSCC, as per technical specifications and as required. (but without MCB & RCCB), |       |     |                          |                        |               |
|       | i 12 way Double door   | Each  | 40  |                          |                        |               |
|       | ii 10 way Double door  | Each  | 12  |                          |                        |               |
| 3.07  | Supplying & fixing 6 Amps to 32 Amps rating, 240 volts, 'B' series, miniature circuit breaker suitable for lighting & other loads of following poles in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications & as required.   |       |     |                          |                        |               |
|       | i Single pole  | Each  | 450 |                          |                        |               |
| 3.08  | Supplying & fixing following rating, double pole, 415 volts, Miniature Circuit Breaker (MCB), in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.  |       |     |                          |                        |               |
|       | i. 40 A mps  | Each  | 40  |                          |                        |               |

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| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| 3.09  | Supplying & fixing following rating, double pole, 415 volts, Residual Current Circuit Breaker (RCCB) having a sensitivity current upto 300mA in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.   |       |     |                          |                        |               |
|       | i. 40 Amps   | Each  | 40  |                          |                        |               |
|       | ii. 25 Amps  | Each  | 12  |                          |                        |               |
| 3.10  | Supplying and fixing Single pole Blanking plate in the existing MCB DB complete as required.   | EACH  | 150 |                          |                        |               |
|       | <b>TOTAL SUB HEAD-3: MCB DISTRIBUTION BOARDS.</b>  |       |     |                          |                        |               |
| 4.00  | <b>SUB HEAD 4: WIRING</b>  |       |     |                          |                        |               |
|       | <b>WIRING</b>  |       |     |                          |                        |               |
| 4.01  | i) Wiring for light point/fanpoint/ exhaust fan point/call bell point with 1.5 sq.mm. PVC insulated, fire retardant low smoke (ZHLS) copper conductor cable, single core/ multi strand, in steel conduit (Including supplying & recess laying of MS conduit and accessories) including the following and complete as required. |       |     |                          |                        |               |
|       | Supplying and Fixing Modular type switches (modular Bell push in case of call bell points) in suitable size modular metal boxes, base plate & modular cover plates, space for fixing electronic fan regulator in case of fan point wiring & space for fixing 5A socket on the board etc.                                       |       |     |                          |                        |               |
|       | Supplying and fixing Hexagonal fan Boxes with 3 mm thick hylem sheet covers in case of Fan Points  |       |     |                          |                        |               |
|       | Supplying & Fixing Ceiling Rose in case of Exhaust Fan Points etc.   |       |     |                          |                        |               |
|       | <b>Note :</b>  |       |     |                          |                        |               |
|       | i) Unless otherwise specified all the conduiting work to be done in recess   |       |     |                          |                        |               |
|       | <b>Point wiring as mentioned above</b>   | Point | 177 |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| 4.02  | Wiring for 5A light plugs with 1.5 sq.mm. PVC insulated, ZHLS copper conductor cable including one number 1.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed ISI marked MS conduit (including supply and recess laying of ISI marked MS conduit) as per technical specifications and as required.   | Point | 22  |                          |                        |               |
| 4.03  | Wiring for computer points (Three sockets & one switch) with 2.5 sq.mm. PVC insulated, ZHLS copper conductor cable including one number 2.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed MS conduit (including supply and recess laying of conduit) as per technical specifications and as required.  | Point | 1   |                          |                        |               |
| 4.04  | Wiring for 16 amp power plug with 2X4 sqmm PVC insulated, FRLS copper conductor, single core/multi strand cable in surface/recessed MS conduit (including supply and recess laying of MS conduit with all accessories) along with 4 sqmm PVC insulated, copper conductor, <del>single core/multi strand cable for loop earthing etc per technical</del> Directly from MCB-Distribution Board to the Socket Outlets | Point | 22  |                          |                        |               |
| 4.05  | Wiring for circuit/ submain wiring with following size of PVC insulated ZHLS copper conductor single core/multi strand cable in recessed steel conduit (including supply & laying of recessed conduit) as required.  |       |     |                          |                        |               |
|       | i) 2X2.5 Sqmm with 1 No. 2.5 sqmm PVC insulated, ZHLS copper conductor for earthing.   | Metre | 600 |                          |                        |               |
|       | ii) 2X6 Sqmm with 1 No. 6 sqmm PVC insulated ZHLS copper conductor for earthing  | Metre | 100 |                          |                        |               |
|       | iii) 2X10 Sqmm with 1 No. 10 sqmm PVC insulated ZHLS copper conductor for earthing   | Metre | 50  |                          |                        |               |
|       | iv) 4X6 Sqmm with 2 No. 6 sqmm PVC insulated ZHLS copper conductor for earthing  | Metre | 30  |                          |                        |               |
|       | v) 4X10 Sqmm with 2 No. 10 sqmm PVC insulated ZHLS copper conductor for earthing   | Metre | 40  |                          |                        |               |
|       |  |       |     |                          |                        |               |



**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No.       | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------------|---|-------|-----|--------------------------|------------------------|---------------|
| 4.06        | Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing 3 pin 5/6 amps. modular socket outlet with shutters and 5/6 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required.   | Each  | 22  |                          |                        |               |
| 4.07        | Supplying and fixing suitable module modular metal box on surface or in recess including providing and fixing 6 pin 15/16 A modular socket outlet with shutters and 15/16 A modular switch, base plate, modular cover plate, connections, etc. and all civil works complete as required.  | Each  | 25  |                          |                        |               |
| 4.08        | Supplying and fixing suitable module modular metal box on surface or in recess including providing and fixing 25 A modular socket outlet with shutters and 32A SP MCB,base plate, modular cover plate, connections, etc. and all civil works complete as required.  | Each  | 10  |                          |                        |               |
| 4.09        | Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing three nos 3 pin 5/6 amps. modular socket outlet with shutters and one no. 10 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required.<br><b>( For computer Points)</b> | Each  | 1   |                          |                        |               |
|             | <b>TOTAL SUBHEAD: 4- WIRING</b>   |       |     |                          |                        |               |
|             | <b>SUB HEAD 5:- REWIRING</b>  |       |     |                          |                        |               |
| <b>5.00</b> | <b>REWIRING</b>   |       |     |                          |                        |               |
| 5.01        | i Rewiring for light point/fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVR insulated copper conductor single core cable and 1.5th Sq.mm FR PVC insulated copper conductor Single core cable as eath wire in existing surface /recessd steel Conduit Including the following , dismantling and as required.              |       |     |                          |                        |               |

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| S.No. | Description.  | Unit. | QTY  | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|------|--------------------------|------------------------|---------------|
|       | ii Supplying and Fixing Modular type switches (modular Bell push in case of call bell points) in suitable size modular metal boxes, base plate & modular cover plates, space for fixing electronic fan regulator in case of fan point wiring & space for fixing 5A socket on the board etc. |       |      |                          |                        |               |
|       | iii Supplying and fixing Hexagonal fan Boxes with 3 mm thick hylem sheet covers in case of Fan Points   |       |      |                          |                        |               |
|       | iv Supplying & Fixing Ceiling Rose in case of Exhaust Fan Points etc.   |       |      |                          |                        |               |
|       | <b>Note :</b>   |       |      |                          |                        |               |
|       | i) Unless otherwise specified all the conduiting work to be done in recess  |       |      |                          |                        |               |
|       | <b>Point wiring in existing conduit as mentioned above</b>  | Point | 1204 |                          |                        |               |
| 5.02  | i Rewiring for twin control light point with 1.5 sq.mm FR PVR insulated copper conductor single core cable and 1.5th Sq.mm FR PVC insulated copper conductor Single core cable as eath wire in existing surface /recessd steel Conduit Including dismantling as required.                   |       |      |                          |                        |               |
|       | ii Supplying and Fixing Modular type two numbers 2 Way switches in suitable size modular metal boxes, base plate & modular cover plates etc.  |       |      |                          |                        |               |
|       | <b>Note :</b>   |       |      |                          |                        |               |
|       | i) Unless otherwise specified all the conduiting work to be done in recess  |       |      |                          |                        |               |
|       | <b>Wiring for twin control light points as mentioned above</b>  | Point | 10   |                          |                        |               |
| 5.03  | Rewiring for 5A light plugs with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 1.5 sq.mm. PVC insulated, copper conductor cable for earthing in existing surface/recessed conduit as per technical specifications and as required.                             | Point | 320  |                          |                        |               |
| 5.04  | Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.  |       |      |                          |                        |               |
|       | i. 3 pin 5/6 amp socket outlet  | Each  | 50.0 |                          |                        |               |

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| S.No. | Description.   | Unit. | QTY  | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|------|--------------------------|------------------------|---------------|
| 5.05  | Rewiring for 16 amp power plug with 2X4 sqmm PVC insulated, FRLS copper conductor, single core/multi strand cable in existing surface/recessed conduit along with 4 sqmm PVC insulated, copper conductor, single core/multi strand cable for loop earthing etc per technical specifications & as required. |       |      |                          |                        |               |
|       | i. Directly from MCB-Distribution Board to the Socket Outlets  | Point | 160  |                          |                        |               |
|       | ii Loop from one power point to nearest second power point   | point | 160  |                          |                        |               |
| 5.06  | Wiring for circuit wiring with following size of PVC insulated FRLS copper conductor single core/multi strand cable in recessed steel conduit (including supply & laying of recessed conduit) as required.   |       |      |                          |                        |               |
|       | i) 2X2.5 Sqmm with 1 No. 2.5 sqmm PVC insulated FRLS copper conductor for earthing.  | Metre | 1821 |                          |                        |               |
|       | ii) 2X10 Sqmm with 1 No. 10 sqmm PVC insulated FRLS copper conductor for earthing  | Metre | 600  |                          |                        |               |
|       | iii) 2X4 Sqmm with 1 No. 4 sqmm PVC insulated FRLS copper conductor for earthing   | Metre | 100  |                          |                        |               |
| 5.07  | Supplying & drawing following sizes (circuit/submain wiring) of FRLS PVC insulated copper conductor single core cable in the existing surface/recessed steel / PVC conduit as required   |       |      |                          |                        |               |
|       | i 1x1.5 sq. mm   | Metre | 100  |                          |                        |               |
|       | ii 2x1.5 sq. mm  | Metre | 120  |                          |                        |               |
|       | iii 2x4 sq. mm   | Metre | 150  |                          |                        |               |
| 5.08  | Supplying and fixing of following sizes steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.  |       |      |                          |                        |               |
|       | i 20mm   | Metre | 50   |                          |                        |               |
|       | ii 25 mm   | Metre | 100  |                          |                        |               |
|       | iii 32 mm  | Metre | 50   |                          |                        |               |
|       | iv 40 mm   | Metre | 10   |                          |                        |               |

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| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
| 5.09  | Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing 3 pin 5/6 amps. modular socket outlet with shutters and 5/6 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required. | Each  | 320 |                          |                        |               |
| 5.10  | Supplying and fixing suitable module modular metal box on surface or in recess including providing and fixing 6 pin 15/16 A modular socket outlet with shutters and 15/16 A modular switch, base plate, modular cover plate, connections, etc. and all civil works complete as required.  | Each  | 320 |                          |                        |               |
| 5.11  | Supply, Installation, Testing & Commisioning 63 Amps, TPN MCCB in a sheet steel enclosure with extended rotary operating mechanism, complete with all accessories as required.  | Each  | 4   |                          |                        |               |
| 5.12  | Supplying, providing & fixing musical bell, battries etc of approved make complete as required.   | Each  | 40  |                          |                        |               |
|       | <b>TOTAL SUBHEAD: 5- REWIRING</b>   |       |     |                          |                        |               |
| 6.00  | <b>SUB HEAD: 6 - LIGHT FIXTURE AND FANS</b>   |       |     |                          |                        |               |
|       | <b>LIGHT FIXTURES AND FANS</b>  |       |     |                          |                        |               |
| 6.01  | i Supply of following light fixture with high efficiency electronic/dimmable ballast, starter, tubes/lamps, capacitor, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.   |       |     |                          |                        |               |
|       | ii 1X28 watt box type flourescent light fixture (Philips TMS 095XTL5 28W EBT or approved equivalent) (136b/136bw)   | Each  | 347 |                          |                        |               |
|       | iii 2X28 watt box type flourescent light fixture (Philips TMS 122M 2XTL5 28 W EBE or approved equivalent)   | Each  | 70  |                          |                        |               |

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| S.No. |      | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|------|--|-------|-----|--------------------------|------------------------|---------------|
| 6.02  | i    | 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.  |       |     |                          |                        |               |
|       | ii   | 1x9 watt Bulk Head light fixture (Philips FXC 101 1XPL-S/2P11 W/ACO or approved equivalent)  | Each  | 29  |                          |                        |               |
|       | iii  | 2 X 11 watt surface mounted mirror optics (Philips FCS 518 2XPLS/2P11 W I 240 V or approved equivalent)  | Each  | 50  |                          |                        |               |
|       | iv   | 2X18 watt Mirror top light with frosted glass (Decon 05CA 01 or approved equivalent)   | Each  | 137 |                          |                        |               |
|       | v    | Surface mounted Batten holder (Plastic) with 13 watt CFL   | Each  | 20  |                          |                        |               |
|       | vi   | 1X18 W surfaced mounted down light fixture with frosted glass (DECON : 03UA 42 (New drum light round/ Crompton Greeves DDSH118EB/G) or approved equivalent )   | Each  | 160 |                          |                        |               |
|       | vii  | 2X18 W wall bracket with frosted glass (Decon 05TQ double wave) or approved equivalent   | Each  | 122 |                          |                        |               |
|       | viii | 1x9 watt CFL wall recessed fixture (Decon 54VW, in die cast aluminium or approved equivalent) used as a night lamp NLWM  | Each  | 90  |                          |                        |               |
| 6.03  |      | Supply of following ceiling fans (Crompton Greaves High Breeze or approved equivalent) complete with double ball bearing, motor, blades, downrod, canopies, capacitor, modular type electronic fan regulator, suitable for operation on 230 volts, 50 Hz., 1 phase, AC supply complete as required |       |     |                          |                        |               |
|       | i    | 900 mm sweep   | Each  | 40  |                          |                        |               |
|       | ii   | 1200 mm sweep  | Each  | 175 |                          |                        |               |

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| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
| 6.04  | Supply of 900 RPM, 300 mm (Crompton Greaves Trans Air or approved equivalent) exhaust fan suitable for single phase 230 volts, 50 Hz., AC supply complete with motor, louvers/shutters etc. complete as required.   | Each  | 138 |                          |                        |               |
| 6.05  | Supply of 1500 RPM, 450 mm (Crompton Greaves Trans Air or approved equivalent) exhaust fan suitable for single phase 230 volts, 50 Hz., AC supply complete with motor, louvers/shutters etc. complete as required.  | Each  | 16  |                          |                        |               |
| 6.06  | Supply of 450 mm sweep, crompton greaves model high flow 18" 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  | 7   |                          |                        |               |
| 6.07  | Installation, testing and commissioning of prewired, flourescent fittings of all types, complete with all accessories and tube etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.   | Each  | 347 |                          |                        |               |
| 6.08  | Installation, testing and commissioning of prewired, compact flourescent lamp fixture (CFL fxtures)of all types, complete with all accessories and lamp etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.  | Each  | 608 |                          |                        |               |
| 6.09  | Installation, testing and commissioning of ceiling fan and modular type electronic fan regulator(Electronic regulator to be fixed in switch board) including wiring the down rod and connection with 1.5 sqmm FR PVC insulated, copper conductor single core/multi strand cable including providing & fixing phenolic laminated sheet cover on the fan box, etc. as required. | Each  | 215 |                          |                        |               |

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| S.No.   | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|---|--|-------|-----|--------------------------|------------------------|---------------|
| 6.10  | Installation, testing and commissioning of exhaust fan up to 450 mm sweep in the opening, including making the hole to suit the size of the above fan including , fixing of louvers/ shutters with frame making good the damages etc. as required.   | Each  | 138 |                          |                        |               |
| 6.11  | Installation, testing and commissioning of wall mounted fan up to 450 mm sweep including supply and fixing wall bracket arrangement complete as required.  | Each  | 7   |                          |                        |               |
| <b>TOTAL SUBHEAD 6 : LIGHT FIXTURE &amp; FANS</b> |  |       |     |                          |                        |               |
| 7.00  | <b>SUB HEAD : TELEPHONE SYSTEM :</b>   |       |     |                          |                        |               |
|   | <b>TELEPHONE SYSTEM</b>  |       |     |                          |                        |               |
| 7.01  | Wiring for telephone point with Supply & laying two pair 0.5 Sq. mm solid, annealed copper conductor insulated with high density polythlene. The insulated cores twisted to form pairs, helically wrapped with polyster tape, over all insulation of FR PVC, unarmoured telephone cable in MS conduit (including supply & recessed laying of M.S. conduit), including providing & fixing of two module modular metal box on recess with following pair cord outlet, connections etc. complete as required.This also includes conduiting, wiring from floor Tag blocks to individual telephone outlets. |       |     |                          |                        |               |
|   | i 1 pair cord outlet (Jack Type)   | Point | 4   |                          |                        |               |
|   | ii 2 pair cord outlet (Jack Type)  | point | 118 |                          |                        |               |
| 7.02  | 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 30 Pair  | Each  | 4   |                          |                        |               |

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| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
| 7.03  | Supplying and drawing of following pairs .5 mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured telephone cable on surface/tray with saddels etc. complete as required.   |       |     |                          |                        |               |
|       | i 30 Pair   | Metre | 60  |                          |                        |               |
| 7.04  | Supplying and drawing of following pairs .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. complete as required. |       |     |                          |                        |               |
|       | i 20 Pair   | Metre | 50  |                          |                        |               |
|       | <b>TOTAL : SUB HEAD 7:TELEPHONE SYSTEM</b>  |       |     |                          |                        |               |
|       | <b>SUB HEAD 8: CONDUITING FOR TV OUTLETS</b>  |       |     |                          |                        |               |
| 8.00  | <b>CONDUITING FOR TV OUTLETS</b>  |       |     |                          |                        |               |
| 8.01  | Supply and fixing of following sizes of MS conduit alongwith the accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required                          |       |     |                          |                        |               |
|       | i 20 mm dia   | Metre | 200 |                          |                        |               |
|       | ii 25 mm dia  | Metre | 150 |                          |                        |               |
| 8.02  | 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  | 120 |                          |                        |               |
| 8.03  | Supply and drawing Coaxial TV Cable RG - 6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and potected with PVC sheath in the existing surface/ recessed steel/ PVC coduit as required.                          | Metre | 480 |                          |                        |               |



| BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL |  |       |     |                          |                        |               |  |
|---|--|-------|-----|--------------------------|------------------------|---------------|--|
| S.No.   | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |  |
|   | <b>TOTAL SUB HEAD 8: CONDUITING FOR TV OUTLETS</b>   |       |     |                          |                        |               |  |
| <b>9.00</b>   | <b>SUB HEAD 9 : FIRE DETECTION AND ALARM<br/>FIRE DETECTION AND ALARM SYSTEM</b>   |       |     |                          |                        |               |  |
| 9.01  | Supply and drawing of following sizes of PVC insulated FRLS copper conductor single core cable in surface/recessed MS conduit (including Supplying and fixing of MS Conduit) complete as required.   |       |     |                          |                        |               |  |
|   | i 2X1.5 sqmm   | Metre | 288 |                          |                        |               |  |
| <b>9.02</b>   | 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 Manual Break Glass Unit in MS enclosure  | Each  | 12  |                          |                        |               |  |
|   | ii Fire Alarm Bell / Hooter of suitable range to cover the complete floor, in MS enclosure.  | Each  | 12  |                          |                        |               |  |
| 9.03  | 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 | 60  |                          |                        |               |  |
|   | <b>TOTAL SUB HEAD 9: FIRE DETECTION AND ALARM</b>  |       |     |                          |                        |               |  |
| <b>10.00</b>  | <b>SUB HEAD 10: LIGHTENING PROTECTION<br/>LIGHTENING PROTECTION</b>  |       |     |                          |                        |               |  |
| 10.01   | 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 with charcoal or coke and salt) complete as required.                   | Set   | 8   |                          |                        |               |  |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.   | Unit.          | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|----------------|-----|--------------------------|------------------------|---------------|
| 10.02 | Providing and fixing of lightening conductor finial, made of 25mm. dia. 300mm., long GI tube, having single prong at top, with 85 mm. dia. 6 mm. thick GI base plate including holes etc. complete as required.  | Each           | 16  |                          |                        |               |
| 10.03 | 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          | 200 |                          |                        |               |
| 10.04 | 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          | 40  |                          |                        |               |
| 10.05 | 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           | 8   |                          |                        |               |
| 10.06 | Providing and laying GI tape, 32 mm X 6 mm thick, from test joint upto earth electrode directly in ground as required.   | Metre          | 120 |                          |                        |               |
|       | <b>TOTAL SUB HEAD 10: LIGHTENING PROTECTION</b>  |                |     |                          |                        |               |
|       | <b>SUB HEAD 11 : LIFTS</b>   |                |     |                          |                        |               |
| 11.01 | Design, manufacture, supply, installation, testing and commissioning of 10 passenger <b>machine room less (MRL)</b> ( 680 kg) lift (All lifts will be a fire lift as per fire norms) , with travel speed 1 MPS serving different floors in the lift shaft including lift well pressurization as per detailed specification/ drawing enclosed and as under: |                |     |                          |                        |               |
|       | Speed 1 MPS  |                |     |                          |                        |               |
|       | Floors :Still + 7 , (8 stops & 8 openings),  | Speed : 1 MPS. |     |                          |                        |               |
|       | Travel: As per architectural drawing.  |                |     |                          |                        |               |
|       | Stops & opening: 8 stops & 8 openings  |                |     |                          |                        |               |
|       | Controller: A.C. variable voltage & variable frequency   |                |     |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
|       | 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  |       |     |                          |                        |               |
|       | Type of doors: a) Car : Power operated, centre opening for passenger lift , horizontal sliding stainless steel scratch proof. (b) Landing doors: Stainless steel scratch proof. Lift car door and landing doors shall have a fire resistance of one hour. |       |     |                          |                        |               |
|       | A hand rail guide not less than 600 mm long at 900 mm above floor level or stretcher guide as the case may be to be fixed adjacent to control panel in the lift car.  |       |     |                          |                        |               |
|       | 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 rechargeable batteries as source of supply be made in the lift car.   |       |     |                          |                        |               |
|       | Toe guard, PA speaker, IR curtain on full height, two phase fireman's drive control/ switch and potential free contacts etc to be provided in the lift.   |       |     |                          |                        |               |
|       | <b>Passenger Lift as mentioned above</b>  | Each  | 4   |                          |                        |               |
|       | <b>TOTAL SUB HEAD - 11 LIFTS</b>  |       |     |                          |                        |               |
| 12.00 | <b>SUB HEAD 12 : LT CABLES</b>  |       |     |                          |                        |               |
|       | <b>LT CABLES</b>  |       |     |                          |                        |               |
| 12.01 | Supply of following sizes of 1.1 kV grade multicore aluminium conductor PVC sheathed armoured AYFY cable as per IS 1554.  |       |     |                          |                        |               |
|       | i 3.5 Core 25 Sqmm.   | Metre | 40  |                          |                        |               |
|       | ii 3.5 Core 95 Sqmm.  | Metre | 200 |                          |                        |               |
|       | iii 3.5 Core 70 Sqmm.   | Metre | 100 |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. |     | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|-----|--|-------|-----|--------------------------|------------------------|---------------|
|       | iv  | 2 Core 10 Sq mm  | Metre | 50  |                          |                        |               |
|       | v   | 4 Core 16 Sq mm  | Metre | 50  |                          |                        |               |
| 12.02 |     | 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 | 20  |                          |                        |               |
|       | ii  | Above 35 sq. mm and upto 95 sq. mm   | Metre | 100 |                          |                        |               |
| 12.03 |     | 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   | Upto 35 sq. mm   | Metre | 10  |                          |                        |               |
|       | ii  | Above 35 sq. mm and upto 95 sq. mm   | Metre | 5   |                          |                        |               |
| 12.04 |     | 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 | 15  |                          |                        |               |
|       | ii  | Above 35 sq. mm and upto 95 sq. mm   | Metre | 15  |                          |                        |               |
| 12.05 |     | Supplying and making end termination with suitable size Copper lugs including double compression glands of following sizes of 1.1. kv grade multicore aluminium conductor PVC insulated and PVC sheathed |       |     |                          |                        |               |
|       | i   | 3.5 Core 25 Sqmm.  | Each  | 4   |                          |                        |               |
|       | ii  | 3.5 Core 95 Sqmm.  | Each  | 6   |                          |                        |               |
|       | iii | 3.5 Core 70 Sqmm.  | Each  | 4   |                          |                        |               |
|       | iv  | 2 Core 10 Sq mm  | Each  | 4   |                          |                        |               |
|       | v   | 4 Core 16 Sq mm  | Each  | 6   |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
| 12.06 | Fabricating and installing following size of perforated M.S. cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders and including painting etc. as required :- |       |     |                          |                        |               |
| i     | 150 mm. width x 50 mm. depth x 1.6 mm. thickness  | Metre | 10  |                          |                        |               |
| ii    | 300 mm. width x 62.5 mm. depth x 2.0 mm. thickness  | Metre | 15  |                          |                        |               |
| iii   | 450 mm. width x 62.6 mm. depth x 2.0 mm. thickness  | Metre | 10  |                          |                        |               |
|       | <b>TOTAL SUB HEAD 12 : LT CABLES</b>  |       |     |                          |                        |               |
|       | <b>SUB HEAD 13: EARTHING SAFETY EQUIPMENT AND MISC. ITEMS</b>   |       |     |                          |                        |               |
|       | <b>EARTHING, SAFETY EQUIPMENTS AND MISC. ITEMS</b>  |       |     |                          |                        |               |
| 13.01 | Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.                                   | Set   | 2   |                          |                        |               |
| 13.02 | Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.                                     | Set   | 6   |                          |                        |               |
| 13.03 | 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     | Metre | 20  |                          |                        |               |
| 13.04 | 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 | 25  |                          |                        |               |

**BILL OF QUANTITY FOR ELECTRICAL WORKS OF BALANCE WORK OF HOUSING AT KALPANA CHAWLA - KARNAL**

| S.No. | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|---|-------|-----|--------------------------|------------------------|---------------|
| 13.05 | 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 | 20  |                          |                        |               |
| 13.06 | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.  | Metre | 15  |                          |                        |               |
| 13.07 | Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.  | Metre | 25  |                          |                        |               |
| 13.08 | 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 | 15  |                          |                        |               |
| 13.09 | Providing and laying of following sizes non pressure NP2 class (light duty) RCC pipe with collar joint with stiff mixture of cement (1 cement : 2 fine sand) including testing the joints etc. as required.   |       |     |                          |                        |               |
|       | i 150mm dia   | Metre | 100 |                          |                        |               |
|       | ii 300mm dia  | Metre | 110 |                          |                        |               |
| 13.10 | Providing and fixing M.V. danger notice plate of 200mmX150mm made of mild steel, atleast 2mm thick and vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.  | Each  | 2   |                          |                        |               |
| 13.11 | Supplying and laying of 1.1kV grade 1 metre wide anti skid chequered type rubber mat.   | Metre | 15  |                          |                        |               |
| 13.12 | Design, manufacture, supply and installation of Fire Buckets 13 litre capacity 4 Nos. duly filled with sand and GI pipe support stand for these buckets including painting etc. complete as required.   | Set   | 2   |                          |                        |               |

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| S.No.        | Description.  | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|--------------|---|-------|-----|--------------------------|------------------------|---------------|
| 13.13        | Supply and fixing shock treatment chart in English, Hindi and local language mounted on 5mm thick Plywood and 3mm thick plain glass front complete as required.   | Set   | 2   |                          |                        |               |
| 13.14        | Supplying and fixing Foam type 9 ltrs capacity fire extinguishers as approved by ISI complete as required.  | Set   | 2   |                          |                        |               |
| 13.15        | Supplying and fixing CO2 type 9 Kg capacity fire extinguishers as approved by ISI complete as required.   | Set   | 2   |                          |                        |               |
| 13.16        | Supplying and fixing CO2 type 4.5 Kg capacity fire extinguishers as approved by ISI complete as required.   | Set   | 4   |                          |                        |               |
| 13.17        | Supplying, storing, handling and fixing in position First Aid Medical Box complete as per technical specifications as required.   | Each  | 1   |                          |                        |               |
| 13.18        | Supply and testing of 11kV ISI marked hand gloves   | Each  | 1   |                          |                        |               |
| 13.19        | Providing & fixing rigid PVC pipe complete with fittings, clamps, including trenching & refilling/ wall cutting & plastering, etc. (for cable entry) with all minor civil & mech. Works complete as required. |       |     |                          |                        |               |
|              | i 50 mm dia nominal bore  | Metre | 20  |                          |                        |               |
|              | <b>TOTAL SUB HEAD 13: EARTHING, SAFETY EQUIPMENT AND MISC. ITEMS</b>  |       |     |                          |                        |               |
| <b>14.00</b> | <b>SUB HEAD 14: OUT DOOR LIGHTING</b>   |       |     |                          |                        |               |
| 14.01        | i <b>OUT DOOR LIGHTING</b>  |       |     |                          |                        |               |
|              | ii Supply, erection, testing and commissioning of external swaged steel tubular pole with following specifications & items :  |       |     |                          |                        |               |

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| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
| iii   | 9.0 Mtrs. high swaged steel tubular pole (Single arm of suitable length; each around 1.5 Metre), the construction of the pole shall be as per IS: 410 SP-33 with base plate 450mmX450mmX6mm complete as per requirement with two coats of spray paints (shade as approved) |       |     |                          |                        |               |
| iv    | 1X150 watts street light fixture with 150watts high pressure sodium vapour (HPSV) lamp complete with control gear, acrylic cover cover   |       |     |                          |                        |               |
| v     | Suitable size 32 A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 6A DP MCB complete as required - 1 Set  |       |     |                          |                        |               |
| vi    | 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   |       |     |                          |                        |               |
| A.    | Providing foundation including excavation, shuttering, alignment 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  |       |     |                          |                        |               |
| B.    | Steet Tubular Poles(9M) Single Arm as mention above  | Set   | 5   |                          |                        |               |
|       | Steet Tubular Poles (9M) same as above but for Double Arm as mention above   | Set   | 5   |                          |                        |               |
| 14.02 | Supply, installation, testing and commissioning of external post top lantern with following accessories and complete as required :   |       |     |                          |                        |               |
| i     | 4m high (3.3m above ground) 50mm dia GI pole as approved, adopting socket at top for fixture mentioned below, base plate 300 x 300 x 6mm and provision for mounting junction box etc. - 1 set.   |       |     |                          |                        |               |
| ii    | 1 x 70 W Post top lantern with 70W HPSV lamp (Philips SPC 101 x SON 70 W E or equivalent) and its wiring with 2 x 2.5 sq.mm PVC insulated copper wire and 1.5 sqmm PVC insulated copper earth wire from control box  |       |     |                          |                        |               |



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| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
|       | iii Suitable size 20A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 1 nos. 5A HRC fuses complete 1 set.  |       |     |                          |                        |               |
|       | iv 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  |       |     |                          |                        |               |
|       | Providing 400x400x1000mm deep 1:3:6 ratio cement concrete including excavation shuttering alignment of poles casting etc. including 100mm thick lean concrete shall be provided at the bottom  |       |     |                          |                        |               |
|       | Supply, installation, testing and commissioning of external post top lantern as mentioned above  | Set   | 2   |                          |                        |               |
| 14.03 | Supply, installation, testing and commissioning of bollard lamps 1X18 watts CFL (Philips HCS360 1XPL-C/2P 18W GR Sonara bollard in green color or equivalent) control box - 1 set.   | Each  | 10  |                          |                        |               |
| 14.04 | <b>Road Lighting Panel</b>   |       |     |                          |                        |               |
|       | Supply, installation, testing and commissioning of following outdoor type with canopy, IP-54 protected M.V. cubicle type totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, stove enamelled painted and having following incoming and outgoing switchgears complete as required. |       |     |                          |                        |               |
|       | <b>INCOMER:</b>  |       |     |                          |                        |               |
|       | 1 No. 63 Amp 415 volts, TPN Switch Disconnecter Fuse Unit with HRC Fuses   |       |     |                          |                        |               |
|       | 1 Set of phase indicating lamp with HRC fuses  |       |     |                          |                        |               |
|       | 1 Set of photo sensor & 100A TP contactor with neutral link (for street lights control)  |       |     |                          |                        |               |
|       | <b>BUSBARS:</b>  |       |     |                          |                        |               |
|       | 100 Amp TPN Aluminium busbars  |       |     |                          |                        |               |
|       | <b>OUTGOING:</b>   |       |     |                          |                        |               |

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| S.No. | Description.   | Unit. | QTY | Rate in Figures (in Rs.) | Rate in words (in Rs.) | Amount in Rs. |
|-------|--|-------|-----|--------------------------|------------------------|---------------|
|       | 10 Nos. 32 Amp 415 volts, DP MCB   |       |     |                          |                        |               |
|       | Feeder Pillar as mention above   | Set   | 1   |                          |                        |               |
| 14.05 | Spiral earthing made out of 6 SWG GI wire , 50mm Dia, 115 turns closely wound ,1.5 mtr below ground, earth pit of 350 Dia., 1.5 mtr depth including providing charcoal and salt for earthing at alternate layers of 300 mm depth (total 3 layers),connections etc. complete as required. | Set   | 10  |                          |                        |               |
|       | <b>TOTAL SUB HEAD 12: OUTDOOR LIGHTING</b>   |       |     |                          |                        |               |
| 15.00 | <b>Window Air Conditioner</b>  |       |     |                          |                        |               |
|       | Supply , installation , testing and commisioning of Window ACs complete with transformer, electrical cabling as required along with mounting arrangement,Voltage stablizer.Complete in all respect as per specifications. The units should have 3 star rating from BEE.                  |       |     |                          |                        |               |
|       | Capacity   | NO.   | 6   |                          |                        |               |
|       | i 1.5 TR   | NO.   | 2   |                          |                        |               |
|       | ii 2.0 TR  |       |     |                          |                        |               |
|       | <b>TOTAL OF SUBHEAD 15: WINDOW AIR CONDITIONER</b>   |       |     |                          |                        |               |
|       | <b>GRAND TOTAL FOR ALL ELECTRICAL WORKS</b>  |       |     |                          |                        |               |

**Summary - B.O.Q**

**“Repair/renovation of existing General Hospital, Karnal and completion of two newly constructed housing blocks of erstwhile police lines.**

| <b>Sl.No.</b>                         | <b>Description of Works</b> | <b>Quoted Amount (in Rs.)</b> |
|---------------------------------------|-----------------------------|-------------------------------|
| 1.                                    | <b>Civil Works</b>          |                               |
| 2.                                    | <b>PHE Works</b>            |                               |
| 3.                                    | <b>Fire Fighting Works</b>  |                               |
| 4.                                    | <b>Electrical Works</b>     |                               |
| <b>Grand Total (Rs. in figure) :-</b> |                             |                               |
| <b>Grand Total (Rs. in words) :-</b>  |                             |                               |

**END OF VOLUME - V**