

## SCHEDULE OF WORK

State \_\_\_\_\_ Division **EMD**  
 Branch **NITT** Sub-Division **INS**  
 Name of Work : **Laying a floor tiles and Painting in the Bio Energy & Thermal Engineering Lab at CEESAT**

| ITEM No | SUB-HEADS AND ITEM OF WORK   | QUANTITY | UNIT | RATE (Rs) | RATE (In Words) | AMOUNT(Rs) |
|---------|--|----------|------|-----------|-----------------|------------|
| 1       | REINFORCED CEMENT CONCRETE   |          |      |           |                 |            |
| 1.1     | Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. upto floor five level excluding cost of centring, shuttering, finishing and reinforcement :  |          |      |           |                 |            |
| 1.1.1   | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).  | 0.30     | cum  |           |                 |            |
| 1.2     | Centring and shuttering including strutting, propping etc. and removal of form for :   |          |      |           |                 |            |
| 1.2.1   | Suspended floors, roofs, landings, balconies and access platform.  | 2.50     | sqm  |           |                 |            |
| 1.3     | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.   |          |      |           |                 |            |
| 1.3.1   | Cold twisted bars  | 20.00    | kg   |           |                 |            |
| 2       | BRICK WORK   |          |      |           |                 |            |
| 2.1     | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in.   |          |      |           |                 |            |
| 2.1.1   | Cement mortar 1:3 (1 cement : 3 coarse sand)   | 4.00     | sqm  |           |                 |            |
| 3       | MARBLE WORK  |          |      |           |                 |            |
| 3.1     | 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. |          |      |           |                 |            |
| 3.1.1   | Granite of any colour and shade  |          |      |           |                 |            |
| 3.1.1.1 | Area of slab over 0.50 sqm.  | 3.00     | sqm  |           |                 |            |
| 4       | WOOD AND P. V. C. WORK   |          |      |           |                 |            |
| 4.1     | Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.   | 5.00     | each |           |                 |            |
| 4.2     | Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm) with necessary accessories and screws etc. complete.  | 2.00     | each |           |                 |            |
| 4.3     | 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 :  |          |      |           |                 |            |
| 4.3.1   | 150x10 mm  | 8.00     | each |           |                 |            |
| 4.4     | 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 :   |          |      |           |                 |            |
| 4.4.1   | 125 mm   | 8.00     | each |           |                 |            |

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| 5     | FLOORING   |        |     |
| 5.1   | Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's 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.   |        |     |
| 5.1.1 | Size of Tile 600x600 mm  | 490.00 | sqm |
| 6     | ROOFING  |        |     |
| 6.1   | Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the rate of 1200 mm centre to centre to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm or both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with : |        |     |
| 6.1.1 | 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- Part I.  | 115.00 | sqm |
| 7     | FINISHING  |        |     |
| 7.1   | 15 mm cement plaster on the rough side of single or half brick wall of mix :   |        |     |
| 7.1.1 | 1:6 (1 cement : 6 fine sand)   | 5.00   | sqm |
| 8     | REPAIRS TO BUILDINGS   |        |     |
| 8.1   | White washing with lime to give an even shade :  |        |     |
| 8.1.1 | Old work (one or more coats)   | 470.00 | sqm |
| 8.2   | Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :   |        |     |
| 8.2.1 | Old work (one or more coats)   | 730.00 | sqm |
| 8.3   | Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :  |        |     |
| 8.3.1 | One or more coats on old work.   | 200.00 | sqm |

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| 9        | DISMANTLING & DEMOLISHING  |        |      |
| 9.1      | 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.   |        |      |
| 9.1.1    | In cement mortar   | 0.50   | cum  |
| 10       | SANITARY INSTALLATIONS   |        |      |
| 10.1     | Providing and fixing white vitreous china laboratory sink including making all connections excluding cost of fittings:   |        |      |
| 10.1.1   | Size 600x450x200 mm.   | 2.00   | each |
| 11       | ALUMINIUM WORK   |        |      |
| 11.1     | 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) : |        |      |
| 11.1.1   | For fixed portion.   |        |      |
| 11.1.1.1 | Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)   | 145.00 | kg   |
| 11.1.2   | 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).   |        |      |
| 11.1.2.1 | Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)   | 35.00  | kg   |
| 11.2     | Providing and fixing 12mm thick Pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminium 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.   |        |      |
| 11.2.1   | Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side.  | 40.00  | sqm  |
| 11.3     | 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) :  |        |      |
| 11.3.1   | With float glass panes of 5.50 mm thickness  | 25.00  | sqm  |
| 11.4     | Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.  | 2.00   | each |

**SCHEDULE OF  
WORK**

**Name of Work :**           **Construction o shed in CEESAT Building**

| ITEM No | SUB-HEADS AND ITEM OF WORK   | QUANTITY | UNIT | RATE (Rs) | RATE (In Words) | AMOUNT(Rs) |
|---------|--|----------|------|-----------|-----------------|------------|
| 1       | 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 upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. |          |      |           |                 |            |
| 1.1     | All kinds of soil.   | 30.00    | cum  |           |                 |            |
| 2       | 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 upto 1.5 m.  | 50.00    | cum  |           |                 |            |
| 3       | Supplying and filling in plinth with Jamuna sand under floors including, watering, ramming consolidating and dressing complete.  | 17.00    | cum  |           |                 |            |
| 4       | Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :   |          |      |           |                 |            |
| 4.1     | 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)   | 17.00    | cum  |           |                 |            |
| 5       | Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement - All work upto plinth level :  |          |      |           |                 |            |
| 5.1     | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)   | 11.00    | cum  |           |                 |            |
| 6       | Centring and shuttering including strutting, propping etc. and removal of form for :   |          |      |           |                 |            |
| 6.1     | Foundations, footings, bases of columns, etc. for mass concrete.   | 12.00    | sqm  |           |                 |            |
| 6.2     | Lintels, beams, plinth beams, girders, bressumers and cantilevers.   | 28.00    | sqm  |           |                 |            |
| 6.3     | Columns, Pillars, Piers, Abutments, Posts and Struts.  | 22.00    | sqm  |           |                 |            |
| 7       | Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.  |          |      |           |                 |            |
| 7.1     | Cold twisted bars  | 700.00   | kg   |           |                 |            |
| 8       | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:  |          |      |           |                 |            |
| 8.1     | Cement mortar 1:6 (1 cement : 6 coarse sand)   | 25.00    | cum  |           |                 |            |
| 9       | Structural steel work in single section fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.  | 1,950.00 | kg   |           |                 |            |
| 10      | 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:  | 500.00   | kg   |           |                 |            |

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| 11   | Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.                           |        |       |
| 11.1 | 40mm thick with 20mm nominal size stone aggregate.  | 125.00 | sqm   |
| 12   | 12 mm cement plaster of mix :   |        |       |
| 12.1 | 1:6 (1 cement : 6 fine sand)  | 60.00  | sqm   |
| 13   | 15 mm cement plaster on the rough side of single or half brick wall of mix :  |        |       |
| 13.1 | 1:6 (1 cement : 6 fine sand)  | 130.00 | sqm   |
| 14   | Finishing walls with water proofing cement paint of required shade :  |        |       |
| 14.1 | New work (Two or more coats applied @ 3.84 kg/10 sqm).  | 190.00 | sqm   |
| 15   | Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :  |        |       |
| 15.1 | Two or more coats on new work   | 100.00 | sqm   |
| 16   | Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc. Internal work - Exposed on wall  |        |       |
| 16.1 | 25 mm dia. nominal bore   | 50.00  | metre |
| 17   | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work :  |        |       |
| 17.1 | 25 mm dia. nominal bore   |        |       |
| 18   | 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 :   |        |       |
| 18.1 | 25 to 40 mm nominal bore  | 1.00   | each  |
| 19   | Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :   |        |       |
| 19.1 | 25 mm nominal bore  | 1.00   | each  |
| 20   | 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 :  |        |       |
| 20.1 | 25 mm diameter pipe.  | 50.00  | metre |
| 21   | Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work)   |        |       |
| 21.1 | 25 mm nominal bore  | 1.00   | each  |
| 22   | Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.   |        |       |
| 22.1 | 15 mm nominal bore  | 3.00   | each  |
| 23   | Supplying and stacking of good earth at site including royalty and carriage complete (earth measured in stacks will be reduced by 20% for payment).   | 50.00  | cum   |
| 24   | Providing and fixing of 10 mm thick multiwalled Poly carbonate sheet UV coated on both sides etc (size, shape and pitch of corrugation as approved by Engineers In Charge), the sheet shall be fixed using self drilling/ self tapping screws | 220.00 | sqm   |

of size (5.5 x 55 mm) with EDPM seal complete upto any pitch in horizontal /vertical or curved surfaces excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.

Institute  
Engineer

Chief of works