# SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

### SEMESTER END EXAMINATIONS (SUPPLEMENTARY), JUNE - 2016

### B. ARCH III YEAR VI SEMESTER

### BUILDING MANAGEMENT (BM-6)
### (QUANTITIES AND ESTIMATIONS)

Maximum Marks – 60                                        Time – 2 ½ Hours

a) Answer any *Two questions out of 1to 4 questions.*
b) Question No.5 is compulsory and *answer any four out of six sub-questions.*
c) Scientific Calculator is allowed.
d) Assume Suitable data, if necessary.

Q1.  a) Write the requirements for preparation of an estimate.                    **(5M)**
     b) List the duties of Quantity Surveyor.                                      **(5M)**
     c) Prepare a preliminary estimate of a house with the following data.        **(10M)**
         a) Internal dimensions                    : 10m x 8m
         b) Wall Thickness                         : 0.3m
         c) Height of the house above the floor     : 4m
         d) Cubic area rate                         : Rs. 2000/$m^3$
         e) Add for Water Supply                    : 7.5% of the cost
         f) Add for Sanitary fittings               : 5% of the cost
         g) Add for Electrical wiring & fitting      : 8% of the cost
         h) Add for Contractor's profit             : 14% of the cost

Q2.  a) What is an approximate estimate? How is it prepared?                      **(5M)**
     b) The plan of a Compound wall of thickness 230mm is given in Fig.1.0. Calculate its centre
        line length.                                                               **(5M)**
     c) For a given stair case of width 1.2m, find the quantity of R.C.C with $M_{20}$ grade of waist slab
        and landing of Staircase shown as in Fig.2.0                               **(10M)**

Q3.  a) From the simple steel truss shown in Fig.3.0, find the quantity of Steel required for the
        following:
         a) Principal Rafter AB & AC @ 108 N/m                                     **(4M)**
         b) Struts FD & EG @ 54 N/m                                                **(4M)**
         c) Tie AD & AE @ 108 N/m                                                  **(2M)**
     b) Prepare the bar bending schedule for main bars and cranked bars of the beam as shown in  **(10M)**
        Fig.4.0
        NOTE: Use Tor steel; Hooks are not necessary

Q4.  Prepare a data sheet and calculate the cost of the items given below:
     a) Flooring with 25mm thick polished Shahabad Stone of 1$^{st}$ quality of the size not   **(10M)**
        exceeding 400x400mm. laid over set in CM (1:10) 16mm thick base coat – 10sq.m           **(10M)**
     a) Materials and labour required for flooring with 25mm thick polished Shahabad
        Stone – 10 sq.m
        10.10 sq.m                        Polished Stone
        0.12 Cu.m                         CM (1:10)
        ___ Cu.m                          Sand
        ___ Cu.m                          Cement
        0.96 Nos.                         Mason I class
        2.24 Nos.                         Mason II class
        2.20 Nos.                         Man Mazdoor
        1.10 Nos.                         Woman Mazdoor
     b) Painting with White Cement paint – 10 sq.m
        3.5 Kg.                           White Cement paint
        0.15 Nos.                         Mason I class
        1.35 Nos.                         Mason II class                           **P.T.O**
        0.50 Nos.                         Man Mazdoor
        1.0 Nos.                          Woman Mazdoor

## LEAD STATEMENT

| S.No | Materials | Rate at Source (Rs) | Lead in Km | Conveyance Charges (Rs) |
|------|-----------|---------------------|------------|--------------------------|
| 1 | Polished Stone | 1650/- per 10 sq.m | 8 | 10/- 10 sq.m/ 1Km |
| 2 | Sand | 250/- per cu.m | 20 | 160/- for 20Km/1Cum |
| 3 | Cement | 3400/- per MT | 4 | 3/bag |
| 4 | White Cement Paint | 15/- per Kg | | |

Labour charges:

| | |
|---|---|
| Mason I class | Rs. 190.00/day |
| Mason II class | Rs. 180.00/day |
| Man Mazdoor | Rs. 150.00/day |
| Woman Mazdoor | Rs. 150.00/day |
| Mixing Charges for C.M | Rs. 30.00/m$^3$ |

Q5. Work out the quantities for the following items of work for the Structure shown in Fig.5.0 **(4x5=20M)** based on the details and data as given below:

    a) R.C.C 1:1 1/2:3 in Columns up to Slab

    b) R.C.C 1:1 1/2:3 in Plinth Beams

    c) PCC Bed in Foundation

    d) Brick work without deductions including Parapet

    e) Outside Plastering with CM (1:4) only

    f) Flooring with vitrified tiles in all rooms