

Planning Estimating & Valuation (CE-404)

Time : 3 hours

Full Marks : 70

Use separate answerscript for each half.**FIRST HALF**(Answer Q.No.1 and TWO from the rest.)

1. Answer any three questions: (3×5=15)
 - i) What are the approximate methods of estimating buildings? Discuss the approximate quantity with bill method
 - ii) Distinguish between Revised estimate and Supplementary estimate
 - iii) Discuss the advantages and disadvantages of manufacturers specification
 - iv) Explain the terms 'Job Overhead' & 'General Overhead'
 - v) Write short note on Administrative approval and Technical sanction

2. A building consists of three rooms of size 4.0mX 4.0m each. All walls are 250 thick and load bearing. Each room has one door of size 1.2mX 2.1m and three windows each size 1.0m X 1.5m all in outer walls. The lintel is 150 mm thick and has a bearing of 250mm on each wall. The height of the roof from floor is 3.0m. The roof slab is 100mm thick and made projection of 150mm with the outer walls from all sides. The entire brick wall is constructed of 1:6 mortar and all R.C.C. work use 1:1.5:3 concrete. For all above building, estimate the quantities of first class bricks above the plinth level, cement, sand and stone chips required for R.C.C. work. Assume any data not supplied. (10)

3. (a) What is meant by rate analysis? (2)
 (b) Analyze the rates of the following:-
 - i) First class brick work in cement mortar (1:4) in super structure in ground floor
 - ii) White washing 2 coats on a coat of primer to new plaster (4+4=8)
 Rate of the materials & labours are as following:-
 Brick-Rs.2400.00 per %o nos., Sand-Rs.320.00 per cu.m., Cement-Rs.210.00 per bag,
 Stone lime-3.20 per kg., Gum-42.00 per kg., Head Mason-Rs.120.00 per head, Mason-Rs.100.00 per head, Painter-Rs.110.00 per head, Mazdoor-Rs.75.00 per head.

4. (a) Discuss the method of preparation of specifications (4)
 (b) Write detailed specifications on lime concrete in roof terracing. (6)

SECOND HALF(Assume any data if required. 1(one) mark is reserved for neatness)**Group A****Answer any 2 (Two) Questions**

5. How would you approach for planning a house? Write the basic requirements for the best orientation of a building. Why does the amount of sunlight vary from place to place? What are the points to be considered for solar control in relation to exposure? (2+2½+2+2=8½)

6. Why 'ventilation' is an important criterion for planning of a house? What do you mean by 'natural' and 'mechanical' ventilation? Write the mechanism of natural ventilation. How can you find out the fan size depending on the room area?
(2+2½+2+2=8½)
7. Why noise control and sound insulation are to be taken into consideration? Define the term 'Glare' and mention its main causes. What do you mean by 'Direct lighting', 'Diffuse lighting' and 'Semi-indirect lighting'? Comment on the quality of 'Filament light' and 'Fluorescent light'.
(2+2+3+1½=8½)

Group B

Answer any 2 (Two) Questions

8. (a) Define any two (i) Outgoings, (ii) Internal aspects in direct capital comparison (iii) Remunerative Interest, (iv) Tandem plot, (v) Obsolescence
(b) The ground floor of a two storied brick masonry building was constructed in 1992 at cost of Rs. 250000/-. The first floor of the building is completed in 2006 at cost of Rs. 450000/-. What is the depreciated value of the building in 2006? The cost index of 2006 is 216.
(4+4½)
9. (a) The net monthly rent of a residential flat at Park Street is Rs. 4000/-. What is the value of the property?
(b) Value the freehold interest in an industrial property in a secondary location. The property is let on lease for 5 years unexpired on full repairing lease terms at a rent fixed at Rs. 5,000/- per month. The full rental value of the property is Rs. 96,000/- per annum (net). The property may be considered a 12% investment.
(4+4½)
10. Estimate the cost of construction during 1997 – 1999 in Kolkata for a R.C.C. frame residential building having three floors on a 200 sq m. Plot area. The relevant details are given below:
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|--|---|-----------------------|
| Plinth area of ground floor | = | 100 sq m. |
| Plinth area of garage | = | 35 sq m. |
| Plinth area of typical floors | = | 135 sq m. |
| Height of typical floor | = | 2.9 m. |
| Height of ground floor | = | 3.5 m. |
| Height of garage | = | 2.1 m. |
| Height of mezzanine floor | = | 2.1 m. |
| Plinth height | = | 0.6 m. |
| Depth of foundation | = | 1.20 m. |
| 1000 lit. capacity R.C.C water reservoir | | |
| Cost of services | = | @ 15% |
| Cost of development | = | @ Rs. 100/- per sq m. |
| Statutory and consultant's fees | = | @ 10% |
- Cost index of 1997, 1998 and 1999 were 167, 173 and 182 respectively
15% of the building was constructed in 1997, 65% in 1998 and 20% in 1999.
Assume all other relevant data. 8½