

[01 - 3115]

III/IV B.E. DEGREE EXAMINATION.

First Semester

Civil Engineering

Elective I — ESTIMATING AND QUANTITY SURVEYING

(Common with Civil Environmental Engineering and Dual Degree Programme in Civil Engineering)

(Effective from the admitted batch of 2006–2007)

Time : Three hours

Maximum : 70 marks

Question No. 1 and 2 are compulsory and answer any THREE from remaining questions. All bits of question No. 1 should be answered at one place in the same order as they appear.

All questions carry equal marks.

1. (a) What is meant by plinth area estimate?
- (b) Explain the features of revised estimation.
- (c) What is difference between scrap value and salvage Value?
- (d) Write briefly about schedule of bars.
- (e) Compare between item rate and lump-sum rate.
- (f) Mention the area of deductions are made for segmental arch openings in masonry.
- (g) What is difference between carpet area and plinth area of building?
- (h) What is building cost index?
- (i) Briefly describe about bill of quantities.
- (j) What is prime cost?
- (k) Define analysis of rate.
- (l) What is quantity survey?
- (m) Briefly explain about overhead cost.

- (n) What is basic aim of specifications?
- (o) Write different methods of valuation.
- (p) What is meant by depreciation?
- (q) Write the conditions under which the rent statement is prepared.
- (r) What is work charged establishment?
- (s) Distinguish between book value and market value.
- (t) What is Measurement Book?
2. Prepare a detailed estimate of the following items for a R.C.C. beam of 8 meter clear span and 75 cm × 40 cm in section from given drawing (Figure 1).

RCC Rectangular Beam

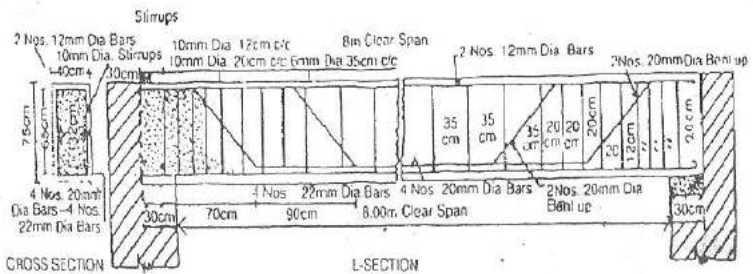


Figure 1

- (a) R.C.C. work including centering and shuttering.
- (b) Steel in detail shall be calculated separately and
- (c) Prepare a schedule of bars.
3. Write detailed specifications for the following items of work.
- (a) Distempering
- (b) Random rubble masonry
- (c) Asbestos cement corrugated sheet roofing

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4. Prepare the rate analysis for the following items of work. Assume suitable rate for material and labour.

- Half brick work (10 cm thick partition wall) with 1 : 3 cement mortar
- Centering and shuttering form work for R.C.C. slab.
- Wood work in chaukhat or frame wrought, framed and fixed.

5. Estimate the cost of earthwork for a portion of road for 360 m length from the following data :

Station :	25	26	27	28	29	30	31	32	33	34
Distance in metres :	1000	1040	1080	1120	1160	1200	1240	1280	1320	1360
R.L. of Ground :	51.1	51.0	50.8	50.9	50.6	50.7	50.9	51.2	51.4	51.3
R.L. of formation :	←————— 51.8 —————→									
Downward gradient	←————— 1 in 200 —————→									

The formation width of the road is 10 m and the side slopes are 2:1 in banking $1\frac{1}{2}$: 1 in cutting.

6. Calculate the standard rent of a Government residential building newly constructed from the following data :

- Cost of land - Rs. 15,000/-
- Cost of construction of the building - Rs. 50,000/-
- Cost of roads within the compound and fencing - Rs. 2,500/-
- Cost of sanitary and water supply works - 8% of the cost of building.
- Cost of electrical installation including fans - 10% of the cost of building.
- Municipal House tax - Rs. 450/- per annum.
- Water tax - Rs. 280/- per annum
- Property tax - Rs. 150/- per annum.