

Roll No.

Total No. of Pages : 04

Total No. of Questions : 09

B.Tech. (Civil Engg.) (Sem.-6)
ENGINEERING ECONOMICS, ESTIMATION AND COSTING

Subject Code : BTCE-601-18

M.Code : 79393

Date of Examination : 02-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Write a short note on work charge establishment
- b) Differentiate between GNI and GDP.
- c) What is break-even point?
- d) Explain sinking fund method for calculation of depreciation.
- e) Differentiate between Direct and indirect cost.
- f) List various factors affecting cost of a project.
- g) Discuss various determinants of demand.
- h) What are the various representative factors for investment analysis?
- i) Write a short note on detailed estimate.
- j) What are the duties of Quantity surveyor?

SECTION-B

- Analyse the rate for RCC in ratio 1:2:4 in beams with stone aggregate of size between 20 mm to 6 mm. Unit lm^3
- A R.C.C simply supported beam of size 295 mm * 645 mm is reinforced with 4 number of 20 mm diameter. Main bars are placed in one row and two are bent up. Two anchor bars of 12mm are provided at top. 8mm diameter stirrups are provided at 149 mm c/c. The span of beam is 5.5m and end bearing is of 30 cm. Calculate the total quantity of mild steel reinforcement. Also prepare schedule of bars. Anchor bars and main steel provided is of grade Fe 415 and stirrups of grade Fe 250.
- Explain different methods available for settlement of dispute.
- What do you meant by out-turn work? With suitable example, explain approximate quantity of different work done by an average artisan per day.
- Define term budget. What are various types of budgets?

SECTION-C

- Estimate the cost of earthwork for a portion of a road for 1200 meters length from the following data:

Station	Distance in meter	R.L of Ground
10	0	114.50
11	100	114.75
12	200	115.25
13	300	115.20
14	400	116.10
15	500	116.85
16	600	118.00
17	700	118.25
18	800	118.10
19	900	117.80
20	1000	117.75
21	1100	117.90
22	1200	119.50

R.L of formation at 10th station is 115.00. Upward gradient is 1 in 200 up to 600 meters and then Downward gradient of 1 in 400 is provided through rest of the section. Draw longitudinal section of the road. Formation width of the road in 10 meters. Side slopes are 2:1 in banking and 1.5:1 in cutting.

8. Detailed specifications specify the nature of work and also give the method of construction. Explain in detail specification for first-class building.
9. Estimate the quantities of the following items of a residential building from the given drawing in Figure 1
 - a) Lime concrete in foundation
 - b) First class brickwork in 1:5 cement sand mortar in foundation and plinth
 - c) 2.5cm Damp proof course
 - d) First class brickwork in lime mortar in superstructure

Doors:

D₁ – 120 cm × 210 cm

D₂ – 100 cm × 200 cm

D₃ – 75 cm × 180 cm

Windows :

W₁ – 100cm × 150 cm

W₂ – 100 cm × 200 cm

W₃ – 75cm × 120 cm

C.W – 75 × 60 cm

Shelves :

S – 100 cm × 250cm

Lintel Over, Doors, Windows etc.

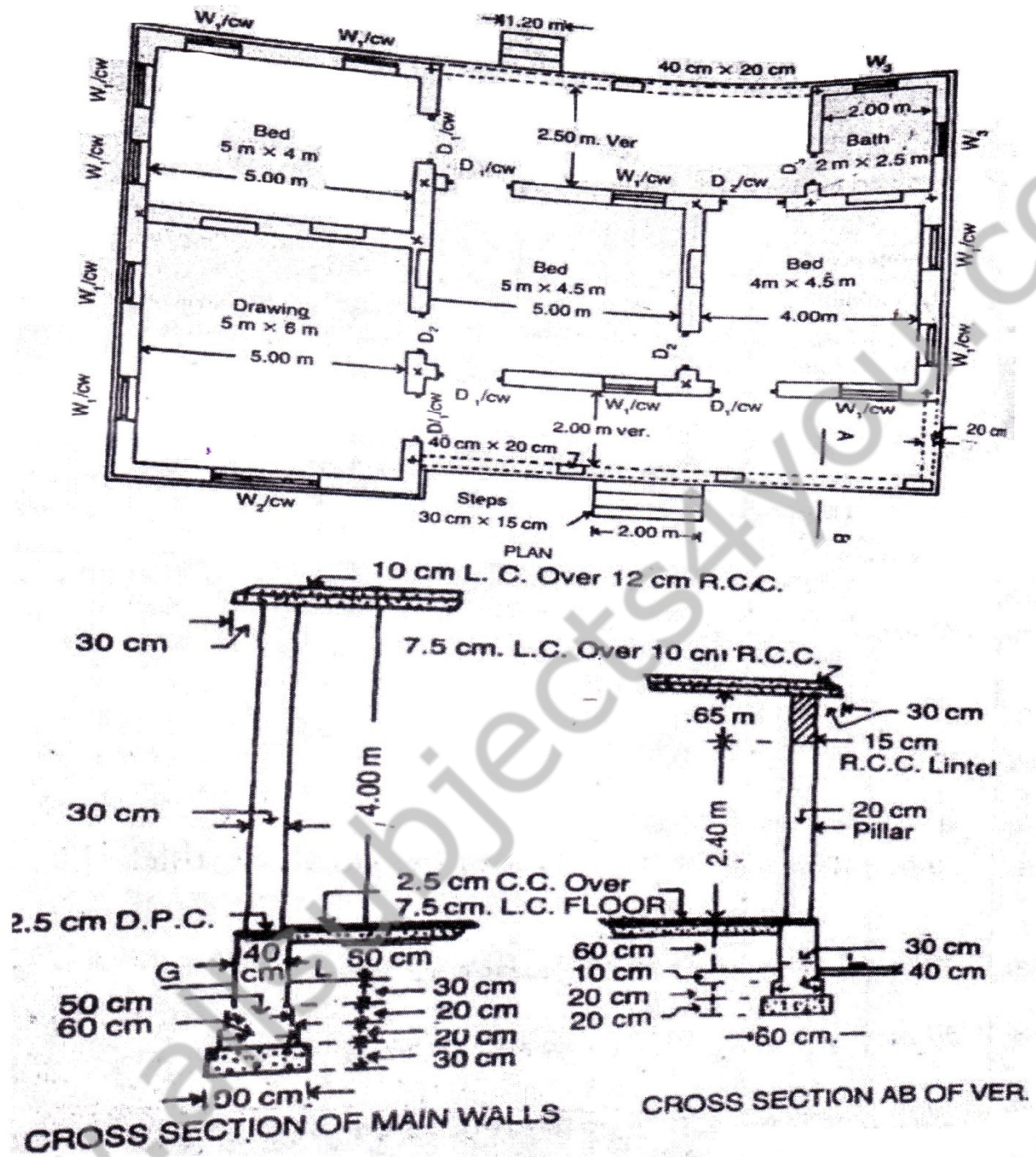


Figure 1

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.