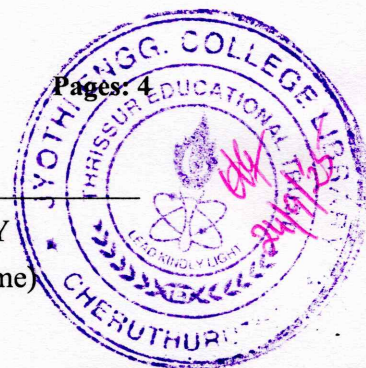Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S) Examination September 2025 (2019 Scheme)

Course Code: CET402
Course Name: QUANTITY SURVEYING AND VALUATION

Max. Marks: 100   **Duration: 3 Hours**

PART A
Answer any two questions, each carries 10 marks.

   Marks

1 (a) Define Work-Charge Establishment and explain its importance in project costing. (5)

  (b) List any five roles of a Quantity Surveyor during the construction stages. (5)

2   Develop unit rate of the work (DSR item No. 4.1.5) – Cement concrete 1:3:6 up to (10) plinth level. (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded Stone aggregate 20 mm and 10 mm nominal size derived from natural sources) cement concrete of specified grade excluding the cost of centering and shuttering - MATERIAL : 0.70 cu.m 20mm nominal size of stone aggregate @ Rs.1425/cu.m., 0.24cu.m 10mm nominal size of stone aggregate @ Rs.1400/cu.m. and 0.47cu.m of coarse sand (Zone-III) @Rs.1450/cu.m., 0.15674 cu.m Portland cement @ Rs.5156/tonne, LABOUR : 0.10 Mason @ Rs.857/day; 1.63 Beldar @ Rs.736/day, 0.70 Bhisti @ Rs.816/day. CARRIAGE PROVISIONS: Stone aggregate 40mm nominal size and below Rs. 0.00/cu.m.; coarse sand @Rs.0.00/cu.m. and for cement @ Rs.0.00/tonne. HIRE CHARGES of concrete mixer 0.07@Rs.900/day, Vibrator 0.07@Rs.400/day, SUNDRIES , LS, 13.52@Rs.2.27.

3 (a) Explain General rule of measurement for deductions and dimensions to be followed (5) as per IS1200.

  (b) List three important contract documents of Civil Engineering project (3)

  (c) What is mean by Overhead charges? List any two examples. (2)

PART B
Answer any two full question , each carries 25 marks.

4 a) Prepare a detailed estimate of the residential building as shown in the figure for the (25) following items of work (use the centre line method)

      a) Earthwork excavation for foundation

      b) Cement concrete in foundation (1:4:8)

      c) Damp Proof Course

      d) Brickwork substructure and superstructure
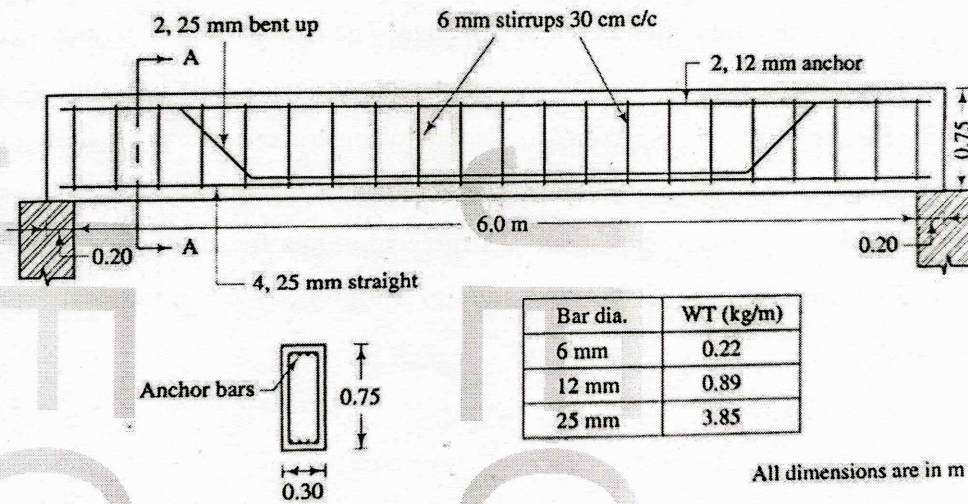
e) Inside plastering 1.25 cm thick
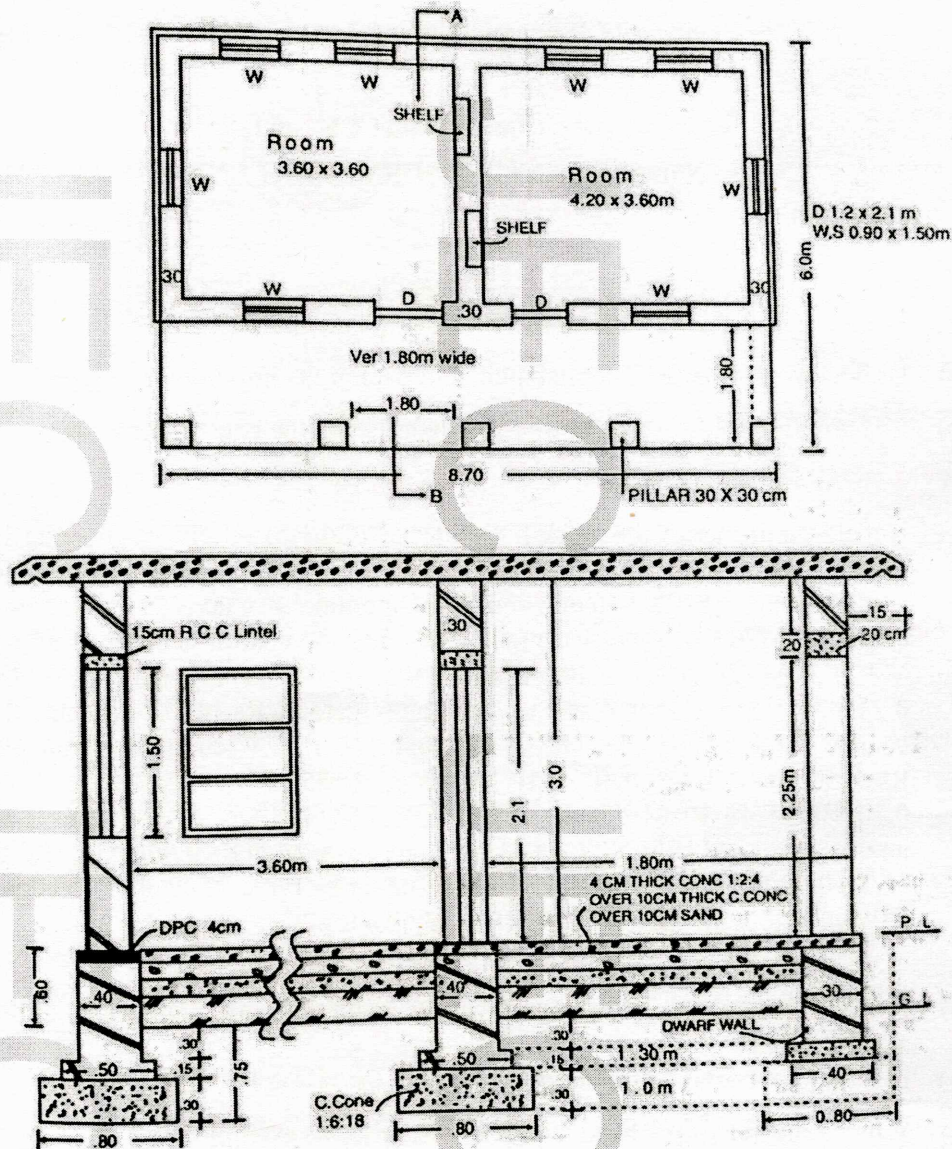
5   Prepare a detailed estimate with abstract sheet for RCC as shown in figure   (25)

Find out the following

a) cement concrete 1:1.5:3, excluding the reinforcement
b) Centring work for the beam
c) Quantity of straight and bend-up steel
d) quantity of the stirrups
e) Prepare the detailed bar bending schedule

2, 25 mm bent up   6 mm stirrups 30 cm c/c   2, 12 mm anchor

A

6.0 m

0.20   A   0.20

4, 25 mm straight

0.75

Anchor bars — 0.75

0.30

Bar dia.	WT (kg/m)
6 mm	0.22
12 mm	0.89
25 mm	3.85

All dimensions are in m

6 a)   Determine the quantity of earthwork for the portion of a road at 100 m interval from   (25) the following data. The formation width of the road is 10 meters, side slope of 2:1 in banking and 1.5:1 in cutting. The RL of formation is 318 downward gradient of 1 in 400 up to the last point. Also find the abstract of cost estimate, where earth work banking ₹ 600/cu.m and cutting ₹ 550/cu.m.

Distance between station	100	100	100	100	100	100
RL or GL		318.25	318.1	317.8	317.75	317.9	319.5

PART C

Answer any two full question , each carries 15 marks.

7 a)   What is valuation? Explain the different purposes of valuation.   (5)

    b)   Explain depreciation. What are the methods to calculate depreciation in buildings   (5) with an example?

    c)   What is a sinking fund? How is it calculated for the replacement of a structure, with   (5) an example?

8 a)   A building worth ₹20,00,000 is to be depreciated using the straight-line method over   (15) 25 years. Calculate the annual depreciation. What will be its book value after 10 years?

9 a) An owner has decided to sell his vacant property with a 30-year-old single-story (15) building with a total plinth area of 110 sq.m. The land cost is ₹ 3,00,000/- compared to the adjoining areas. There is no comparable instance of letting value available in the locality. Still, the present plinth is rate to construct such a new building has been determined from the current sale price which is ₹ 5500 per Sq.m. Assuming the government-approved sinking fund depreciation rate for 30 years at 5% interest is 0.06643, determine the fair sale price of the property using the cost-depreciation method.

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