Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (R,S)(FT/PT/WP) Examinations April 2026 (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) Differentiate between Preliminary Estimate and Detailed Estimate. (5)

(b) Write the unit of measurement for the following: (5)

i)RCC work

ii) DPC

iii) Painting

iv) Glazing

v) Reinforcement Steel

2 Rs 7294.70 per cum was obtained to the work of Cement concrete 1:3:6 up to 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. Assuming economic growth, the government has reduced the GST to 15%. What is the difference in cost per cubic metre of 1:3:6 cement concrete due to the reduction in GST to 15%, assuming all other costs remain unchanged? (10)

3 (a) Define Day Work and explain with a scenario (4)

(b) Define Centage Charge, Provisional Sum, Contingencies (6)

PART B

Answer any two full question , each carries 25 marks.

4 a) Prepare a detailed measurement of the residential building as shown in the **figure 1** for the following items of work (use the centre line method) (25)

a) Earthwork excavation for foundation
b) Cement concrete in foundation (1:6:18)
c) Damp Proof Course
d) Brickwork substructure and superstructure
e) Outside plastering 1.25 cm thick

5 Prepare a detailed estimate of the RCC retaining wall of 11 m in length. Cross cross-section is given in the **figure 2.** (25)

a) Find RCC work, excluding its reinforcement and form work
b) Estimate the total weight of the main reinforcement required
c) Estimate the total weight of the secondary reinforcement required
d) Prepare the detailed bar bending schedule
e) Find the abstract of rates, where RCC concrete ₹ 5100 / cum and Steel bar ₹ 75/kg.

6 a) Workout the quantity of material for 15 cum Cement concrete of 1:2:4 (5)

b) Determine the quantity of earthwork for the portion of a road at 100 m interval from 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 215 upward gradient of 1 in 200 up to the last point. Also find the abstract of cost estimate, where earth work banking ₹ 600/cu.m and cutting ₹ 550/cu.m. (20)

Distance between station	100	100	100	100	100	100	100
RL or GL	214.5	214.75	215.25	215.2	216.1	216.85	218

PART C

Answer any two full question , each carries 15 marks.

7	a)	Define scrap value, salvage value, and market value with examples.	(5)
	b)	List and explain the any 4 types of valuations based on the purpose.	(5)
	c)	A building is proposed to be replaced after 20 years at a cost of ₹12,00,000. Calculate the annual sinking fund to be set aside at 6% interest. (Use appropriate formula)	(5)
8	a)	The cost of a building is ₹15,00,000. Salvage value is ₹1,50,000 after 20 years. Calculate depreciation using the straight-line method.	(15)
9	a)	A commercial building located in a prime area is currently rented out for ₹40,000 per month. The tenant bears all maintenance and operational costs. The building is expected to remain in good condition for the next 50 years. The current rate of return on similar properties in the area is 8% per annum. Assuming no outgoings from the owner's side and that the property is freehold, calculate the value of the building using the rental method of valuation. Also, assume 12 months of rent per year and use the Year's Purchase (YP) method in the valuation process.	(15)

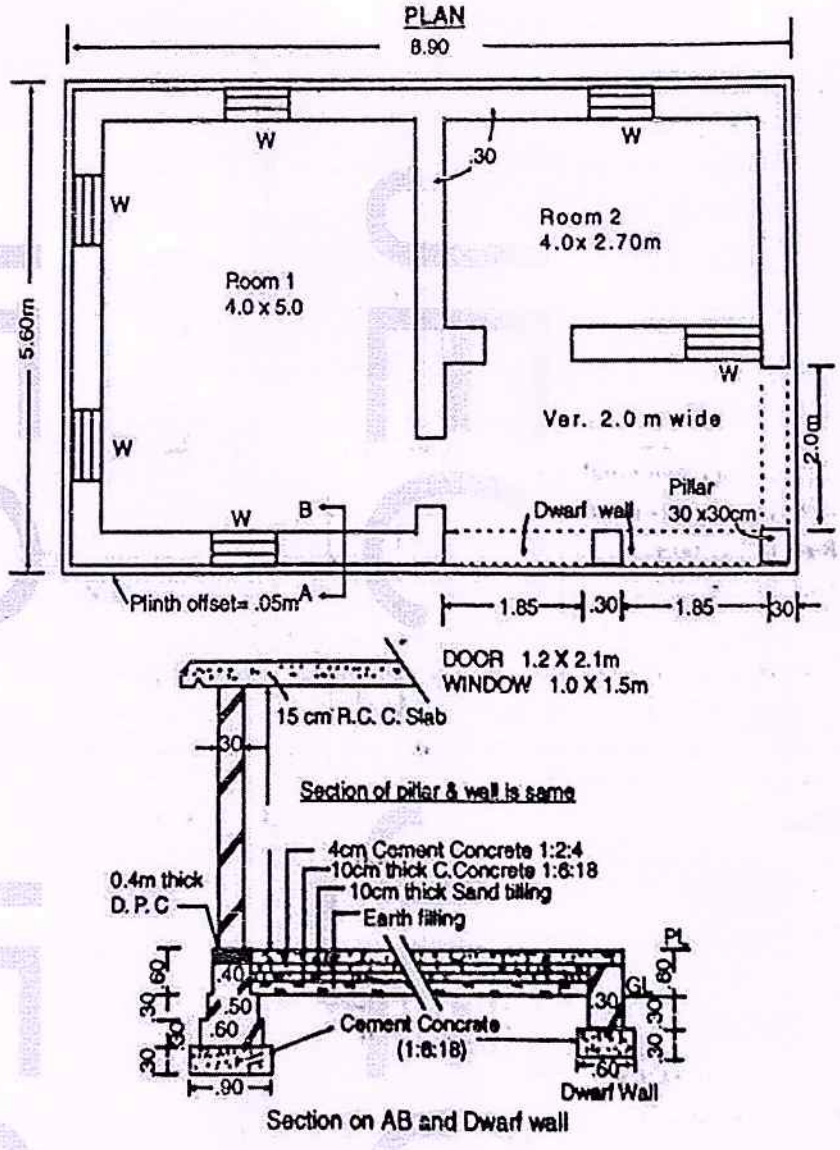
PLAN
8.90
W
W
.30
W
Room 1
4.0 x 5.0
Room 2
4.0x 2.70m
5.60m
W
W
Ver. 2.0 m wide
2.0m
Pillar
30 x30cm
W
B
Dwarf wall
Plinth offset= .05m
A
1.85
.30
1.85
.30
DOOR 1.2 X 2.1m
WINDOW 1.0 X 1.5m
15 cm R.C. C. Slab
.30
Section of pillar & wall is same
4cm Cement Concrete 1:2:4
10cm thick C.Concrete 1:6:18
10cm thick Sand filling
Earth filling
0.4m thick
D. P. C
.60
.40
.50
.60
.30
.30
.30
Cement Concrete
(1:6:18)
.90
PL
GL
.60
.30
.30
.60
Dwarf Wall
Section on AB and Dwarf wall

Figure 1:

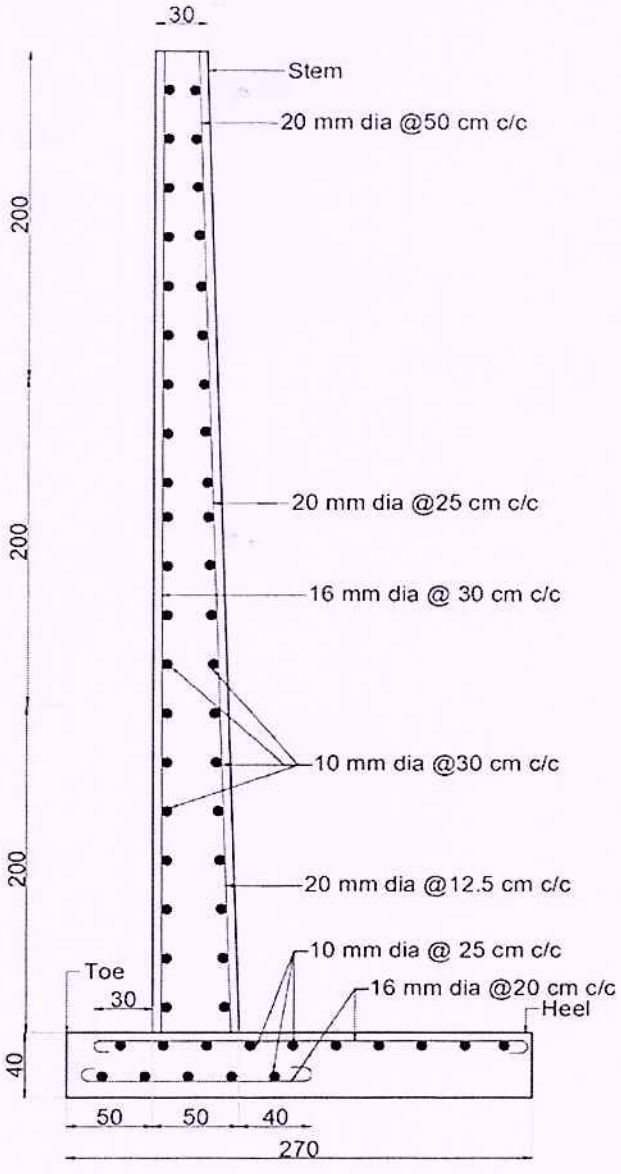
30
Stem
20 mm dia @50 cm c/c
200
200
200
20 mm dia @25 cm c/c
16 mm dia @ 30 cm c/c
10 mm dia @30 cm c/c
20 mm dia @12.5 cm c/c
10 mm dia @ 25 cm c/c
16 mm dia @20 cm c/c
Toe
30
Heel
40
50
50
40
270

Figure 2

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