

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Examination (Regular and Supplementary), December 2020

Course Code: CE409**Course Name: QUANTITY SURVEYING & VALUATION**

Max. Marks: 100

Duration: 3 Hours

General Instructions: 1. Supplement answers with illustrations, wherever necessary
2. Assume any missing data suitably

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

Marks

- 1 a) When and where the following estimate are used (i) Annual Repair estimate (5)
(ii) Supplementary estimate.
- b) Outline the use of CPWD schedule of rates and how it is applied for the (5)
construction work in the different states of India.
- 2 a) List out the any five items of work involved in a residential building with general (5)
specification of the work and give the unit of measurement of each item of work.
- b) Recall the General rules of Indian Standard (IS 1200 (Part-1)-1992) for the Method (5)
of measurement of Buildings and Civil Engineering works
- 3 Develop unit rate of the work (DSR 2018 item No. 4.1.2), providing and laying in (10)
position 1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate
20 mm nominal size) cement concrete of specified grade excluding the cost of
centering and shuttering - All work up to plinth level : **MATERIAL** : 0.57cu.m
20mm nominal size of stone aggregate @ Rs.1370/cu.m., 0.28cu.m 10mm
nominal size of stone aggregate @ Rs.1350/cu.m., 0.425 cu.m of coarse sand
(Zone-III) @Rs.1350/cu.m., 0.2833cu.m Portland cement @ Rs.4940/tonne,
LABOUR : 0.10 Mason @ Rs.709/day; 1.63 Beldar @ Rs.558/day, 0.70 Bhisti
@ Rs.617/day. **CARRIAGE PROVISIONS**: Stone aggregate below 40mm Rs.
103.77/cu.m.; coarse sand @Rs.103.77/cu.m. and for cement @ Rs.92.24/tonne.
HIRE CHARGES of concrete mixer 0.07@Rs.800/day, Vibrator
0.07@Rs.370/day, **SUNDRIES** , LS, 14.30@Rs.2

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

- 4 Prepare a detailed measurement and calculate the material quantity of a 100m (25)

length of a jail wall whose cross-section is given in **Fig-1**, the basement (60cm x 40cm) and wall is of I Class brick work in cement sand mortar 1:6 finished with 12mm thick plastering both side above GL with CM 1:6, Foundation(90x30) is CC 1:4:8. (All dimensions in the figure are in centimetres)

DATA:

- 1) CC1:4:8 (1m³)-20mmAggregate@0.92cu.m, Sand@0.46cu.m., Cement@0.115cu.m
- 2) Brickwork in CM 1:6(1m³), - Brick @500no's, Sand@0.27cu.m, Cement@0.045cu.m
- 3) Plaster using CM1:6(100m²), – Sand@1.80cu.m, Cement@0.30cu.m.

5 Prepare a detailed measurement of the any FOUR item of work listed for building plan shown in **Fig-2** using CENTRE LINE METHOD. (25)

- (a) Earth work excavation in foundation (b) First class brick work in CM1:6 for superstructures (c) Cement concrete (1:2:4) excluding reinforcement and shuttering for Roof and lintel (d) Wood work for Door & Window frames (e) painting of window grating

W2 (150cmx150cm) & D(120cmx210cm), Room size shown in the figure are inside dimensions. (Assume any missing data –State the assumptions clearly)

6 a) A simply supported beam of size 450 x 230 having a span of 6m is supported on a 30cm wall at both ends. The stirrups of 10mm diameter are provided at a spacing of 150mm c/c. The beam have main bar of 3 no's 20mm diameter at bottom including one bend up bar and stirrup holders are of 2 no's 16mm diameter at top. Main & Stirrup holder reinforcement is provided with a cover of 25mm. Calculate the total quantity of the reinforcement required for the stirrup for this beam. Also prepare an estimate of tor steel reinforcement for stirrup including cutting, bending , placing in position and binding, adopt the rate as Rs.95/kg. (Assume any missing data –State the assumptions clearly) (10)

b) Calculate the quantity of earth work for a portion of road of length 700m. (15)
Formation width of road is 8m, side slope in banking 2: 1 and 1:1 in cutting, road has a down gradient of 1 in 150, formation level 160 at distance 0.

Distance (m)	0	100	200	300	400	500	600	700
Reduced Level	158.9	159.10	159.20	162.20	160.80	160.70	160.30	160.40

PART C

Answer any two full questions, each carries 15 marks.

7 a) List the factors affecting valuation. (5)

- b) Explain the significance of sinking fund, How it is calculated. (5)
- c) A person purchased a property for Rs.50,00,000/-. Assuming its salvage value after 40 years will be Rs. 5,00,000/-. determine amount of depreciation each year considering it to be uniform. (5)
- 8 a) A building situated in a class city is let out at Rs.10000/month. The total outgoing excluding sinking fund is estimated to be 20% of the gross income, calculate the capitalised value of the property if the present rate of interest is 6% and the life of the building is 50years.Percentage for sinking fund 3%. No outgoings are allowed other than the data given here. (10)
- b) What is mean by Obsolescence; Write any two examples of obsolescence. (5)
- 9 a) What is mean by the Free hold and lease hold property? Name an example of lease hold property managed by Government of Kerala. (5)
- b) Illustrate the belting method of valuation. (5)
- c) Define the term Cost, Value & Price with suitable example. (5)

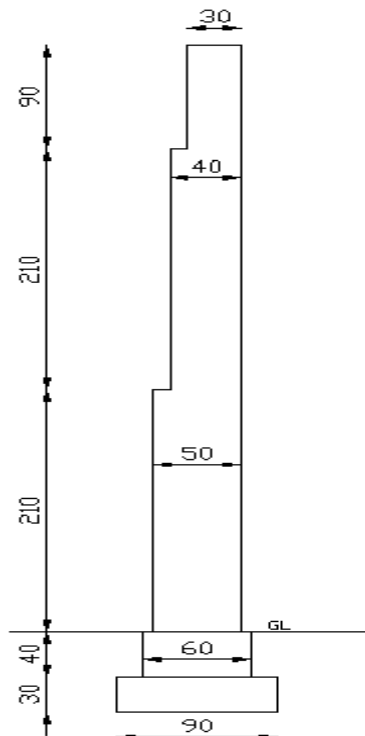


Figure-1

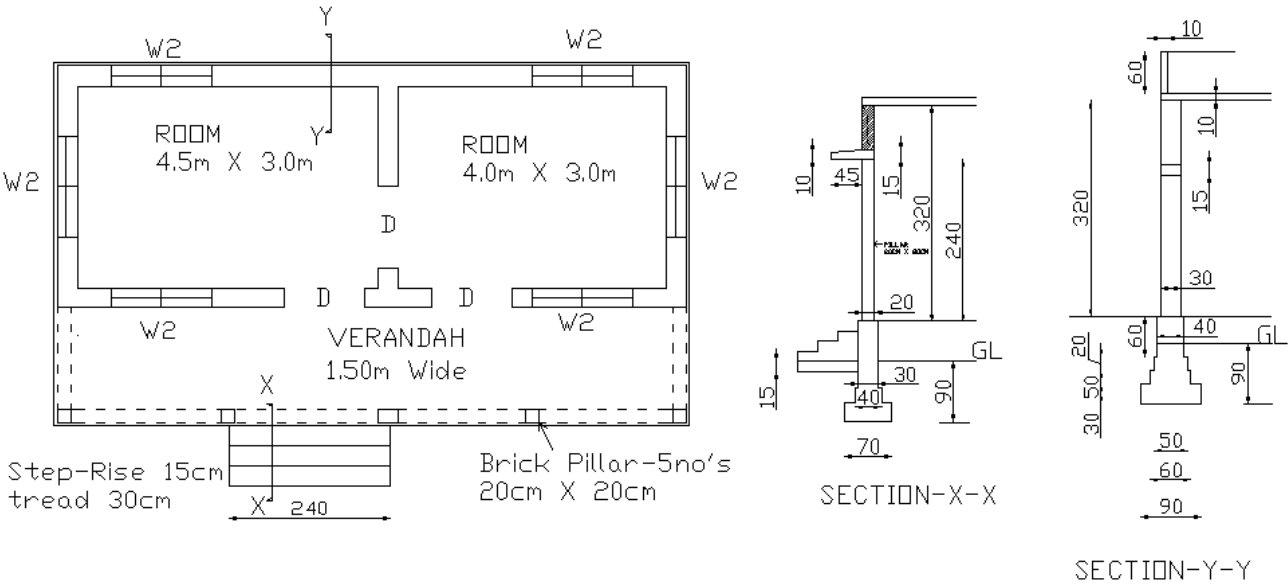


Figure-2