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**PRESIDENCY UNIVERSITY
BENGALURU**

SET B

**SCHOOL OF ENGINEERING
END TERM EXAMINATION – MAY / JUNE 2024**

Semester : Semester VI - 2021

Course Code : CIV3001_v02

Course Name : Estimation Costing and Valuation

Program : B.Tech.

Date : Jun 10, 2024

Time : 01.00pm - 04.00pm

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

Answer any 4 questions

4*5M=20M

1. Explain contingency and work charged establishment. (CO1) [Knowledge]
2. Explain prime cost and provisional sum. (CO1) [Knowledge]
3. There are various types of estimation. Explain supplementary and revised estimate. (CO1) [Knowledge]
4. An agreement between two parties is called as contract. List the various types of contracts and explain Lump-sum contract. (CO1) [Knowledge]
5. Valuation is the technique of determining the fair price or value of the property. List the various purpose of valuation. (CO3) [Knowledge]
6. Explain sinking fund and also write the formula for calculating sinking fund. (CO3) [Knowledge]
7. A lathe machine has been installed in a building at a cost of Rs. 30000, assume life of machine as 20 years, work out the amount of annual installment of sinking fund required to be deposited to accumulate 4% compound interest. (CO3) [Knowledge]
8. Explain market value and book value in valuation of buildings. (CO3) [Knowledge]

PART B

Answer any 4 questions

4*10M=40M

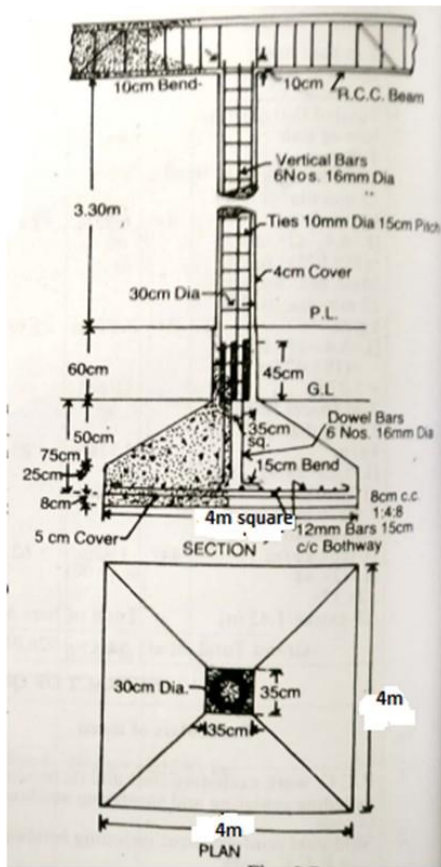
9. There are various types of contracts, explain unit price contract.
(CO1) [Comprehension]
10. Prepare a preliminary estimate of an office building having a carpet area of 16146 sq. ft, given the following data. It may be assumed that 35% of built-up area will be taken up by corridors, verandahs, lavatories, staircases, etc. and 11% of built up area will be occupied by wall and other supports. (i) Plinth area rate - Rs. 1000.00 per sq. m (ii) Extra for special Architectural treatment – 1% of the building cost (BC) (iii) Extra for water supply and sanitary installation – 5% of the building cost (iv) Extra for electrical installations – 12% of Building cost (v) Extra for services – 5% of the building cost (vi) Contingencies – 3% (vii) Supervision charges - 8%
(CO1) [Comprehension]
11. A preliminary estimation needs to be prepared for a building at Mangalore having a carpet area of 32000 sq. ft, given the following data. It may be assumed that 35% of built-up area will be taken up by corridors, verandahs, lavatories, staircases, etc. and 11% of built up area will be occupied by wall and other supports. Prepare the preliminary estimation from the data given below.
(i) Plinth area rate - Rs. 2000.00 per sq. m
(ii) Architectural treatment – 1% of the building cost (BC)
(iii) Extra for water supply and sanitary installation – 5% of the building cost
(iv) Extra for electrical installations – 12% of Building cost
(v) Extra for services – 5% of the building cost
(vi) Contingencies – 3%
(vii) Supervision charges - 5%
(CO1) [Comprehension]
12. Explain Guaranteed maximum price contract and item rate or unit price contract.
(CO1) [Comprehension]
13. A two storied building is standing on a plot of land measuring 1000 sqm at Guntur. The plinth area of each storey is 500 sqm. The building is a RCC structure with a usable life of 60 years. The building fetches a gross rent of Rs. 10000 per month. Work out the capitalized value of the property on the basis of 6% prevalent interest rate (Year's Purchase). For sinking fund 4% compound interest rate may be assumed. Cost of land may be taken as Rs. 1000 per sqm. Other data required are given below. (i) Annual repair cost = 8% of gross rent. (ii) Municipal and property tax = 20% of gross rent. (iii) Management and other charges = 8% of gross rent. (iv) Sinking fund required to accumulate the cost of building at the end of design life is calculated with Rs. 1500 per sqm of Plinth area. Estimate total value of the property including land cost.
(CO3) [Comprehension]
14. A four storied building is standing on a plot of 1000 square meter near Malleshwaram. The plinth area of each storey is 500 square meter. The building is RCC framed structure and the life of the building is 60 years. The building fetches a rent of Rs. 2000 per month. Work out the capitalized value of the property on the basis of 7% net yield (Year's Purchase). For sinking fund 4% compound interest may be assumed. Cost of land is Rs. 3000 per square meter. Assume a) Repairs as 10% of gross income, b) Municipal tax at 20% of gross rent, c) property tax at 3% of gross rent, d) Insurance premium 2% of gross rent, e) Other miscellaneous charges at 1% of the gross income. Assume the sinking fund required to be accumulated at the rate of Rs. 200 square meter.
(CO3) [Comprehension]

PART C

Answer any 2 questions

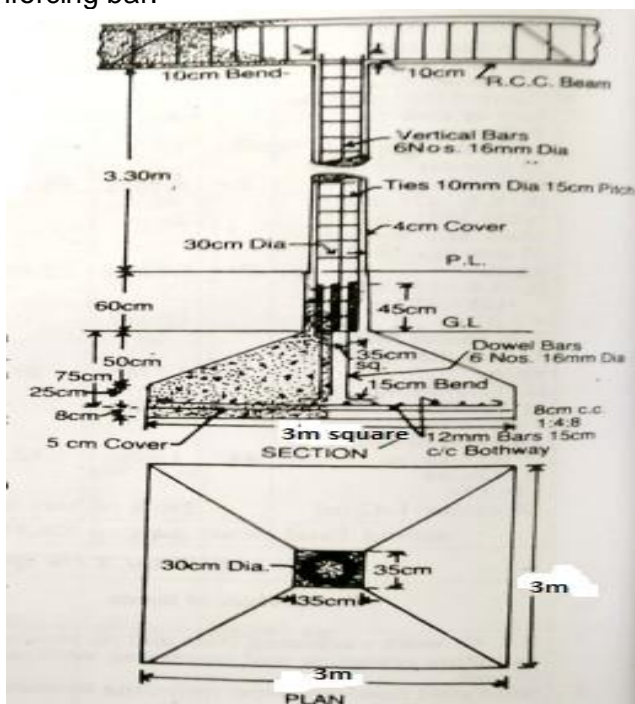
2*20M=40M

15. For a building at Goa an estimate has to be prepared for a RCC column shown in Fig.1 with foundation footing. Prepare the estimate for the following items work. A) Earthwork in excavation in foundation, B) Cement concrete 1:4:8 at the base C) RCC work 1:2:4 in footing D) RCC work 1:2:4 in column and E) Steel reinforcing bar.



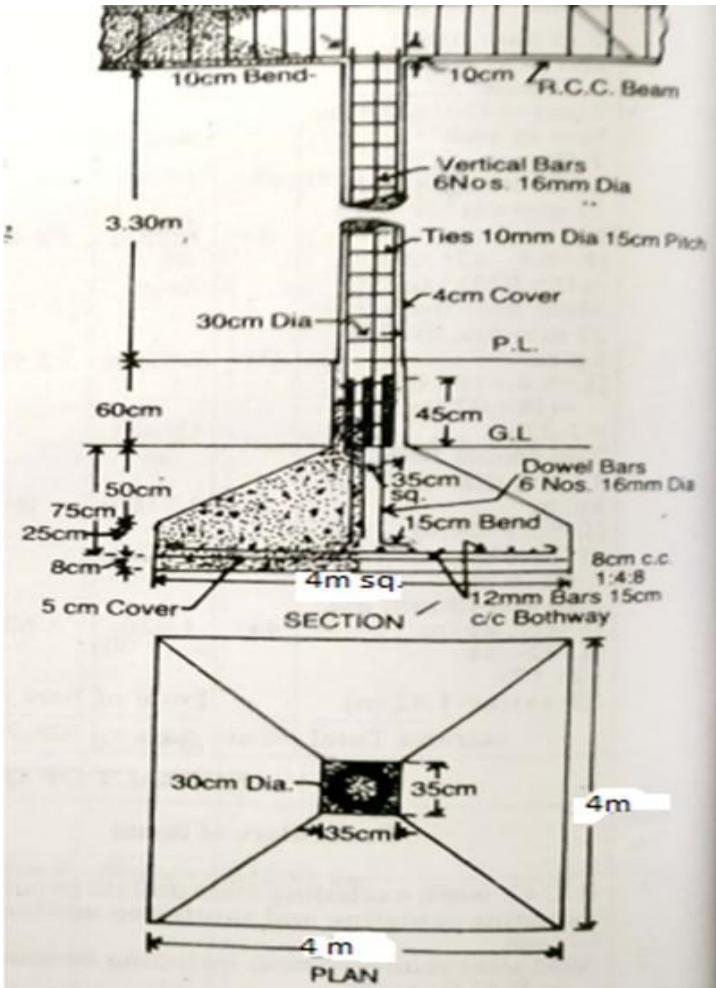
(CO2) [Application]

16. For a building at Surat, an estimate has to be prepared for a RCC column shown in Fig.1 with foundation footing. Prepare the estimate for the following items work. A) Earthwork in excavation in foundation, B) Cement concrete 1:4:8 at the base C) RCC work 1:2:4 in footing D) RCC work 1:2:4 in column and E) Steel reinforcing bar.



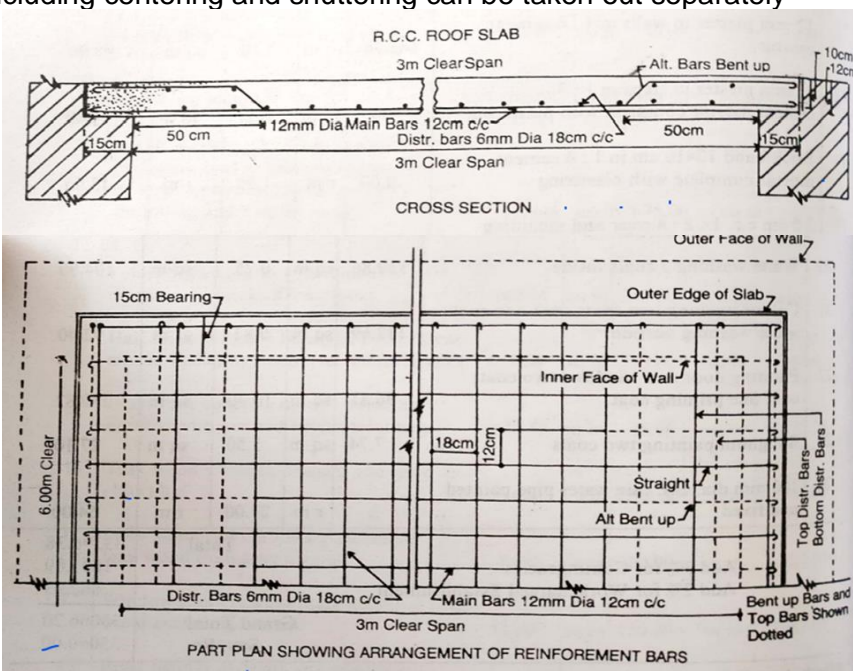
(CO2) [Application]

17. For a building at Rameshwaram an estimate has to be prepared for a RCC column shown in Fig.1 with foundation footing. Prepare the estimate for the following items work. A) Earthwork in excavation in foundation, B) Cement concrete 1:4:8 at the base C) RCC work 1:2:4 in footing D) RCC work 1:2:4 in column and E) Steel reinforcing bar.



(CO2) [Application]

18. Prepare an estimate for a RCC roof slab, 3m clear span and 6m length from the given drawing. RCC work including centering and shuttering can be taken out separately



(CO2) [Application]