



SECTION A

$$2 \times 10 = 20$$

SECTION B

10x3=30

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BTECH**(SEM V) THEORY EXAMINATION 2023-24****QUANTITY ESTIMATION AND CONSTRUCTION MANAGEMENT****TIME: 3 HRS****M.MARKS: 100****SECTION C****3. Attempt any one part of the following:****10x1=10**

a.	Prepare a rough estimate by cubical content method for a proposed commercial complex for a municipal corporation for the following data, Plinth area = 500 m ² /floor, Height of each story=3.5 m, No. of story =G+2, cubical content rate = Rs. 1000/m ³ . Provide for a following as a percentage of structural cost (a) Water supply & sanitary arrangement =8% (b)Electrification = 6% (c) Fluctuation of rates = 5% (d) Contractors profit = 10% (e) Petty supervision & contingencies= 3%
b.	What is meant by preliminary estimates? What documents should be supplied along with this estimate.

4. Attempt any one part of the following:**10x1=10**

a.	Workout quantity of dry material cost of material and required labour for 150 mm thick R.C.C. slab 1:2:4 and size of slab 9 m x 9 m. Assume labour and materials local rates.
b.	What factors influencing selection of contract system? Difference between SMD and retention money.

5. Attempt any one part of the following:**10x1=10**

a.	<p>A network diagram shown in fig. find (i) total expected time and variance for each activity (ii) find EST, LST and float (iii) Critical path and duration of project.</p>
b.	Discuss in brief the resource allocation problem. What are the methods of solving the problem?

6. Attempt any one part of the following:**10x1=10**

a.	Workout the hiring cost per hour for the following data about a bulldozer. (i) Prime cost of bulldozer = Rs. 48 lakhs (ii) Annual investment = 12 % of average investment (iii) Utilization per year 7200 hours (iv) Salvage value of the bulldozer = 15% of prime cost (v) Maintenance and repairs = 40% of annual depreciation (vi) Annual overhead cost = Rs. 60,000 (vii) Fuel consumption = 30 liters per hour (viii) Cost of fuel Rs. 50 per litre (ix) lubricating oil consumption = 1.8 liters per hour (xi) Cost of lubricating oil = Rs. 250 per liter
b.	With neat sketch explain the concrete mix plant for ready mix concrete.

7. Attempt any one part of the following:**10x1=10**

a.	A company has purchased equipment whose first cost is Rs. 100000 with an estimate life of eight years. The estimated salvage value of the equipment at the end of its life time is Rs. 20000. Determine the depreciation value and book value at the end of various years using the Sum of year's digits (SOYD) depreciation method.
b.	Define equivalence concept? Also write the principle of equivalence.