

B.TECH.
(SEM V)THEORY EXAMINATION 2022-23
QUANTITY ESTIMATION AND CONSTRUCTION MANAGEMENT

Time: 3 Hours

Total Marks: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

2 x 10 = 20

- (a) What do you understand by schedule of rates?
- (b) Define long wall estimates.
- (c) What are centre line method?
- (d) What do you understand by types of specification?
- (e) What are the requirement of rate analysis?
- (f) What are project life cycle with example?
- (g) What are operational cost of equipment?
- (h) Write two names of hoisting equipment.
- (i) Why is direct cost important?
- (j) What are the reasons for time value of money?

SECTION B

2. Attempt any *three* of the following:

10 x 3 = 30

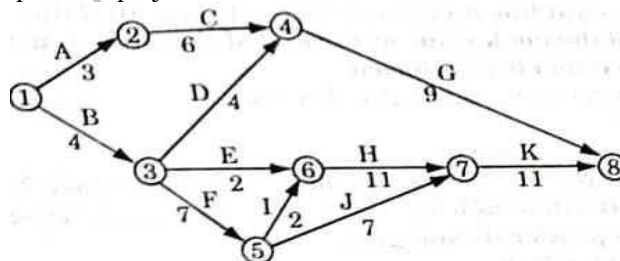
- (a) Write the general rules for measurement of works.
- (b) Analysis of rate of excavation in foundation in ordinary soil including lift upto 1.5 m and lead upto 30m and including filling , watering, an ramming of excavated earth and removal and disposal of surplus earth as directed by engineer-in-charge upon a distance of 30 m.
- (c) Draw with the help of mile stone chart work division structure.
- (d) Explain conveying equipment's with neat sketch
- (e) Differentiate between depreciation and obsolescence. Write the advantages of break-even chart.

SECTION C

3. Attempt any *one* part of the following:

10 x 1 = 10

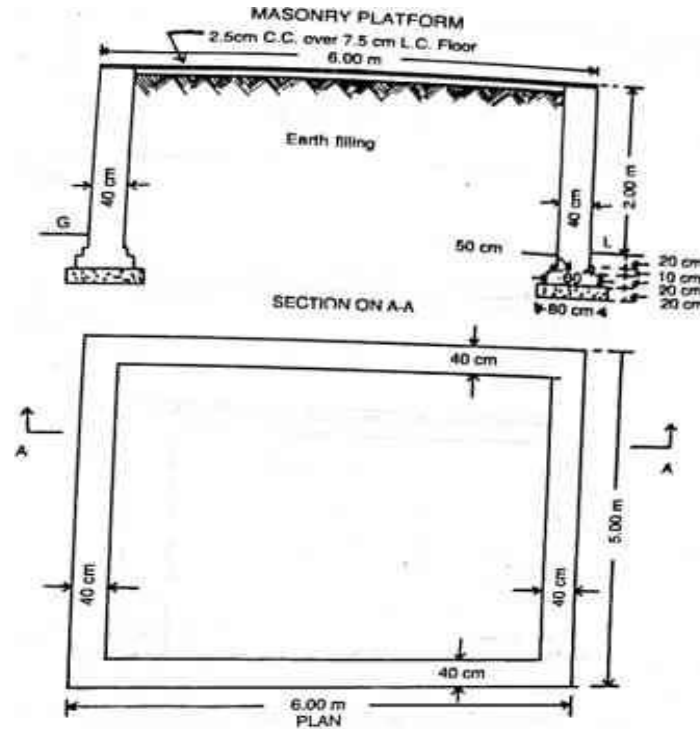
- (a) Write the classification of scheduling. How can you calculate the earliest expected time and latest allowable occurrences time in PERT.
- (b) Figure shows the represents the network of a project and duration of each activity in number of days is given along the respective activity. Identify all the paths through the network and find out the critical path and project duration.



4. Attempt any *one* part of the following:

10 x 1 = 10

- (a) Estimate the bill of quantity a masonry platform 6m x 5m from the given drawing and specification (i) Foundation – Lime concrete (ii) Masonry – Ist class brick with lime mortar (iii) Flooring – 2.5 cm cement concrete cover over 7.5 cm lime concrete, over wall only 2.5 cm cement concrete (iv) wall finishing – Outside walls are 12 mm cement plastered 1:6



- (b) Estimate the quantities of brickwork and plastering required in a wall 4 m long, 3 m high and 30 cm thick. Calculate also the cost if the rate of brick work is Rs.320.00 per cu m and plastering is Rs8.50 per sq m.

5. Attempt any *one* part of the following:

10 x 1 = 10

- (a) Find the rate analysis laying and consolidation of Stone Macadam – unit 1 cu.m take 100 cu.m, 225 mtr length of 3.7m wide road, 12 mm thick loose layer.
(b) Write the rules for preparation of Muster roll with labour safety.

6. Attempt any *one* part of the following:

10 x 1 = 10

- (a) A machine was purchased for Rs. 4,50,000 on 1st January 2004 and erection and installation work cost Rs. 60,000. It was replaced by a new one on 1st January 2012. If the scrap value was estimated as Rs. 1,50,000, What should be the rate of depreciation and depreciation fund on 15th April 2008.
(b) Explain in detail about various types of earth work equipment's with special purpose usage for each equipment's.

7. Attempt any *one* part of the following:

10 x 1 = 10

- (a) Compare direct and indirect cost in the construction project.
(b) What are two method used in discounted cash flow? How do you calculate discounted cash flow model?