Registration No.: | | | | | | | | | | |

Total Number of Pages: 03

Course: B.Tech
Sub_Code: RCI7D003

7th Semester Regular/Back Examination: 2025-26
SUBJECT: Estimating, Costing and Professional Practice
BRANCH(S): Civil
Time: 3 Hours
Max Marks: 100
Q.Code: U164

Answer Q1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right-hand margin indicate marks.

Part-I

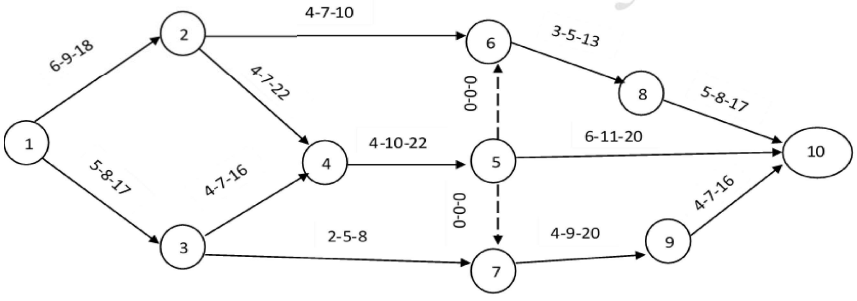
Q1 **Answer the following questions:** **(2 x 10)**

a) What is Dummy activity? How is it useful in network diagrams?
b) Write the differences between slack and float used in network analysis.
c) What do you understand by "the probability of finishing an activity within the scheduled time"?
d) What are the primary objectives of crashing?
e) How the following items of work are measured.
I) Plastering II) Brickwork in supper structure III) Flooring IV) Coursed rubble Masonry
f) Write down the out-turn of a person working in the brickwork with cement mortar in foundation and plinth and Lime concrete (1:2:4) respectively.
g) Write the difference between R chart and C chart
h) What is resource smoothing?
i) Draw a typical cost duration curve and show the optimum duration and minimum project cost.
j) What is e-tendering?

Part-II

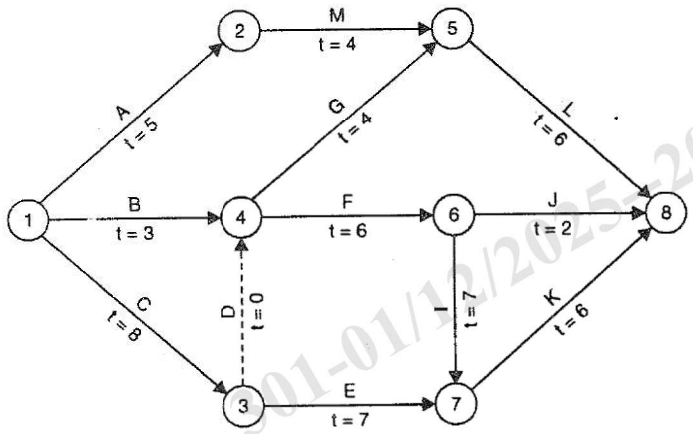
Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) Describe the types of estimates, their advantages and disadvantages.
b) Write the general specification of flooring for different class of building
c) Define different type of floats and derive the relationship between them.
d) Prepare the analysis of rate for 12 mm thickness plaster (1:6).
e) Write the different types of contracts used in construction industry.
f) Write the different content of a typical tender notice.
g) What is bar chart? Write down the shortcomings for bar chart.
h) Describe the method for Quality Control by Statistical Methods.
i) Write the different construction safety requirement for construction industry.
j)



For above network diagram, calculate the slack at each event and show the critical path using PERT.

k)



Determine critical path using the CPM method.

I)

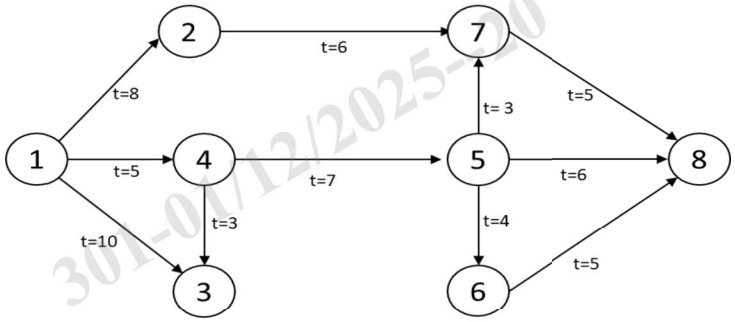


Figure shows the network of a project which is to be updated at the end of 12 days. The following conditions exist at the time of updating.
Activity 1-4 was completed as planned.
Activity 1-3 was executed rapidly and took 8 days to complete.
Activity 3-4 commenced after completion of 1-3 and was completed on 11th day.
Activity 4-5 was commenced following the completion of activity 3-4 and still requires 6 days.
Activity 1-2 still requires 10 days to complete.
Activity 2-7 will start after 1-2 and will require 9 days to complete.
Activity 5-8 will now require 10days to complete.
Update the network and determine the new critical path.

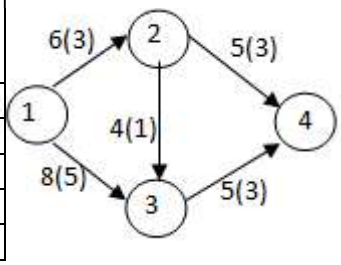
Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

Q3 Write the sampling plan for quality control in details. Also discussed the different control charts used in construction industry and their advantages. **(16)**

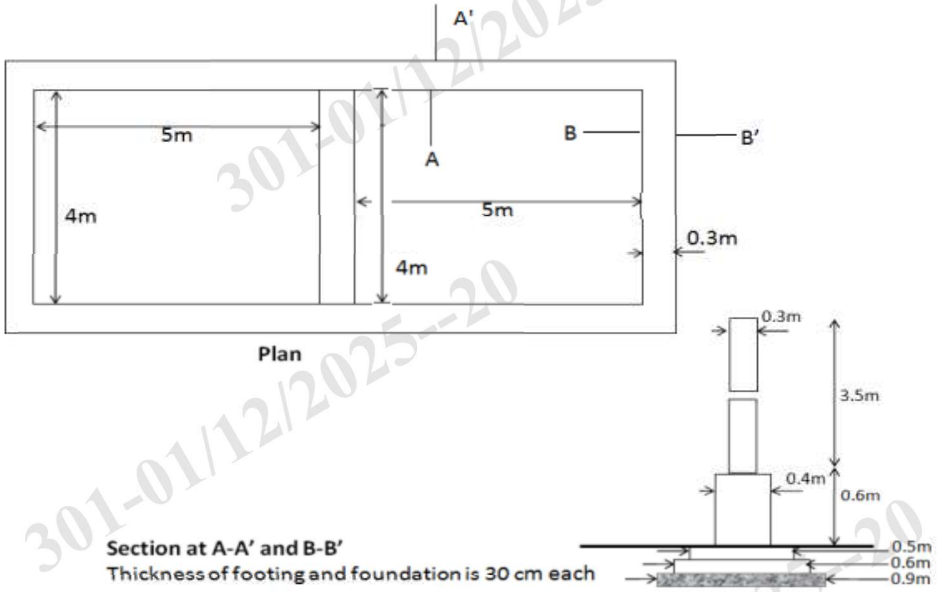
Q4 Data for the duration and the costs of each activity of a project are given in Table. The indirect cost of the project is Rs 3000 per week. Draw the time scaled version of the network at each stage of crashing and calculate optimum project cost. **(16)**

Activity	Normal Duration (Weeks)	Normal cost (Rs)	Crash Duration (Weeks)	Crash Cost (Rs)
1-2	6	7000	3	14500
1-3	8	4000	5	8500
2-3	4	6000	1	9000
2-4	5	8000	3	15000
3-4	5	5000	3	11000

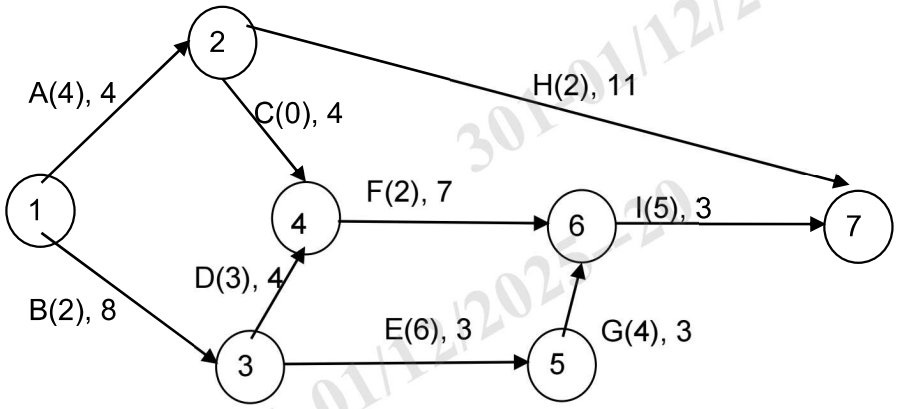


Q5 Estimate the quantities of following items of work for a building as shown in figure using center line method. **(16)**

a) Earthwork excavation in foundation
b) Cement concrete in foundation
c) Brickwork in foundations



Q6 **(16)**



The requirements of labours for each of the activities are given within brackets in the following networks. The others numerical data represents time required to complete the activities. Draw the resources usage profile.

Level out the requirement of the resource if the maximum number of labour on any day, has to be limited to 7.