

U.S.N.								
--------	--	--	--	--	--	--	--	--

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## August 2024 Supplementary Examinations

**Programme: B.E.**

**Semester: VIII**

**Branch: Civil Engineering**

**Duration: 3 hrs.**

**Course Code: 21CV8HSCEP**

**Max Marks: 100**

**Course: Construction Project Mgmt, Economics & Professional Ethics**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

1 a) In what specific ways are Mile stone charts superior to bar charts? How is a network superior to a milestone chart? **05**

b) For the following project of holding a conference, draw the “bar chart” diagram **05**

i)	By mail asking members for suitable dates	6 days
ii)	Inform date to members	2 days
iii)	Prepare agenda	3 days
iv)	Send agenda and relevant materials to members by mail	4 days
v)	Arrange conference room	2 days
vi)	Arrange refreshments	1 day

c) “Work break down structure enables the integration of people, hardware and software into a total project work system.” Elaborate the concept of work break down structure in the light of the above statement. **10**

### UNIT - II

2 a) In what three major ways does a CPM network differ from a PERT network. **05**

b) The network of a certain project is as shown in figure 2(b), with the estimated duration of various activities, determine the following: **15**

- Earliest event time and latest event time.
- Earliest and latest, start and finish time of each activity.
- Total and free floats for each of the activity
- Critical path for the network.

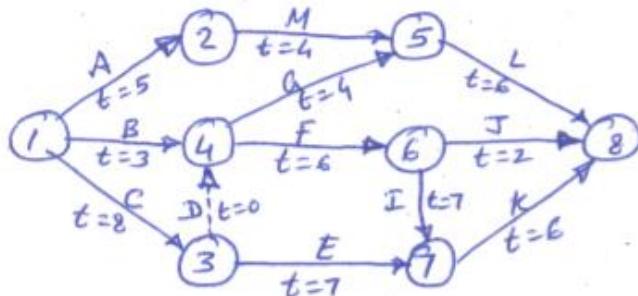


Figure 2(b)

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

## OR

3 a) Chandana construction company has an opportunity to submit a bid for the construction of a new apartment building. From the specification provided by the developer, the PERT network along with the three time estimates (in weeks) for each activity are as shown in figure 3(a) below,

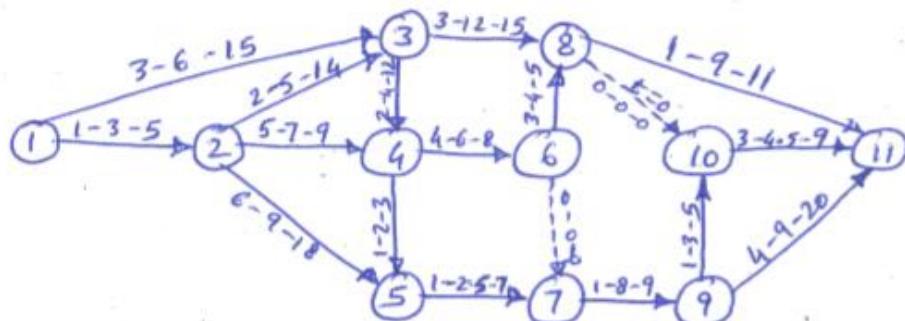


Figure 3(a)

Determine:

- i) Critical path and its standard deviations
- ii) Probability of completing the work in 38 weeks
- iii) Completion time duration for which the company should bid to provide 95% probability of completing the project in time.

b) What do you understand by "Independent Float"? Show that it can be determined by subtracting the tail event slack from the free float. **05**

## UNIT - III

4 a) Explain "Resource planning" and the steps to be followed in its process. **10**

b) Briefly explain Time-cost trade off and Materials management. **10**

## UNIT - IV

5 a) Explain the five broad phases of "Capital Budgeting". **10**

b) The details of three alternative having 10 years life are given in the table below. If minimum acceptable rate of return (MARR) is 15%, which of the three alternatives is to be selected. Use Net present value (NPV) method. **10**

Details	Option 1	Option 2	Option 3
Initial Investment	Rs. 2,20,000	Rs. 1,25,000	Rs. 75,000
Annual Benefit	Rs. 79,000	Rs. 43,000	Rs. 28,000
Operating Cost	Rs. 38,000	Rs. 13,000	Rs. 8,000
Salvage Value	Rs. 16,000	Rs. 6,900	Rs. 3,000

## OR

6 a) With the help of a sketch, explain "Working Capital Management". **10**

b) Explain the four different types of "Accounting Methods" for recognition of the revenue, costs and profit while preparing the financial statements in a construction firm. **10**

## **UNIT - V**

7 a) Explain the four values that drive ethical conduct for the project Management, according to project management institute. **10**

b) Review any five forms of most widely recognized unethical practices in construction project management. **10**

\*\*\*\*\*

SUPPLEMENTARY EXAMS 2024