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Roll No. _____ [Total No. of Pages : 3

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8E1907

B.Tech. VIII Sem. (Main/Back) Examination, April/May - 2025

Civil Engineering

8CE4-01 Project Planning and Construction Management

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates:

Attempt All Ten questions from Part A, Five questions out of Seven questions from Part B and Three questions out of Five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are compulsory. **(10×2=20)**

1. Define the staffing.
2. State the activity on node.
3. Define the term "EMD".
4. What is the sub-contractor?
5. State the dummy activities.
6. Explain the burst and merge activities.
7. Define the independent float.
8. Explain the redundancy error.
9. Define the bill of quantity.
10. Explain the most likely time.

PART - B
(Analytical / Problem Solving Questions)

Attempt any Five questions. **(5×4=20)**

1. Describe the various phases of project management.
2. What are the shortcomings of bar chart? How are these removed?
3. With the help of an illustrative example, explain the resources smoothing method.
4. Explain the difference between PERT and CPM networks.
5. Discuss in brief the role of management in project execution.
6. A project has 14 activities. The relationships which obtain amongst these activities are as follows:

   a) A is the first operation.

   b) B and C are parallel and immediate successor to A.

   c) D, E and F follows B.

   d) G follows E.

   e) H follows D but it cannot start until E completed.

   f) I and J succeeds G.

   g) F and J precedes K.

   h) H and I precedes L.

   i) M succeeds L and K.

   j) N is last activity and succeeds M and C.

   Draw the network diagram of the project.

7. Explain the method of time-cost optimization of project network.

PART - C
(Descriptive / Analytical / Problem Solving / Design Questions)

Attempt any Three questions. **(3×10=30)**

1. a) Explain the characteristics of construction management. **(5)**

   b) What do you understand by the term 'organization'? Highlight its principles. **(5)**

2. a) Discuss the various network rules. **(5)**

   b) What do you understand by total float? What is its importance in network planning? **(5)**

3. a) Explain the importance of human resource in an industrial enterprise. **(5)**

b) What are the benefits of computerized information system? **(5)**

4. Find project duration and determine the critical path for the project given below in table. Also tabulate earliest start, earliest finish, latest start and latest finish time for all the activities/stages.

Activity/Stages	Duration (in weeks)	Activity/Stages	Duration (in weeks)
1 - 2	2	4 - 6	3
1 - 3	2	5 - 8	1
1 - 4	1	6 - 9	5
2 - 5	4	7 - 8	4
3 - 6	8	8 - 9	3
3 - 7	5		

5. a) Explain briefly the legal aspects of contract. **(5)**

b) Differentiate between the following: **(5)**

i) Agreement and Contract.

ii) Pre-contract award management and post-contract management.

8E1807

Roll No. _____ [Total No. of Pages : 2

8E1807

B.Tech. VIII-Sem. (Back) Examination, April/May - 2025
Civil Engineering
8CE4-01 Project Planning and Construction Management

Time : 3 Hours **Maximum Marks : 120**

Min. Passing Marks : 42

Instructions to Candidates:

Attempt all Ten questions from Part A, Five questions out of seven questions from Part B and Four questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are compulsory. **(10×2=20)**

1. Explain the internal rate of return with an example.
2. What do you mean by Net Present Value (NPV)?
3. Explain 'Determination of Contract'.
4. Differentiate between direct and indirect project cost.
5. Discuss the importance of project scheduling in construction management.
6. Explain the concept of precedence network analysis.
7. How do you determine Cost-Slope?
8. Mention different types of floats associated with an activity of a network.
9. Differentiate the Lump-Sump and scheduled rate contract.
10. List the significant environmental issues associated with construction industry.

PART - B

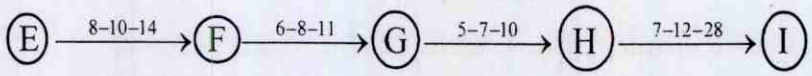
(Analytical / Problem Solving Questions)

Attempt any Five questions. **(5×8=40)**

1. Differentiate between CPM and PERT.

2. Define Project Planning. Discuss the various stages involved in project planning.

3. The Optimistic time (O), Most likely time (M), and Pessimistic time (P) (in days) of the activities in the critical path are given below in the format O-M-P. Calculate the expected Completion time of the Project.



4. What is Arbitrition? Mention the advantages and qualifications of an Arbitrator.

5. What are the major difference between AOA and AON network diagram? Explain with the help of an example.

6. Discuss Earnest money deposit, Security deposit and Retention amount related to tender.

7. Calculate variance and standard deviation from the Table -1 given below.

Table -1

	Optimistic Time	**Most Likely Time**	**Pessimistic Time**
Engineer- X	4	6	8
Engineer -Y	3	5	8

PART - C

(Descriptive / Analytical / Problem Solving / Design Questions)

Attempt any Four questions. **(4×15=60)**

1. Enumerate the major causes of project failure. Also suggest remedial measures to prevent project failure.

2. Define Risk Cost Management. What are the primary steps involved in effective risk cost management system?

3. Discuss the key elements and the levels included in a project work breakdown structure.

4. What is the importance of safety in construction projects? Discuss safety measures that must be followed while demolition of an old industrial structure.

5. A project consist of 11 activities having predecessor relationship as shown in Table 2. Draw the AOA and AON network and estimate EST, EFT, LST, LFT and overall project duration.

Activity	A	B	C	D	E	F	G	H	I	J	K
Predecessor	-	-	-	A	B	B	C	D	E	F&G	H&I
Duration (days)	2	2	1	4	5	8	3	1	4	5	3

8E1960

Roll No. _____ [Total No. of Pages : 2

8E1960

116204

B.Tech. VIII Sem. (Main/Back) Examination, April/May - 2025
Open Elective - II
8TT6-60.2 Disaster Management

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates:

Attempt All Ten questions from Part A, Five questions out of seven questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A
(Answer should be given up to 25 words only)

All questions are compulsory. **(10×2=20)**

1. Enlist the hydro-meteorological and geological disasters.
2. What do you understand by Vulnerability.
3. Define the term flush flood.
4. What do you understand by cloud burst?
5. Explain the terms focus and epicenter in earthquake.
6. Differentiate between earthquake intensity and magnitude.
7. What is the full form of DDMA and NDMA?
8. What do you understand by major power break down?
9. Enlist the accident-related disasters.
10. Explain the term pre-disaster and post-disaster.

PART - B
(Analytical / Problem Solving Questions)

Attempt any Five questions. **(5×4=20)**

1. Describe the causes and impact of cloud burst disaster.
2. Explain the guidelines for earthquake management and safety tips.
3. What are the preventive measures of flood?
4. Explain the difference between forest fire and fire hazard.
5. What is tsunami risk assessment and vulnerability analysis?
6. Explain the causes and impact of traffic accidents.
7. Explain the early warning system of cyclone hazard.

PART - C
(Descriptive / Analytical / Problem Solving / Design Questions)

Attempt any Three questions. **(3×10=30)**

1. Explain the factors responsible for landslides. Also gives the safety tips before and after the landslide.
2. Discuss on the textile processing industrial hazards and how it is mitigated?
3. Describe the disaster management cycle and its components.
4. Write the Do's and Don'ts before a volcano, during an eruption and after an eruption.
5. Write notes on the following:
   a) Drought.
   b) Cyclone.
