

Total No. of Questions: 6

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Enrollment No.....



Faculty of Engineering
End Sem Examination May-2023
CE3EC05 Construction Project Management
Programme: B.Tech. Branch/Specialisation: CE

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. The first stage of a large construction work is- 1
(a) Contract (b) Design
(c) Study and evaluation (d) Conception
- ii. The object of technical planning, is- 1
(a) Preparation of specifications
(b) Preparation of estimates
(c) Initiating the procurement action of resources
(d) All of these
- iii. PERT- 1
(a) Provides an approach for keeping planning up –to-date
(b) Provides a way for management to require that planning is done on a uniform and logical basis
(c) Permits management to foresee quickly the impact of variations from plan
(d) All of these
- iv. PERT analysis is based upon- 1
(a) Optimistic time (b) Pessimistic time
(c) Most likely time (d) All of these
- v. The difference between total float and free float is called- 1
(a) Duration (b) Interfering float
(c) Critical activity (d) None of these
- vi. CPM requires- 1
(a) Single time estimate (b) Double time estimate
(c) Triple time estimate (d) None of these

P.T.O.

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- vii. In resource levelling- **1**
 (a) Total duration of project is reduced
 (b) Total duration of project is increased
 (c) Uniform demand of resources is achieved
 (d) Cost of project is controlled
- viii. Which of the following constant is fixed in resource allocation? **1**
 (a) Resources (b) Duration (c) Money (d) All of these
- ix. Which of these is a computer software used in CPM? **1**
 (a) MS Project (b) Primavera
 (c) Both (a) and (b) (d) None of these
- x. Project management software is used for- **1**
 (a) Scheduling (b) Monitoring
 (c) Reporting (d) All of these
- Q.2 i. Explain stages of project planning with neat sketch. **4**
 ii. Explain Job layout with neat sketch. Also explain factors affecting job layout. **6**
- OR iii. What is project scheduling? Explain various schedules derived from project schedule. **6**
- Q.3 Attempt any two:
 i. A project has the following activities and other characteristics: **5**
- | Activity | | A | B | C | D | E | F | G | H | I |
|---------------------------|---|----|----|----|---|----|----|----|------|----|
| Preceding Activity | | – | – | A | A | C | D | B | E, F | G |
| TIME Estimates (in weeks) | O | 4 | 1 | 6 | 2 | 5 | 3 | 3 | 1 | 4 |
| | M | 7 | 5 | 12 | 5 | 11 | 6 | 9 | 4 | 19 |
| | p | 16 | 15 | 30 | 8 | 17 | 15 | 27 | 7 | 28 |
- Draw a network and estimate the earliest and the latest event times for all nodes and hence derive critical path and estimate the expected duration of the project.
- ii. Explain network diagram & its types in detail. Also explain the elements of network. **5**
- iii. Write the rules for drawing network. **5**

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- Q.4 i. Write down difference between CPM and PERT. **4**
 ii. Define the following: **6**
 (a) Total Float (b) Free Float (c) Independent Float
- OR iii. Draw the network for the following project and determine the event time, activity time, critical path. **6**

Activity	Duration (days)	Preceding activities
A	5	-
B	3	A
C	3	A, B, F
D	7	C, L
E	7	D, G, K
F	2	A
G	2	F
H	3	G, L
K	6	A
L	3	F, K

- Q.5 i. Write short note on: **4**
 (a) Construction project claims
 (b) Construction project disputes
- ii. What are contracts? Explain its types and importance in detail. **6**
- OR iii. Explain project closure and its types in detail. **6**
- Q.6 Attempt any two:
 i. What do you understand by the term updating? Explain various methods of updating. **5**
 ii. Explain project control in detail. **5**
 iii. Explain different functions of project management software in detail. **5**

Marking Scheme

CE3EC05 CPM

Q.1	i.	The first stage of a large construction work is (d) Conception	1
	ii.	The object of technical planning, is d) all the above.	1
	iii.	PERT d) all of the above	1
	iv.	PERT analysis is based upon d) all of these	1
	v.	The difference between total float and free float is called b) interfering float	1
	vi.	CPM requires a) single time estimate	1
	vii.	In Resource Levelling c) uniform demand of resources is achieved	1
	viii.	Which of the following constant is fixed in resource allocation? b) Duration	1
	ix.	Which of this is a computer software used in CPM c) Both a and b	1
	x.	Project management software is used for d) all of the above	1
Q.2	i.	For explanation – 2 ½ marks For Sketch – 1 ½ marks	4
	ii.	For explanation – 2 marks For sketch – 1 marks For factors affecting – 3 marks	6
OR	iii.	Definition – 2 marks For type of schedule – 1 marks each	6
Q.3	i.	For network drawing – 1 marks For estimate of times – 2 marks For critical path and estimate the expected duration of the project	5

– 2 marks

	ii.	Explanation of network diagram – 1 marks Its types – 1 marks each Elements of network – 1 marks	5
OR	iii.	Rule of network drawing – ½ marks for each	5
Q.4	i.	Draw the network – 2 marks Determine Event time – 2 marks Activity time – 2 marks Critical path – 1 marks	7
	ii.	Definition – 1 marks each	3
OR	iii.	Difference – 1 marks each	3
Q.5	i.	Write short note on – 2 marks each	4
	ii.	Definition – 2 marks Types and importance – 1 marks each	6
OR	iii.	Explanation – 2 marks Types – 1 marks each	6
Q.6		Attempt any two:	
	i.	Definition – 2 marks Types with description – 1 marks each	5
	ii.	Explanation – 5 marks	5
	iii.	Explanation of functions – 1 marks each	5
