

**B.Tech. Civil (Construction Management) /
B.Tech. Civil (Water Resources Engineering)**

Term-End Examination

June, 2019

00692

ET-524(B) : CONSTRUCTION MANAGEMENT – I

Time : 3 hours

Maximum Marks : 70

Note : Question no. 1 is compulsory. Attempt any four questions from the remaining. All questions carry equal marks.

1. The activity dependence of a construction project is given below :

Activity	Preceding Activity	Duration (in weeks)
A	–	1
B	A	14
C	B, F	6
D	A	4
E	B, F	6
F	A	18
G	C, D, E	2
H	B	3
J	H	3
K	H	4
L	J, K	1
M	L	1
N	G, M	2

Draw a CPM Network diagram showing EST, LST, EFT, LFT and duration of the activities. Determine the critical activities, critical path and the total duration of the project.

14

2. In your opinion, what are the problems faced by client and contractors during implementation of construction contracts ? How can these be minimised ? 8,6
3. (a) What do you understand by the time value concept of money ? Discuss the various methods by which this concept can be illustrated. 8
- (b) Explain the need for charging depreciation. What are the different methods of charging depreciation ? Discuss briefly, the straight line method and annuity method of depreciation. 6
4. (a) What do you understand by Project Cost Control ?
- (b) What is the aim of Budgeted Cost Control ?
- (c) With the help of neat diagrams, explain the following : 2,2,10
- (i) Budgeted Cost of Work Scheduled (BCWS)
 - (ii) Actual Cost of Work Performed (ACWP)
 - (iii) Budgeted Cost of Work Performed (BCWP)
 - (iv) Cost Variance (CV) — Cost overruns and Cost underruns
 - (v) Schedule Variance (SV)

5. (a) As a site engineer, what are the factors you would consider before the site work begins ? What steps will you take to achieve an efficient site organization ? 8

(b) What points will you keep in mind while siting labour camps, layout of site roads and site drainage ? 6

6. Differentiate between any *two* of the following : $2 \times 7 = 14$

(a) Earnest Money and Security Deposit

(b) Arbitration, Litigation and Negotiation

(c) Direct Overhead Cost and Indirect Overhead Cost

7. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$

(a) Liquidated Damages

(b) Work Breakdown Structure

(c) Quality of Water for Construction

(d) Storage of Cement and Lime

(e) Contractual Claims