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

Term-End Examination

00303   December, 2018

ET-524(B) : CONSTRUCTION MANAGEMENT – I

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. (a)   Define a project.   4

    (b)   Draw the Work Break-down Structure of a four-storeyed framed down building on raft foundation. Assume normal finishes, facilities and external services.   10

2. (a)   Enumerate the typical contract documents of a lumsum contract.   7

    (b)   State the typical conditions of contract in Central Public Works Department (CPWD).   7

3. Information on the activities for a construction project is tabulated below :

S. No.	Activity	Node	Duration
1	A	1 – 2	4
2	B	1 – 3	6
3	C	2 – 6	8
4	D	3 – 4	7
5	E	3 – 5	4
6	F	4 – 6	6
7	G	5 – 6	5
8	H	5 – 7	19
9	I	6 – 7	10

Draw the CPM Network and mark the ES, EF, LS, LF times for each activity. Mark the critical activities. *14*

4. (a) What safety precautions will you take for the safety of earth moving plants ? *5*

   (b) Bring out the salient features and usage of the following earth moving plants : *3×3=9*
   (i) Scraper
   (ii) Motor grader
   (iii) Compacting plant

5. (a) What do you understand by Time Value of Money concept ? How does it help in investment proposals ? *7*

   (b) Explain the NPV Method and IRR Method to illustrate the concept. *7*

6. Explain the processes of Negotiation, Arbitration and Litigation for resolving contractual disputes. Discuss the advantage of Arbitration over Litigation. *14*

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

 (a) Liquidated Damages

 (b) Storage of Structural and Reinforcing Steel

 (c) Cost-Time Trade-Off

 (d) Safety during Demolition

 (e) Temporary Housing and Facilities for Labour