

16187(D) - 0 DEC 2016

**B. Tech 7th Semester Examination**

**Project Planning and Construction Equipment (NS)**

**CE-415**

**Time : 3 Hours**

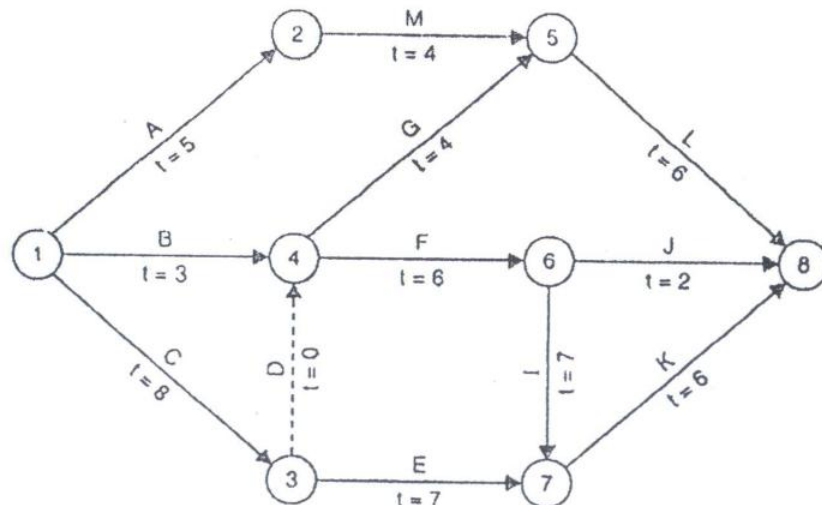
**Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

- Note :** (i) Attempt one question from each section A, B, C and D. Section E is compulsory.  
(ii) All questions carry equal marks.

**SECTION - A**

- (a) How Critical Path Method is different from Programme Evaluation and Review Technique? (10)  
(b) Explain with sketch the financial schedule showing expenditures and receipts. (10)
- Find event times, critical path, activities early/latest start/finish times, and total and free floats for the network shown below: (20)



**SECTION - B**

- (a) Explain the principles of organization. (10)  
(b) How the account of a construction work is maintained. (10)
- Differentiate between "Functional" and "Line and Staff" organization structures used in the construction with their merits and demerits. (20)

**SECTION - C**

- Define assignment problem; consider the problem of assigning five operators to five machines. The assignment cost in rupees are given in the table. (20)

Machines→ Operators ↓	M1	M2	M3	M4	M5
A	7	7	20	4	8
B	9	6	4	5	6
C	11	5	7	19	5
D	9	4	8	9	4
E	8	7	9	11	3

- Explain linear programming problem and discuss its applications in the construction industry. (20)

**SECTION - D**

- (a) Explain with neat sketch the working of Clam shell used on construction sites. (8)  
(b) What are different causes of accidents in the construction industry, how they are prevented. (12)

[P.T.O.]

8. Explain in detail the construction and working of Concrete Production Plant used in construction projects. (20)

**SECTION - E**

9. Answer any five.
- (a) Explain steam curing.
  - (b) List various factors affecting equipment selection.
  - (c) Draw the line diagram of Hoist.
  - (d) What are different temporary facilities at construction sites?
  - (e) Describe inventory management.
  - (f) What is skip numbering in the networking techniques?  
(5×4=20)