

320655(20)

B. E. (Sixth Semester) Examination, April-May 2020

(New Scheme)

(Civil Engg. Branch)

CONSTRUCTION PLANNING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : (i) Answer all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d) of each question.

(ii) The figures in the right hand margin indicate marks.

Unit-I

1. (a) What is Planning? 2
- (b) What are the methods of scheduling? Explain with the help of a suitable example. 7

[2]

- (c) What do you mean by LOB technique? 7
- (d) What do you understand by Job Layout? What are the factors affecting the job layout? 7

Unit-II

2. (a) What is slack? 2
- (b) What do you mean by PERT? What is its significance? 7
- (c) How the probability of completion time for a project can be determined? Write the steps involved in it. 7
- (d) What are the advantages and disadvantages of network analysis over other technique? 7

Unit-III

3. (a) What is a critical path? 2
- (b) What do you mean by earliest event time and latest event time? Formulate the equation for them. 7
- (c) The following table gives the activities in a Construction Project and other relevant information : 7
- | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|
| Activity | 1-2 | 1-3 | 2-3 | 2-4 | 3-4 | 4-5 |
| Duration | 20 | 25 | 10 | 12 | 6 | 10 |

[3]

- (i) Draw the Network for the project
- (ii) Find the critical path
- (iii) Find free float, total float and independent float for each activity
- (d) Differentiate between CPM and PERT. 7

Unit-IV

4. (a) What are Resource allocation? 2
- (b) What are the necessary data required for updating? Also draw the flowchart for updating. 7
- (c) What do you mean by resource smoothing? What are the steps involved for doing the resource smoothing? 7
- (d) Explain the term updating. Why is it necessary? 7

Unit-V

5. (a) Define TQM. 2
- (b) Explain the basic elements of quality with a flow diagram. 7

- (c) Explain the use of documentation and quality control circles in construction quality management. 7
- (d) Describe in detail, the operation and application of the following types of excavating equipment with line-diagram showing the basic parts :
- (i) Power shovel
- (ii) Backhoe 7