Eighth Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)
CIVIL ENGINEERING
08.805 : Construction Management

Time : 3 Hours
Max. Marks : 100

Instructions: Answer all questions from Part A and one question from each Module of Part B.

PART – A

1. Who constitutes the construction team? What are the responsibilities of the members in the team?

2. List the various applications of computers in the construction industry.

3. Explain the concept of rate of return.

4. What are the different types of tenders?

5. Explain the importance of liquidated damages in construction contracts.

6. What is an M-Book? What is its importance?

7. What is the significance of three time estimates used in PERT analysis?

8. Discuss the relevance of time-cost trade-off in scheduling operations. (8x5=40 Marks)

PART – B
Module – 1

9. Discuss the life cycle of a construction project, in detail, with the help of an example.

OR

10. Discuss the principles of scientific management advocated by Henri Fayol.
Module – 2

11. Explain the process of tendering a civil engineering project starting from inviting tenders to signing the contract document. 

OR

12. Write a note on any five popular types of contracts used in civil engineering works.

Module – 3

13. a) How do Bar charts differ from milestone charts ?
   b) Develop a network diagram for a job with the following activities and logical sequence.
      A is the first operation
      B follows A
      C, D, E and F follow B
      G follows E
      H follows D but cannot start until E is over
      I and J succeed G
      F and J precede K
      H and I precede L
      M succeeds L and K
      The last operation N succeeds M and C
      Also number the events according to Fulkerson’s rule.

OR

14. a) Define activity and event. What is the significance of dummy activity in a network ?
   b) A small maintenance project consists of the following ten jobs whose procedure relationships are identified by their node numbers.

<table>
<thead>
<tr>
<th>Job</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>g</th>
<th>h</th>
<th>i</th>
<th>j</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Initial Node, Final Node)</td>
<td>1, 2</td>
<td>2, 3</td>
<td>2, 4</td>
<td>3, 5</td>
<td>3, 6</td>
<td>4, 6</td>
<td>4, 7</td>
<td>5, 8</td>
<td>6, 8</td>
<td>7, 8</td>
</tr>
<tr>
<td>Estimated duration</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

i) Draw the network diagram representing the project.

ii) Calculate the total float of the activities and thus the critical path of the network.