

Code No: 09A60106

R09

Set No. 2

III B.Tech II Semester Examinations, April/May 2012
CONSTRUCTION TECHNOLOGY AND PROJECT MANAGEMENT
Civil Engineering

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the role of the government in the growth of the Construction industry. [15]
2. (a) Define scheduling. What are the uses and advantages of scheduling?
(b) Differentiate between PERT network and CPM network. [8+7]
3. Discuss in detail the various units in concrete production plants. [15]
4. Define contract. Discuss about the types of contract. [15]
5. (a) Discuss the operations in erection of steel structures.
(b) Describe briefly the non-destructive tests carried out on the fabricated steel structures. [8+7]
6. Define planning. Discuss about the various activities involved in the construction planning. [15]
7. Give a detailed account of accident investigation and its prevention. [15]
8. Risk distribution between the contractor and the owner goes a long way in laying the foundation for healthy relationship- Discuss with examples. [15]

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1. Define project and project management. What are the different stages in a typical construction project? [15]
2. (a) What is light weight concrete? Describe the procedure to achieve light weight concrete.
 (b) What are the advantages and disadvantages of ready mixed concrete? [8+7]
3. What do you mean by hauling? Discuss about different types of equipment used as hauling equipment. [15]
4. (a) During heavy monsoon, the site is submerged in water and the project gets delayed. How will you attribute the delay in the work? What is the contractor to do to recover the losses?
 (b) List the tasks to be performed in project closure phase. [10+5]
5. The following table gives the activities in a construction project and other relevant information:

Activity	Duration (Days)
1-2	20
1-3	25
2-3	10
2-4	12
3-4	6
4-5	10

- (a) Draw the network for the project.
- (b) Find the critical path.
- (c) Find free float, total float and independent float for each activity. [15]
6. (a) The construction industry is facing a severe shortage of skilled man power- Discuss with particular examples.
 (b) The equipment necessary for a project decides the cost of project-comment. [8+7]
7. What are safety related problems in the Indian construction industry? What are the various hazards associated with the construction industry as regards to safety? [15]

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8. What is an estimate? Discuss about different types of estimates with advantages and disadvantages. [15]

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1. Discuss the importance of quality in construction projects with examples. [15]
2. What is hot and cold weathering concrete? Discuss the problems associated with hot weathering concrete and cold weathering concrete. [15]
3. (a) Explain resource leveling with a suitable example.
(b) List the differences between CPM and PERT network. [12+3]
4. (a) Discuss the classification of construction equipment.
(b) How do you arrive at the necessity of hiring or purchasing the equipment? [9+6]
5. (a) What is subcontracting? Discuss about different types of subcontractors.
(b) Discuss about the Integrated Contract. [8+7]
6. (a) Discuss the role of computers in case of disputes.
(b) Discuss the need for maintaining the documents in construction industry. [8+7]
7. Enumerate the benefits of safety to employers, employees and customers. [15]
8. (a) A project consists of 16 activities having their predecessor relationships as follows:
 - i. A is the first activity of the project.
 - ii. B,C and D follow A and can be done concurrently
 - iii. E and G cannot begin until C is completed and can be performed simultaneously.
 - iv. F is the immediate successor to activities B and E.
 - v. H and K run in parallel and both succeed G
 - vi. L succeeds F and H
 - vii. I and J are immediate successor activities to activity D.
 - viii. M and N are immediate successor to I and K. however both M and N can be performed concurrently.
 - ix. Activities O and P are the last activities. Activity o is the immediate successor to N and L. Activity P is the immediate successor to M and J.Draw the network and number the events.
(b) Explain Fulkersons rules for numbering the events of a network. [10+5]

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1. (a) What are the methods of scheduling?
(b) What is meant by scheduling and controlling?
(c) What do you mean by PERT? What is its significance? [15]
2. Discuss about the types of project plans in construction industry. [15]
3. (a) What is workability? Discuss various methods of measuring the workability.
(b) What are the steps to be taken to make the concrete more durable? [7+8]
4. Discuss different categories of contract in detail and differentiate them with respect to their characteristics. [15]
5. Discuss in detail the various phases in project closure. [15]
6. (a) What is quality manual? What does it contain?
(b) What is quality improvement? What is meant by continual improvement? [8+7]
7. What are the different types of crushers used for production of aggregate? Describe the operation of each type briefly. [15]
8. (a) What is the difference between a record and document?
(b) For a single storey residential building prepare a construction schedule. Assume suitable data relevant to a building. [5+10]
