Code No: **RT41013** **R13** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

CONSTRUCTION TECHNOLOGY AND MANAGEMENT

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1. a) What is the significance of development of bar chart? [4]
   b) What do you understand by a dummy? What are its uses? [4]
   c) Discuss the different types of compaction rollers. [4]
   d) What are the merits and demerits of Clamshell buckets? [4]
   e) Discuss the application of jaw crushers. [3]
   f) Describe in briefly about the piling [3]

PART–B *(3x16 = 48 Marks)*

2. a) Explain why planning is necessary? Describe various steps for planning a project. [8]
   b) Explain in detail about the functions and limitations of PERT and CPM techniques. [8]

3. a) Draw a PERT network for the following and find expected mean time, variance and SD of the project.

Activity	Three-time estimates (days)
1-2	6-9-18
1-3	5-8-17
2-4	4-7-22
3-4	4-7-16
4-5	4-10-22
2-5	4-7-10
3-5	2-5-8

   [8]
   b) Explain in detail about the allocation of resources. [8]

4. How do you govern the selection of wheel type or crawler type tractor on a job? Compare their applications. [16]

5. a) On what basis bull dozers are classified? Explain. Discuss their applications. [8]
   b) Briefly explain about grading. [8]

6. a) What do you mean by concrete mixer? Explain the different types of concrete mixers and its application. [8]
   b) Discuss the application of impact crushers. [8]

7. a) Explain the concept of prefabrication in construction. How it is essential to a large scale project? [8]
   b) Describe the quality control and safety engineering in construction. [8]

Code No: **RT41013** **R13** **Set No. 2**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

CONSTRUCTION TECHNOLOGY AND MANAGEMENT

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is a mile stone? In what terms are they superior to bar chart method of representation? [4]
   b) Write about the Event and Activity. [3]
   c) How do you find the capacity of trucks? Discuss it. [4]
   d) What are the different types of scrapers and write its purpose [4]
   e) What are the applications of gyratory crushers? [4]
   f) Discuss pile driving equipment [3]

PART–B *(3x16 = 48 Marks)*

2. a) Discuss the roles of Project Manager in detail. [8]
   b) Explain in detail about the components of Networks. [8]

3. a) Discuss the cost-duration analysis in PERT. [8]
   b) Distinguish between crashing for optimum cost and crashing for optimum resources [8]

4. a) Mention the various types of earthwork equipment and their uses. [8]
   b) Discuss about the rear dump truck and its significance. [8]

5. a) What are the differences between graders and scrapers? Discuss in detail. [8]
   b) List out the various factors governing the selection of earthmoving equipment. [8]

6. a) Describe the different types of crushers and their uses for each. [8]
   b) Discuss briefly about the screening of aggregate. [8]

7. a) Explain in detail about the different types of form works and their applications? [8]
   b) Explain the methods of piling. [8]

Code No: **RT41013** **R13** **Set No. 3**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

CONSTRUCTION TECHNOLOGY AND MANAGEMENT

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is the purpose of planning? [3]
   b) What are the necessary data required for updating [4]
   c) What are the limitations of Earthmoving equipments? [4]
   d) What are the uses of scrapers? [3]
   e) Discuss about the mixing and placing of concrete. [4]
   f) Write note on safety engineering. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Discuss in detail about the scheduling and monitoring. [8]
   b) Differentiate clearly between most likely time estimate (t_L), mean time (t_m) and expected time (t_E). [8]

3. a) The direct cost of the project is Rs 3000 per week. Determine the optimum duration of the project and the corresponding minimum cost. Draw time scaled version of network.

Activity	Normal duration (weeks)	Normal cost (Rs `)	Crash duration (weeks)	Crash cost (Rs`)
1-2	6	7000	3	14500
1-3	8	4000	5	8500
2-3	4	6000	1	9000
2-4	5	8000	3	15000

   [8]
   b) Discuss in brief the stepwise resources allocation problem. [8]

4. a) Describe about the trucks and handling equipment. [8]
   b) What is meant by cycle time in trucks and how do you calculate the truck production? [8]

5. Explain about the Hoisting and Earthwork equipment in detail. [16]

6. a) How do you done the mixing and placing of concrete, explain it. [8]
   b) Campare Jaw and Gyratory Crushers based on their use and application. [8]

7. a) Describe the fabrication erection in detail. [8]
   b) Explain the difference between earthwork and formwork. [8]

Code No: **RT41013** **R13** **Set No. 4**

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017

CONSTRUCTION TECHNOLOGY AND MANAGEMENT

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

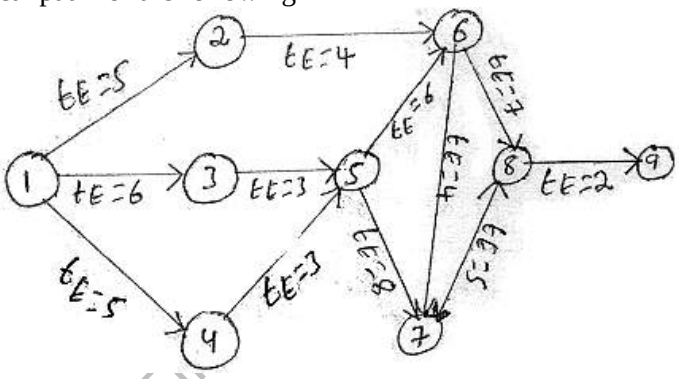
PART–A *(22 Marks)*

1. a) What is meant by work breakdown structure? [4]
   b) Write about Network rules and graphical guidelines for network [4]
   c) Discuss cost analysis. [3]
   d) What are the uses of bulldozers? [4]
   e) What do you understand by screening of aggregate? [4]
   f) What are the uses of quality control? [3]

PART–B *(3x16 = 48 Marks)*

2. a) Discuss in brief the role of management in project execution [8]
   b) What are the main objectives and applications of construction management? [8]

3. a) Determine critical path for the following



   [8]
   b) Describe about the updating in PERT Technique. [8]

4. a) Write about the compaction equipment and various types of rollers. [8]
   b) What are economical considerations for the selection earthwork equipment? Discuss it. [8]

5. a) Describe the difference between hoists and cranes with their applications. [8]
   b) Explain in detail about the clamshell buckets and its applications. [8]

6. a) How the selection of crushing equipment is done? Explain. [8]
   b) Name the equipments needed for compacting concrete and explain their uses in detail. [8]

7. Explain in detail about the different construction methods. Discuss their merits and demerits. [16]