Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech. Summer 2018 – 19 Examination

Semester: 8 **Date: 29/04/2019**
Subject Code: 03104451 **Time: 10:30am to 1:00pm**
Subject Name: Construction Project Management & Economics **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions -(All are compulsory) **(15)**

A) Fill in the blanks. **5**

1. The shortest possible time in which an activity can be completed under ideal condition is known as _____ in PERT technique.
2. Mile stone charts represents the_____
3. The activities which can be carried out simultaneously and independently of each other are called_____
4. The beginning or completion of an activity is termed as an_____
5. Full form of PERT is_____

B) One word answer. **5**

1. Define float.
2. Define activity.
3. Define work break down structure.
4. Define independent float.
5. Enlist two direct and two indirect costs.

C) Multiple Choice Questions. **5**

1. The activity oriented network is used in_____ technique
   (a) PERT (b) CPM (c) Bar Chart (d) None of these
2. The activity in the network which neither requires any time nor any resources is called_____
   (a) Successor activity (b) Dummy activity (c) Predecessor activity (d) none of these
3. The difference between latest occurrence time and earliest expected time is called_____
   (a) Float (b) Slack (c) Total float (d) None of these.
4. Bar Chart is included in____
   (a) Network method (b) Conventional method (c) Organization method (d) None of these
5. In bar chart the length of the bar represents____
   (a) Activity time (b) Activity resource (c) Activity float (d) None of these

Q.2 Answer the following questions. (Attempt any three) **(15)**

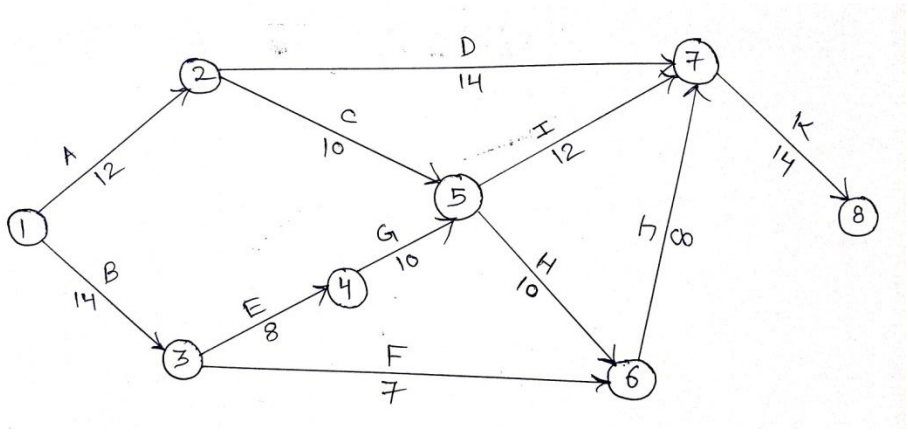
A) Explain bar chart and write limitations of bar chart.

B) Enlist methods of economic decision making. Explain any one.

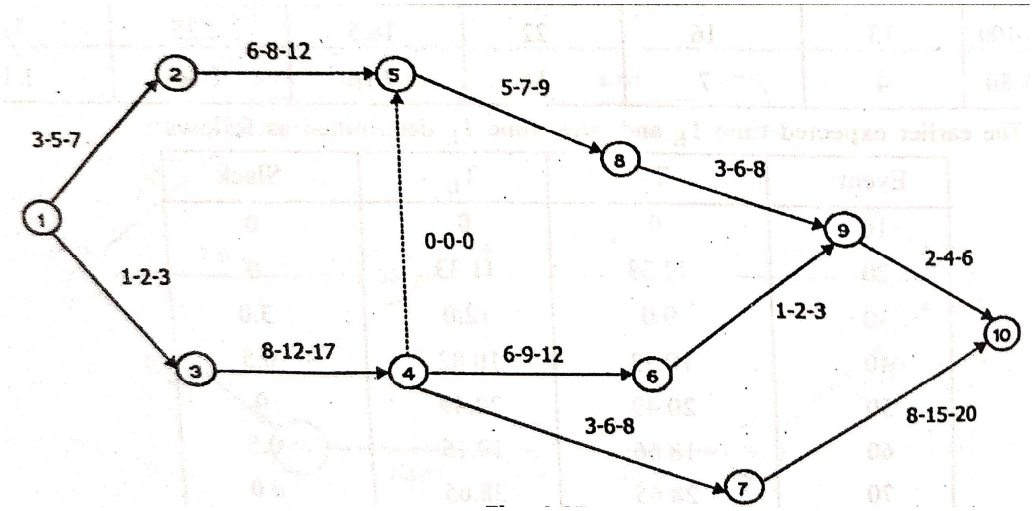
C) Define management levels. Enlist management level and explain any one.

D) Discuss the phases of construction project in detail.

Q.3 A) The following network shown in figure has the estimated duration for each activity worked. Determine the critical path, EST, LST, EFT, LFT, total float, free float, independent float, interfering float. **(07)**



B) For the network shown below, determine the critical path and probability of finishing the project within scheduled time of (i) Ts= 34.67 days (ii) Ts= 36 days. Also calculate earliest and latest event occurrence time. **(08)**

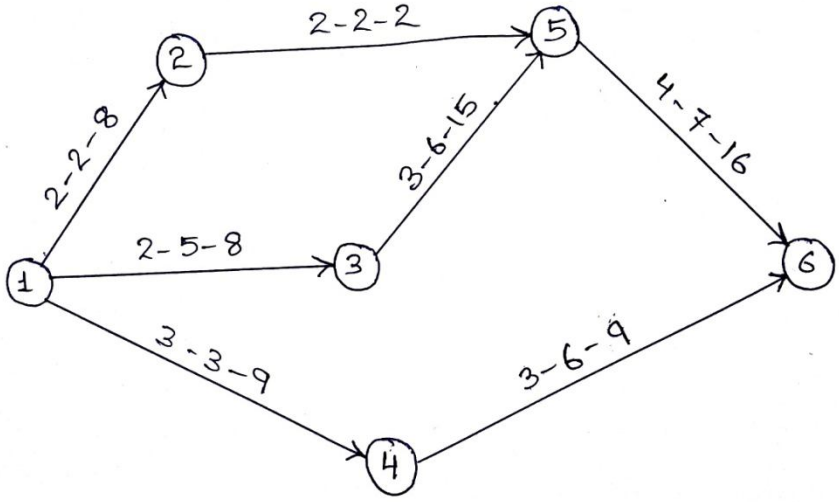


Z value	0.0	0.4	0.5	0.6
Probability	0.5	0.69	0.72	0.76

OR

C) A project is composed of seven activities. From the data: **(08)**

I. Determine critical path, variance and standard deviation.
II. Find out the probability of completing the project in 22 weeks.
III. Find out the time duration for 85% probability of its completion.



Z value	0.5	0.6	1.0	1.1
Probability	.72	0.76	0.84	0.86

Q.4 **A)** Write short notes on: (i) line organization (ii) line and staff organization **(07)**

OR

A) Write short note on matrix organization. **(07)**

B) Compare between: (i) CPM and PERT Technique (ii) Resource leveling and resource smoothing. **(08)**