

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (OLD) EXAMINATION – SUMMER 2019****Subject Code: 170601****Date: 18/05/2019****Subject Name: Construction Management And Equipments****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain in detail: Role of construction project manager on construction project **07**
(b) Draw work breakdown structure for Residential Building. **07**

- Q.2** (a) What is job layout? Enlist essential features required to show in job layout plan. Draw the job layout for construction of high rise building. **07**
(b) What is 'Dummy'? Discuss the various rules for providing dummies in a network. **07**

OR

- (b) What is Gantt bar chart and mile stone chart? Differentiate both. Also explain line of balance technique. **07**
- Q.3** (a) What do you understand by floats? Differentiate clearly between 'total float', 'free float', and 'independent float'. **07**
(b) What is network? Discuss various network rules. **07**

OR

- Q.3** (a) What is critical path? Distinguish between CPM and PERT. **07**
(b) The following table shows Normal time, crash time, normal cost and crash cost of the project. Find optimum time-cost relation. Indirect cost is Rs.2000/- per week. **07**

Activity	Normal		Crash	
	Time (weeks)	Cost (Rs)	Time (weeks)	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
3-4	5	5000	3	11000

- Q.4** (a) Explain in detail Resources Smoothing method of Resources allocation problems. **07**
(b) The cost of power shovel is Rs. 5 lacs and its salvage value is 10% of original cost. The power shovel is used for 1400 hrs per year and its life is 5 years. The hiring cost including maintenance and repair is Rs. 25000 per month. Suggest whether to purchased or hired on rent? **07**

OR

- Q.4** (a) Explain in detail various financial aspects of procuring construction equipments. **07**
(b) Estimate book value of equipment at the end of each year for following data. **07**
Initial Book value of equipment = 2500000, Life of equipment= 5 years
Salvage value = Rs. 200000, rate of interest = 16%
Calculate using sinking fund method.

- Q.5** (a) Draw neat sketch of belt conveyor and explain its component in detail. **07**
(b) Which are the causes of accident in construction project? Also explain why safety is important on construction project site. **07**

OR

- Q.5** (a) Explain economic life of construction equipment in detail. **07**
(b) Enlist excavating equipment. Draw a neat sketch and explain working of any one excavating equipment. **07**

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