Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER– I (New course)• REMEDIAL EXAMINATION – SUMMER 2015
Subject Code: 2715005   **Date:14/05/2015**
Subject Name: Production and operations Management
Time: 10:30 am to 1:00 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)	Define the term "Management Information System". Explain the role of decision making in designing MIS.	07
	(b)	Enlist various advanced forecasting methods. And Explain different forecasting errors.	07
Q.2	(a)	Discuss Box Zerkins method of forecasting with suitable example.	07
	(b)	What is generative process planning? Compare variant and generative process planning methodologies.	07

OR

	(b)	Explain OPTIZ classification system with suitable example.	07
Q.3	(a)	Define Jackson queuing network with suitable example. What are the assumptions underlying a Jackson network?	07
	(b)	How do you distinguish between resource leveling and resource allocation problems? Explain the algorithm for resource allocation.	07

OR

Q.3	(a)	Why aggregate production planning is needed? Differentiate between Chase strategy and Level strategy of aggregate production planning.	07
	(b)	Explain the concept of Just in Time.	07
Q.4	(a)	Define a simulation model? Distinguish between deterministic & stochastic simulation models.	07
	(b)	For the data given in table, Draw the network. Crash the activities and determine the optimal cost of the project and the optimal duration.	07

Activity	Normal		Crash	
	Duration	Cost	Duration	Cost
1-2	8	1000	6	2000
1-3	4	1500	2	3500
2-4	2	500	1	900
2-5	10	1000	5	4000
3-4	5	1000	1	2000
4-5	3	800	1	1000

Indirect cost is Rs. 700 per day.

OR

Q.4	(a)	Define the terms "Project" and "Project management". Explain the various stages of project life cycle with sketch.	07

(b) A project consists of seven activities as given table : 07

Activity	Optimistic Time	Most Likely time	Pessimistic time
1-2	1	1	7
1-3	1	4	7
1-4	2	4	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

Draw the project network. What is the expected duration of the project? What is the probability that the project will be completed at least 3 weeks earlier than expected?

Q.5 **(a)** Write a short note on MRP? 07

(b) What is Replacement? Describe some important replacement situations & replacement policies. 07

OR

Q.5 **(a)** Explain Group Technology. 07

(b) What are the steps involved in implementing ERP? 07

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