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GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VIII EXAMINATION – WINTER 2015

Subject Code:182501 **Subject Name: Production & Operation Management Time: 2:30pm to 5:00pm Instructions:**

1. Attempt all questions.

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

Year

2001

0.1 Discuss the steps of RPW method for line balancing. **(a)**

A firm believes that its annual profit depends on its expenditure for research. 07 **(b)** The information for the preceding 6 years is given below, estimate the profit when expenditure is 10 units. **Expenditure** for

research

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		2002	6	29	
		2003	8	38	
		2004	7	34	
		2005	14	47	
		2006	9	38	
		2007	10	?	
Q.2	(a)	A Consulting company i deadliness assured in days work together on each p sequentially. Under the ter for each project completed for each project completed the anticipated numbers o	s under contract to carry s from now. The consultant roject, so the project will rm of contract, the consult d on time, but they will in late. Each project has an a f days required to carry o	y out 7 projects, all with nts are a small group they l be started & completed ant will receive Rs. 24000 cur Rs. 40000 in penalties associate duration, which is ut the project as shown in	07

table. How should the projects be sequence in order to maximize net revenue?									
Project ID	1	2	3	4	5	6	7		
Duration	2	4	6	8	10	12	14		
Deadlines	6	12	30	19	12	18	24		

- (b) What are the types of demand patterns? Explain them with suitable sketches 07 OR
- (b) Derive EOQ formula for the purchase model without shortages.
- Q.3 Table contains information concerning five jobs that are awaiting processing at **(a)** 07 a work center

Job	Processing Time (Days)	Due Date (Days)
А	4	9
В	10	18
С	6	6
D	12	19
Е	7	17

A. Sequence the job using, 1) EDD. 2) SPT. Assume the list by order of arrival. B. For each method in part A determine: 1) Mean Flow Time. 2) Average

Date:09/12/2015

Total Marks: 70

Annual profit

24

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Lateness. 3) The Average number of jobs at the work center.

(b) List and explain various pure strategies and mixed strategies in aggregate 07 planning.

OR

- Q.3 (a) Explain time chart for scheduling & its usefulness.
 (b) What is aggregate planning? Explain clearly the strategy to meet the uneven demand.
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- Q.4 (a) What is material management? Explain in brief selective inventory control- 07 ABC analysis. What is meant by service level?
 - (b) Explain problem of selective assembly.

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OR

- Q.4 (a) What is MRP? What are some of the benefits of MRP? Identify the specific 07 requirements of an effective MRP system. What do you mean by closed-loop MRP?
 - (b) What are Production Planning and Control (PPC)? Explain production planning 07 and production control in brief.
- Q.5 (a) Using 3 months & 5 Months moving average method forecast for 12th period 07 & calculate

íì) Mean	absolute	error	(ii)	Mean	forecast	error
1) wican	absolute	chor.	(11)	witcan	Torcease	CIIOI

Time	1	2	3	4	5	6	7	8	9	10	11
Observed	230	170	205	215	330	210	180	170	260	285	255
value	230	170	203	213	550	210	100	170	200	205	233

(b) What is Operations Management (OM)? What operations managers do? Where 07 are the OM jobs?

OR

- Q.5 (a) What is tolerance stacks? Explain tolerance stacks with an illustration. 07
 - (b) Explain difference between a product limit stack and a process limit stack. Give 07. an example of each.
