Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER–II • EXAMINATION – WINTER 2013

Subject Code: 820006 **Date: 31-12-2013**

Subject Name: Production and Operations Management (POM)

Time: 2.30 pm – 5.30 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)** What do you understand by the term "operations Management"? What are the major issues in OM that faced in India? **07**

(b) Discuss the pros and cons for a company considering a foreign location for its operations. **07**

Q.2 **(a)** What are the key differences between level strategy and chase strategy in Aggregate Production Planning formulation? **07**

(b) XYZ hospital at Pune sources 20,000 disposable syringes every year from a supplier. The OC/order is Rs.100 and CC is Re. 1/unit/yr. the price of a syringe is Rs. 5. The supplier offers a 5% discount if purchases are made in lots of 10,000 syringes or more. Determine whether the discounted model is better than EOQ model in this situation. **07**

OR

(b) How is the continuous flow system different form intermittent flow system? **07**

Q.3 **(a)** What do you understand by Operations Scheduling? What are the problems faced in the absence of proper scheduling? **07**

(b) What are the reasons for the growing applications of Group Technology concept for layout design? **07**

OR

Q.3 **(a)** How does a layout matter in office operations? **07**

(b) Determine the optimal sequence of performing 5 jobs on 4 machines and total processing time. The machining of each job is required in the order ABCD and the process timings in hours are as follows: **07**

Job	Machine			
	A	B	C	D
1	8	3	4	7
2	9	2	5	5
3	6	4	5	8
4	12	5	1	9
5	7	1	2	3

Q.4 **(a)** Arrivals at a telephone booth are considered to be Poisson, with an average time of 10 minutes between one arrival and the next. The length of a phone call is assumed to be distributed exponentially, with mean 3 minutes. Find: **07**

1. The probability the an arrival finds that four persons are waiting for their turn
2. The average number of persons waiting and making telephone calls; and
3. The average length of the queue that is formed from time to time

(b) "Project control should always focus on the critical path"- critically examine the statement. **07**

OR

Q.4 **(a)** What is 'line structure' in waiting lines? List the applications of waiting line management techniques. **07**

(b) Find the critical path of the project and its expected duration (in days) for the below given data. **07**

Activity	To	Tm	Tp
A	10	11	12
B	6	10	14
C	5	8	11
D	1	5	9
E	3	7	5
F	4	9	14
G	1	2	3
H	3	7	11
I	9	12	15
J	3	5	7

Q.5 **(a)** What are the benefits of ISO certification? What do you understand when a company claims that it has ISO 14000 certification? **07**

(b) How do the marketing and sales areas affect the product quality in a TQM system? **07**

OR

Q.5 **(a)** What do you mean by six-sigma? Explain the various analytical tools associated with six-sigma. **07**

(b) What is the relation between lean management and JIT manufacturing? **07**

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