

M.B.A.-I (Sem.-II) Examination
 Production & Operations Management
 May-2017

Time : 3 Hours]

[Max. Marks : 70

- 1) Briefly explain the following concepts (20)
- | | |
|---------------------------|------------------------|
| i) JIT | iii) SCM |
| ii) Dimensions of quality | iv) Aggregate Planning |
- 2) a) Detail about the operation process from the point of view of an entrepreneur (20)

Or

- b) Compare and contrast various operation process. (10)
- c) Differentiate product and process layout (10)
- 3) a) Explain the use of inventory. Brief about the costs associated with inventory. (10)

Or

- b) An automobile assembly unit sources 9,000 units of a particular spare part annually from a supplier. The ordering cost per order is ₹ 10 and each spare part costs ₹ 20. The carrying cost is 10% of the spare part price. The supplier offers the following discounts: (P.T.O)

Quantity	Discount	<u>E444-2</u>
100 - 499	2%	
450 - 899	4%	
900 and above	5%	

Evaluate the various discount options and also the EOQ option and advise the management of the unit about the best inventory policy for the spare part.

- 4) a) Explain the operations strategies to be adopted for competitive advantage with respect to a service firm and a manufacturing firm. (20)

Or

- b) A manufacturer of an electronic control system (ECS) for musical appliances uses a non-destructive testing mechanism to assess the quality of ECS. A lot of 100 ECS is drawn periodically for testing. After testing, the ECS will be classified as either defective or good depending on the outcome of the test. The following table gives the no. of defects for 12 such samples. Establish a p-chart for the process.

(2)

Sample No.	No. of defects
1	10
2	9
3	8
4	11
5	7
6	12
7	7
8	10
9	13
10	12
11	13
12	14

5) For a construction project, the table below gives (20)
the normal time, crash time and incremental cost
of crashing.

The total normal cost = ₹ 500, cost of
supervision = ₹ 20 per day, penalty = ₹ 10 per day over
20 days, reward = ₹ 10 per day below or equal to 18
days. Crash the duration of the project and find
a) the minimum possible duration of the project and
b) the duration of the project with minimum total cost.

(P.T.O)

Activity	Nodes	<u>E=1, 4, 4-4</u>		Incremental cost of crashing (£/day)
		Normal duration (days)	Crash duration (days)	
A	1-2	5	3	40
B	1-3	4	2	10
C	1-4	7	5	20
D	2-3	4	2	30
E	4-3	3	2	50
F	2-5	2	2	-
G	3-5	7	5	20
H	3-6	3	1	10
I	4-6	4	3	30
J	5-6	6	5	40