

END TERM EXAMINATION

FIFTH SEMESTER [BBA(B&I)] DECEMBER-2011

Paper Code: BBA305

Subject: Production & Operation Management

Time : 3 Hours

Maximum Marks :75

Note: Attempt any five questions in all selecting at least two questions from each section.

SECTION-A

- Q1 Explain the importance of Production and Operation Management in current scenario. Why it has become an integral part of business education? State with example. (9+6)
- Q2 (a) Discuss the important models of inventory system. How will the use of the inventory model differ from another in any industrial setting? Give examples wherever appropriate. (9)
(b) Explain the relationship between quality and productivity under the JIT philosophy. (6)
- Q3 (a) Explain the difference between facilities location for an automobile service station and an automobile component factory. (9)
(b) Discuss two important formats for layout and explain what kind of layout should be used in multi speciality hospitals? (6)
- Q4 Write short notes on **any three** of the following:- (5x3=15)
(a) Kaizen and Poka Yokes
(b) Value Analysis and Value Engineering
(c) Basic Transformations in Production
(d) ISO 9000 series
(e) Waiting Line management

SECTION-B

- Q5 Discuss the concept of forecasting in POM and explain in details the various techniques used in forecasting. State examples wherever possible. (15)
- Q6 A bread manufacturing facility is being planned so that the bread loafs and other similar products manufactured can be supplied to three major towns with large population. The locations of the current towns with their coordinates and volume requirements are given in the following table:-

Town	Coordinates	Volumes consumed per day
A	350,320	6500
B	375,470	9900
C	470,280	7600

Calculate the coordinates to locate the Bread manufacturing facility/plant Z so that the new plant can manufacture the different bread products supply it to the above three towns. (15)

- Q7 Insurance Policies from a particular insurance company are being sent to various policyholders. In order to check the monitor the performance of the insurance policy making department, sample of 100 units were collected each day for 15 days and see how many policies had errors in them. The results are given below-

Sample number	Number of policies with errors	Sample size
1	4	100
2	3	100
3	5	100
4	0	100
5	2	100
6	8	100
7	1	100
8	3	11
9	4	100
10	2	100
11	7	100
12	2	100
13	1	100
14	3	100
15	1	100

Develop a p chart using a 95% confidence interval ($Z=1.96$). Plot the samples collected and make comments on the process. (15)

- Q8 Mobile phone batteries are manufactured on a high-speed automated machine. The machine is being set to produce a battery of 100gram weight each. To set up the machine and to create a control chart, 15 samples were taken with four in each sample. The complete list of samples and their measured values are as follows-

Sample Number	Weight in grams			
	1	94	100	99
2	99	92	98	102
3	100	86	96	96
4	100	89	99	96
5	101	99	98	96
6	95	96	109	94
7	99	103	105	108
8	105	120	109	98
9	103	119	105	99
10	99	107	106	99
11	99	106	99	98
12	99	99	98	94
13	103	102	105	92
14	109	99	99	111
15	98	91	99	103

Develop an X bar chart and R chart for the above data. Plot the graph on the copy only and draw your conclusion. Given ($A_2=0.73$, $D_3=0.00$, $D_4=2.28$) (15)