

March 2013

Bachelor of Business Administration (BBA) Examination

III Semester

Operations Management

Time 3 Hours]

[Max. Marks 80

Note : Attempt any three questions from Section A. Each questions carries 16 marks. Attempt any two questions from Section B, each carrying 16 marks.

Section A

- Q.1. Discuss decision making in Production and Service Organisations.
 Q.2. Discuss factors influencing product design.
 Q.3. Explain the terms :
 (a) AQL (b) AOQL (c) LTPD.
 Q.4. Mention the types of layout. Briefly. Discuss advantages and disadvantages of any one type.
 Q.5. Write short notes on : (any two)
 (a) Steps in Process Selection
 (b) Factors Affecting Plant Location
 (c) MRP
 (d) Importance of Quality Control.

Section B

- Q.6. Construct \bar{X} - R chart for the following data :

Sample Number	Sample Mean	Sample Range
1	21.5	2.1
2	22.2	1.1
3	22.7	0.4
4	22.5	1.3
5	23.5	1.6
6	21.6	2.5
7	22.1	3.5
8	22.9	3.8
9	22.1	3.7
10	22.9	2.1

Assume values of constants $A_2 = 0.58$, $D_3 = 0$, $D_4 = 2.11$.

- Q.7. The table below gives the factors considered for location decision and their respective ratings. The location ratings are also stated find which of the two alternatives is better for location decision :

Factor	Factor Rating	Location Rating	
		A	B
F 1	4	8	6
F 2	3	2	3
F 3	3	6	5
F 4	5	2	4
F 5	1	3	3
F 6	5	4	3
F 7	4	1	2
F 8	3	10	8
F 9	2	7	9
F 10	2	6	4

- Q.8. Below are shown two layout options for a facility. The distance between any two adjacent departments is 10 mt. No diagonal movement is possible. Below table also gives the department processing sequence of various products and their quantity produced per month. Which layout is better in terms of lower total load-distance value ?

Layout A

1	2	5
3	4	6
7	8	9

Layout B

5	3	4
9	6	1
2	7	8

Product	Deptt. Processing Sequence	Quantity / Month
V	5-7-2-9	4,000
W	4-6-3-7-8-9	1,000
X	1-2-7-8-9	2,000
Y	5-2-1-7-9	3,000
Z	3-4-7-8-9	1,000

9. 16 subgroups each of sample size of 100 numbers are inspected for defects and fraction defective are listed in the table below :

Subgroup	Fraction defective
1	0.01
2	0.02
3	0.01
4	0.03
5	0.02
6	0.01
7	0.00
8	0.02
9	0.00
10	0.01
11	0.03
12	0.02
13	0.03
14	0.02
15	0.01
16	0.00

Draw appropriate control chart and interpret the results.

□□□

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