MBA 3rd Semester Examination 2013
Paper - X
(Productin & Operation Management)

Time : 3 Hrs. Full Marks : 80

1. Answer any five questions from the following (each within 50 words) 2×5 = 10

   (a) What is Pruduction Cycle?

   (b) Define Plant Layout.

   (c) Define capacity planning.

   (d) Define Quality Assurance.

   (e) What is method study?

   (f) What are the basic functions of materials management?

   (g) Define Just-in-Time (JIT).

2. Answer any three questions from the following (each within 100-150 words) 4×3 = 12

   (a) Explain the relationship between product life cycle and process life cycle with 'Product Process Matrix'.

   (b) Explain the factor rating and location rating technique for location decision, with the help of an example.

   (c) What is control chart? Explain x-Bar chart in details.

(d) Explain the concept of Normal Time and Standard Time in the context of Time Study.

(e) Explain the basic concept of economic order quantity. Also state the formula to measure EOQ.

3. Answer any three questions from the following (each within 200-250 words) $6 \times 3 = 18$

(a) There are three automobile showrooms located in three different locations. Following table shows the x, y co-ordinates of the location and the number of units sold per month. Decide the best location for a new warehouse facility for the three showrooms considering the Centroid Method.

Showroom	Co-ordinate (x,y)	No of automobile sold per month
A	100, 200	1250
B	250, 580	1900
C	790, 900	2300

(b) Four jobs A, B, C, D have to be performed in two machines. The time taken by each job on each machine is given below. Determine the sequence of the jobs by Johnson's method.

Jobs	Time-taken in M1	Time taken in M2
A	10	2
B	4	3
C	5	8
D	7	6

(c) Explain the basic concept of six-sigma with six sigma

themes. Why it is important in maintaining quality?

(d) State different steps involved in method study procedure.

(e) What are the different classification of Inventories? Explain with examples.

4. Answer any four questions from the following (limit your answer within 300-400 words) $10 \times 4 = 40$

(a) M/S Zenith steel intends to set up a rolling mill to roll different grades of carbon steels. The potential locations selected by the company are Jamshedpur, Bokaro and Ranchi. The cost structures for each of these locations are as shown in the table. The product is expected to sell at Rs 160 per kg. Find the most economical location for an expected volume of 6200 kg per year. Calculate the expected profit at that location.

Location	FC	VC/Kg.
Jamshedpur	150,000	75.00
Bokaro	200,000	50.00
Ranchi	400,000	25.00

(b) Four jobs A, B, C, D need to be done at the same work cantre. Their process time and due dates are as given below. Sequence the jobs using the Minimum Process Time and Due Date method.

Job	Process time (days)	Due date (days from today)
A	6	13
B	7	19
C	8	22
D	11	16

(c) What is Product layout? Explain the flow chart of a line layout. Also state the advantages and disadvantages of product layout. 2+4+4=10

(d) Explain the concept of acceptance sampling plans viz. single, double and multiple sampling plan.

(e) Explain W. Edwards Deming's 14 points of Total Qualty Management.

(f) Explain the 'Kanban' system with the help of an example.

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