Seat No. : _____

LB-108

April-2014

IV M.B.A. (KS) (Integrated)

(Production & Operation Management)

Time : 3 Hours] **[Max. Marks : 70**

1. (a) A company has to select one location out of the three locations available for a new plant. The annual operating costs and other intangible factors are given below :

The annual operating cost :

Economic Factors	**Locations**		
	L1	L2	L3
Annual Operating Costs (₹)	9,53,000	10,06,000	10,40,000

The Qualitative Factors :

Qualitative Factors	**Ratings on 5 point rating scale (5= Excellent, 4 = Good, 3 = Average, 2 = Below Average, 1 = poor)**		
Housing Availability	Average	Average	Good
Cost of living	Average	Average	Below Average
Labour availability	Average	Average	Excellent
Community activities	Average	Below Average	Poor
Education and health Service	Average	Average	Poor
Recreation	Good	Below Average	Poor
Union Activities	Average	Poor	Average
Local transportation system	Average	Excellent	Average
Proximity to similar industry	Average	Good	Average
Community attitude	Excellent	Excellent	Average

Devise a method of quantifying the intangible factors and integrate them with the cost data into the overall evaluation. Which is the best now ? **7**

(b) What is production and operations management ? Explain in detail nature and scope of production management. Also explain difference between 'Strategic Decision' and 'Operating Decision' with relevant examples. **7**

2. (a) Bring out the stages in the development of a new product. Explain each stage in brief. **7**

(b) What are the various types of buildings ? Explain the advantages and disadvantages of each type. **7**

OR

(a) Discuss the major factors affecting process design decision. With relevant examples.

(b) Discuss the main functions of production planning and control ? With relevant examples

3. Answer the following questions : (any **two**) **14**

(1) Define the term 'THERBLIGS'. List out the 18 therbligs used in micromotion study with relevant examples.

(2) What is Value Engineering ? Explain different methods of Value Engineering with relevant examples.

(3) What is "Quality at the source" ? Discuss the elements of TQM concepts. Also explain the objective and benefits of quality circle with relevant example.

4. (a) A project is composed of seven activities as per details given below :

Activity	**Normal times (Days)**	**Crash time (days)**	**Normal cost (₹)**	**Crash cost (₹)**
1-2	4	3	1,500	2,000
1-3	2	2	1,000	1,000
1-4	5	4	1,875	2,250
2-3	7	5	1,000	1,500
2-5	7	6	2,000	2,500
3-5	2	1	1,250	1,625
4-5	5	4	1,500	2,125

Indirect cost per day of the project is ₹ 500.

(a) Draw the project network

(b) Determine the critical path and its duration

(c) Calculate lowest cost and associated time. **8**

(b) Define the following : **6**

(1) Maintenance Management

(2) Capacity Planning

(3) Materials Handling

5. (a) TFG company uses 12000 numbers of a component per year. It costs ₹ 120 to place and receive an order and carrying cost is 20% of a unit price. The supplier quotes the following prices for the components.

Quantity	Unit Price
Less than 2000	10
2000 – 3999	9.85
4000 and above	9.70

(1) What is the EOQ ?

(2) What is the minimum total cost ? **7**

(b) Define the term 'Inventory Management' and explain the inventory control techniques in detail with relevant examples. **7**

OR

Distinguish between MRP1 AND MRP2. Explain all the terms used in MRP 2 with relevant examples.

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