Registration No. :

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MBA
MGT 204

Second Semester Regular Examination – 2014
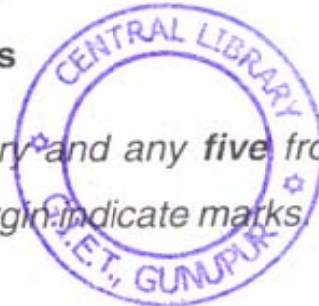
OPERATIONS MANAGEMENT

BRANCH : MBA

QUESTION CODE : F 486

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any five from the rest.

The figures in the right-hand margin indicate marks.

1. Answer the following questions :   2×10

   (a) What are the different types of production system ?

   (b) What is SIMO chart ?

   (c) What the different components of service package ?

   (d) What is FMS ?

   (e) What are the different symbols used in flow process chart ?

   (f) What is MRP (Material Requirement Planning) ?

   (g) Difference between P and Q type of inventory.

   (h) What is push and pull view of supply chain management ?

   (i) What are the advantages of process layout ?

   (j) Differentiate between CPM and PERT.

2. Discuss the different characteristics of service operations management with suitable example.   10

P.T.O.

3. (a) Discuss the role of production planning and control in operations management. 5

(b) In a foundry there are seven shops whose coordinates are summarized in the following table. 5

Sl. No.	Existing Facility	Coordinates of centroid
1	Sand plant	10,20
2	Moulding shop	30,40
3	Pattern shop	10,120
4	Melting shop	10,60
5	Fetling shop	30,100
6	Gouging shop	30,140
7	Annealing shop	20,190

The company is interested in locating a new costly firefighting equipment in the foundry. Determine the minimax location for the new equipment.

4. Consider the following problem involving activities from A to J.

Job	Immediate Predecessor(s)	Duration
a	—	1
b	a	4
c	a	5
d	b	1.5
e	b	3
f	c	3.5
g	c	1.5
h	d	1
i	e, g	2.5
j	f, h	4

(a) Construct the CPM network

(b) Determine the critical path.

(c) Compute total floats, free floats and independent float for non-critical activities. 10

5. (a) Define logistics and supply chain management. Explain the different cycle views of supply chain. 5

(b) Annual demand for an item is 4800 units. Ordering cost is Rs 500 per order. Inventory carrying cost is 24% of the purchase price per unit, per year. The price breaks are shown as.

Quantity	Price
0<Q1<1200	10
1200<Q2<2000	9
2000>Q3	8

Find the optimal order size. If the order cost is changed to Rs 300.00 per order, find the optimal order size. 5

6. (a) Discuss the method study procedure and explain the importance of man-machine chart. 5

(b) In a factory, seven jobs are performed on thee machines (in order of A, B, C). The time required for each job on each machine is given below. On the basis of the information, identify the optimal sequence and calculate the in and out time for each job an each machine and the total elapsed time. 5

JOBS	MACHINE-1	MACHINE-2	MACHINE-3
A	3	4	6
B	8	3	7
C	7	2	5
D	4	5	11
E	9	1	5
F	8	4	6
G	7	3	12

7. (a) Define quality control. Explain the importance of different control charts. 5

(b) Five samples were taken randomly from manufactured lot of an item and three measurements were taken on each sample. The readings are shown in the table given below. Calculate the control on $\bar{X}$ and R charts and draw the charts. 5

Sample No	Three measurements per sample		
	I	II	III
1	0.488	0.489	0.505
2	0.494	0.495	0.499
3	0.498	0.515	0.487
4	0.492	0.509	0.514
5	0.490	0.508	0.499

8. Write short notes on any **two** of the following :   5×2

   (a) ABC analysis

   (b) Priority Dispatching Rules

   (c) TQM

   (d) Time Study procedure

   (e) Relationship Diagram in plant layout.