

2M5105

Roll No. _____

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M. B. A. II Sem. (Main / Back) Exam., April - May 2017
M-205A Operations & Supply Management

Time: 3 Hours

Maximum Marks: 70

Min. Passing Marks: 28

Instructions to Candidates:

- (i) *The question paper is divided in two sections.*
- (ii) *There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is **compulsory**.*
- (iii) *All questions carry **equal** marks.*

1. NIL

2. NIL

SECTION - A

- Q.1 (a) Explain Supply Management & also describe various constituents of supply chain. [3½+3½ = 7]
- (b) Name different types of production system and their areas of applications. How process design depends on product diversity and batch size? [4+3=7]
- Q.2 (a) State the objective of Method Study. List the prerequisites for a successful method study. [3+3=6]
- (b) Calculate Standard Time/Articles: - [8]
- (i) Total No of observation: 2500
 - (ii) No. of working observation: 2100
 - (iii) No. of units produced in 100 hours: 6000
 - (iv) Proportion of man Labour = 2/3 Machine = 1/3
 - (v) Time allowance 12% of Normal Time.

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[2260]

- Q.3 (a) What do you understand by “Live Balancing”? How is it analyzed and useful in layout? [3+3=6]
- (b) Textech wants to assemble 540 calculators per hour. [2½+2½+3=8]
- (i) Compute the cycle time per calculator in minutes.
- (ii) Compute the minimum number of workstations.
- (iii) How would you combine the tasks?

Task	Task that must immediately precede	Time to perform tasks (Minutes)
A	-	0.18
B	A	0.12
C	A	0.32
D	A	0.45
E	B, C, D	0.51
F	E	0.55
G	F	0.38
H	G	0.42
I	H	0.30
J	I	0.18
K	J	0.36
L	J	0.42
M	K, L	0.48
N	M	0.30
O	N	0.39
Total Production time/ calculator		5.36 Minutes

- Q.4 (a) Explain the concept of Total Quality Management “(TQM)”. What are its essentials requirements? [3+3=6]
- (b) Prepare X and R chart at the filling operation for the 16kg cornflakes products. Engineers have studied the filling operation and have determined that when operating properly boxes average 16.1kg and hourly samples of 20 sacks each have sample range that average 2.22kg. Here is the data from 12 hourly samples that was taken:- [8]

Sample Number	Sample Mean	Sample Range	Sample Number	Sample Mean	Sample Range
1	16.2	2.0	7	16.0	2.9
2	15.9	2.1	8	16.1	1.8
3	16.3	1.8	9	16.3	1.5
4	16.4	3.0	10	16.3	1.0
5	15.8	3.5	11	16.4	1.0
6	15.9	3.1	12	16.5	0.9

Q.5 Write Short Notes on: -

[3½+3½+3½+3½=14]

- Supply Chain Design strategy
- Global Sourcing in Supply Chain
- Toyota production System
- SAP and its application

Q.6 (a) Describe the philosophy of JIT. Why JIT execution does require a less-intensive capacity planning approach? [7]

(b) There is following information about the existing facilities of a beverage company: - [7]

Facility (f)	Coordinate location (X, Y)	Cost (C) of moving one unit by unit distance (₹)	Annual Load (L) (Units)
Bareilly	(10, 80)	10	452
Shajahanpur	(30, 80)	10	678
Gonda	(80, 50)	10	483
Kanpur	(50, 10)	10	711
Sultanpur	(80, 10)	10	539

The company wants to know where it should locate its new plant. Use (a) simple median model.

SECTION - B

Q.7 The Call-Us plumbing supply company stocks thousands of plumbing items sold to regional plumbers, contractors and retailers. Mr. Swartz, the firm's manager, wonders how much money could be saved annually if EOQ were used instead of the firm's present rule of thumb. He appointed material management consultant to conduct an analysis of one material only to see if significant savings might result from using the EOQ. Mr. Consultant develops the following estimates from accounting information:

D = 10,000 valve per year,

Q = 400 valves per order (present order quantity),

Carrying cost = ₹ 0.40 per valve per year, and

Ordering cost = ₹ 5.50 per order

Give Suggestions to Call-Us Plumbing Supply Company on the basis of these calculations. [14]
