

2M5105

Roll No. _____

Total No of Pages: 3

2M5105

M. B. A. II Sem. (Main / Back) Exam., June-July 2016

M-205 A Operations and 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.
- (iv) Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

SECTION - A

- Q. 1 (a) Define Operation Strategy. Discuss briefly the decisions are as of operation strategy. [2+5=7]
- (b) Explain capacity planning and its importance Describe briefly the three strategies of expanding capacity. [4+3+7]
- Q. 2 (a) What is work sampling? Discuss its procedure. [2+3=5]
- (b) A work study practitioner who conducted a work study assesses the activity level of a worker to be 70% and rest time as idle. During the space of 8 hours working this worker turn out 320 components. If observed rating factor is 120% and total allowances is 12%. Calculate. [4½ + 4½ =9]
- (i) Standard time per components.
 - (ii) How many observation should be made in order to have 95.5% confidence that accuracy is within $\pm 4\%$. (Take $Z = 2$ at 95.5% confidence level).

[2M5105]

Page 1 of 3

[2480]

- Q. 3 (a) List the factors influencing plant layout decision. [3]
 (b) List various types of layouts and explain with neat diagrams. [4]
 (c) The following data refers to three different machines A, B and C. The output is expected to be 9000 products per month. Factory works for 48 hours per week. Find out the machine which will satisfy the required capacity: [7]

Particulars	A	B	C
1. Machine Setup time in minutes	9	4	6
2. Machine operation time (Min/piece)	1.2	2.0	1.5
3. Lot Size	450	300	360

- Q. 4 (a) What is ISO and its objective? Explain ISO 9000 and 14000 standards. [1+2+2+2=7]
 (b) Completed forms from a particular department of an insurance company were sampled daily to check the performance quality of the department. To establish a tentative norm for the department, one sample of 100 units/forms was collected each day for coming 15 days, with these results:

Sample No.	No. of Forms With Errors	Sample No.	No. of forms with errors
1	4	9	4
2	3	10	2
3	5	11	7
4	0	12	2
5	2	13	1
6	8	14	3
7	1	15	1
8	3		Total Error observed = 46

- (i) Develop a p-chart using a 95% confidence interval ($Z = 1.96$)
 (ii) Plot the 15 samples on chart. [5+2=7]

- Q. 5 (a) Explain Aggregate planning. What is the managerial significance of aggregate planning? [3+3=6]
- (b) Explain following terms:
- (i) Collaborative Planning, Forecasting and Replenishment (CPFR)
 - (ii) SAP and its various modules.
 - (iii) Bath Tub curve and Total Productive Maintenance (TPM) [3+2+3=8]
- Q. 6 (a) Explain Lean Production. Illustrate how lean concepts can be applied to supply chain processes. [3+4=7]
- (b) Using supply chain processes, describe the source-make-deliver-return relationship in the following systems: [2.5+2.5+2= 7]
- (i) An Airline company
 - (ii) A Hospital
 - (iii) An Insurance company

SECTION – B

Case Study

- Q. 7 A Shopkeeper estimates the annual requirement of an item as 2000 units. He buys it from his supplier at a cost of Rs .10 per item and the cost of ordering is Rs.50 each time he orders. If the holding costs are 25% per year of stock value, how frequently should he replenish his stocks? Further, suppose the supplies offers a 10% discount on orders between 400 and 699 items and a 20% discount on orders exceeding or equal to 700. Can the shopkeeper reduce his costs by taking advantage of either of these discounts? [14]
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