

AS-761

M.B.A. (Semester—II) Examination
PRODUCTION AND OPERATIONS MANAGEMENT
Paper—MBA/206

Time : Three Hours]

[Maximum Marks : 70

- Note :—**(1) Attempt **ALL** questions.
(2) Figures to the right indicate marks.
(3) Use of scientific calculator is permitted.

SECTION—A

1. (a) Why is location planning important ? Which are the important factors that decide the location of an industrial unit ? 6+8=14

OR

- (b) Discuss features of process layout, product layout and fixed position layout. 14

SECTION—B

2. (a) What do you understand by Preventive Maintenance ? Explain merits of preventive maintenance. 7

- (b) The work study manager carries out the work sampling study. The following observations were made :

The Duration of study : 240 hours

Total Number of observations : 8000

Total Number of working observations : 6000

Ratio between manual to machine element : 2 : 1

Average Rating factor : 110%

Total number of units produced : 800 units

Allowances : 12%

Compute the standard time for the job. 7

OR

(c) Why it is necessary to give allowances ? What are different types of allowances ? Explain.

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(d) The following data refers to time study of a certain process. Take suitable allowances with proper reasoning and establish the standard time for this operation :

Sr. No.	Element	Rating	Cycle time in seconds			
			1	2	3	4
1	A	95%	80	81	82	80
2	B	110%	25	26	24	23
3	C	115%	110	115	109	190
4	D	100%	40	41	40	40
5	E	85%	45	45	46	47

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3. (a) State the various ISO 9000 standards available.

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(b) Five samples of four pieces were taken at regular intervals from a process. The dimensions measured is given in the following table. Calculate control limit for \bar{X} chart and represent the same on the chart. Comment on the state of process [$A_2 = 0.73$, $D_3 = 0$, $D_4 = 2.28$]

Sample Number	Dimensions in cm			
	1	2	3	4
1	10.21	10.31	10.25	10.26
2	10.09	10.21	10.23	10.18
3	10.10	10.15	10.18	10.19
4	10.21	10.22	10.28	10.27
5	10.19	10.22	10.26	10.25

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OR

(c) What is aggregate planning ? Explain any two methods used for aggregate planning.

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(d) Design a suitable quality circle for any bank. Also explain operation of this quality circle in brief.

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SECTION—C

4. (a) Compare salient features of Job production system with Mass production system. 7
- (b) Explain the following with respect to production function :—
- (i) Routing
- (ii) Loading. 7

OR

- (c) What is Scheduling ? Explain principles of scheduling. 7
- (d) Describe in brief various approaches to prevent industrial hazards in typical manufacturing unit. 7

SECTION—D

5. From the following data calculate economic order quantity :—

Order Quantity (No. units)	Price per unit in (Rs.)
0–499	5
500–999	4
1000–1500	3

Annual demand of the material is 60000 units. Cost of ordering is Rs. 120 per order. Inventory carrying cost 10 percent of unit cost of the product. 14

