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Total Number of Pages:02

M.Tech  
P2PLCC11

2<sup>nd</sup> Semester Regular Examination: 2018-19

PRODUCTION MANAGEMENT

Branch: PLASTIC ENGG

Max Marks: 100

Time: 3 Hours

Q Code:F578

Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part- I

Q1 Only Short Answer Type Questions (Answer All-10) (02x10)

**Suggested Words: How, Why, Determine, Derive, State, Write, Create, etc**

- a) What is the difference between Productivity and Efficiency? (2)
- b) Define lateness, earliness and tardiness? Write equations to represent them? (2)
- c) Given the data 63, 64, 66, 67, 67, 69, 71, 72 find the forecast for the eighth period using simple average, and 3 period moving average? (2)
- d) What are the costs considered in the transportation model for aggregate planning? (2)
- e) How are the ordering cost, carrying cost and shortage cost related at the optimum when shortage cost is included? (2)
- f) What is Line of Balance? (2)
- g) What are Gantt charts? (2)
- h) What is the difference between forward scheduling and backward scheduling? (2)
- i) Is exponential smoothing a form of weighted average? How? (2)
- j) How is the order quantity and reorder level related? (2)

Part- II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (06x08)

**Analyze, Justify, Design, Formulate, Calculate, Develop, Illustrate, Explain, Distinguish, Differences & Similarities**

- a) The following information about Lead Time Demand is given. The values are 300, 350, 400, 450 and 500 with probabilities 0.2, 0.25, 0.3 and 0.2 and 0.05. Find the reorder level if  $C_c = Rs\ 4/unit/year$  and  $C_s = Rs\ 10/unit/year$ ? (6)
- b) Explain the Importance of Aggregate Planning and Capacity Planning. List the difference between them. (6)
- c) Suppose you are working as a turnkey project consultant. One of your clients wants guidance in selecting facility location for his new fast-food restaurant. Guide your client. (6)
- d) Describes the different types of production process with suitable examples along with their advantages and limitations. What are the objectives and scope of operation management? (6)
- e) Discuss the steps of Delphi Method. (6)
- f) What are the assumptions of the basic EOQ Model? Distinguish between a fixedorder- quantity system and fixed-time-period system. (6)
- g) Explain one qualitative model for layout? (6)
- h) Explain about Line Balancing with suitable examples. (6)
- i) A work-study sample of a manufacturing activity conducted over a 40-hour period shows that a worker with an 85% rating produced 12 parts. The worker's idle time was 10% and the allowance factor was 12%.Find the Normal and Standard time (6)

for this activity.

- j) What is planning and examine the importance of planning and control in manufacturing sector. (6)
- k) Describe briefly different models of facility location with a live example. (6)
- l) Write basic issues and tools of managing production. (6)

**Part-III**

**Only Long Answer Type Questions (Answer Any Two out of Four) (02X16)**

**Discuss, Describe, Examine, Classify, Prove, Evaluate, Compare, Contrast, etc**

- Q3** Given the data 92, 93, 92, 91, 93, 94, 92 find the forecast for the eighth period using simple exponential smoothing? Use  $\alpha = 0.2$   $\alpha = 0.7$  and initial forecast using simple average? Explain the effect of  $\alpha$  on the contribution of the data for the various periods. (16)
- Q4** Explain the strategies and guidelines of Aggregate planning. Describe the functions of Master Production Scheduling. (16)
- Q5** There are six jobs to be processed through three machines M1, M2 and M3. The processing time (in hours) required for each job is given below. (16)

	Machine	M1	M2	M3
Job	A	11	7	18
	B	18	7	7
	C	15	9	12
	D	13	5	15
	E	9	8	10
	F	12	7	18

- Q6** Mention situations in (i) banking, (ii) advertising, (iii) agriculture, (iv) hoteliering where production and operations management are involved. Describe the inputs, outputs, processes, utilities used in these organization (16)