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Total Number of Pages: 02

M.TECH
P2PLCC11

2nd Semester Regular Examination 2016-17
PRODUCTION MANAGEMENT
BRANCH: PLASTIC ENGINEERING
Time: 3 Hours
Max Marks: 100
Q.CODE: Z976

Answer Question No.1 which is compulsory and any FOUR from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: *Short answer type* **(2 x 10)**

- a) What is the significance of fixed position layout?
- b) Describe job shop production system.
- c) What do you mean by product overlapping strategy?
- d) Why facility planning is necessary for enterprises?
- e) How can you plan for inventories of spare parts?
- f) What are the objectives of work study?
- g) Elaborate on the use of Gantt chart in production management.
- h) What are the different phases of production planning and control?
- i) What is the difference between Product and Service?
- j) Compare between Total productivity and partial productivity.

Q2 a) Elaborate on the Assembly line production and the lay out being used for the same production system. **(10)**

- b)** In a golf club manufacturing firm, Customer demand requires production volume of 24 finished clubs in an 8 hour shift. The information regarding work elements in terms of times and intermediate predecessors are given below: **(10)**

Work element	Time (Sec)	Immediate predecessor
A	5	None
B	4	A
C	13	A
D	9	B
E	7	C
F	6	D,E

What is the theoretical minimum cycle time & number of work stations?
Calculate the efficiency of the balanced line.

- Q3 a)** What do you mean by Inventory? Define safety stock. How is it determined? What is the role of safety stock in inventory management? **(10)**
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- b)** A company makes bicycles. It produces 450 bicycles a month. It buys the tires for bicycles from a supplier at a cost of \$20 per tire. The company's inventory carrying cost is estimated to be 15% of cost and the ordering is \$50 per order. **(10)**
- i- Calculate the Economic Order Quantity.
- ii- What is the average annual ordering cost?
- Q4 a)** What are the significance of Production planning and control? What is Aggregate Planning? Elaborate on different strategies associated with aggregate planning? **(10)**
- b)** Make a comparative study between the 'Sequencing' and 'Dispatching'. **(10)**
- Q5 a)** What do you mean by Motion study? What are the various rules concerning human body as well as tools and equipment design under motion study? **(10)**
- b)** What are the objectives of Time Study? Explain step by step, how you can deduce the standard time of a task through time study using stop watch. **(10)**
- Q6 a)** What is the importance of Demand forecasting? Describe in brief various approaches to forecast the demand of a new product. **(10)**
- b)** Compare and contrast the forecasting methods 'Moving Average Method' and 'Exponential Smoothing Method' through illustration. **(10)**
- Q7 a)** Elaborate on Product Life Cycle and its significance. What is Product Positioning strategy? **(10)**
- b) Write a short note on any TWO:** **(10)**
- i-Delphi Technique
- ii-Batch Production System
- iii-Line of Balance