[5561]-544

B.E. (Mechanical Engineering)
INDUSTRIAL ENGINEERING (Elective - III)
(2015 Pattern) (Semester - II)

Time : 2 Hours 30 Minutes]   *[Max. Marks :70*

Instructions to the candidates:

1) *Answers should be written in one answer book.*
2) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Figures to the right side indicate full marks.*
5) *Assume Suitable data jf necessary.*

Q1) a) Define productivity? Explain various factors which affect productivity?**[4]**

    b) Explain any two productivity models used in Industrial Engineering? **[4]**

OR

Q2) a) Enlist elements of an organization? Explain the term departmentalization in details? **[4]**

    b) Enlist any 4 objectives of an industrial engineering? **[4]**

Q3) What are therblings? Give any 5 therblings with symbols? **[6]**

OR

Q4) Describe Travel chart following with suitable example. **[6]**

Q5) a) Define the term:- work sampling. **[2]**

    b) In a work sampling study carried out in heat treatment shop, following data was collected **[4]**

      i) Total time spent by the operator = 450 minutes

      ii) Number of components produced = 150 No's

      iii) Working time of the operator = 70%

      iv) Idle time for operator = 30%

      v) Avg. rating for operator = 90%

    Calculate the standard time for the component if total relaxation allowance is 30% of the basic time?

P.T.O.

Q6) a) Define the term with suitable example:- MOST. **[2]**

b) Compare : Work sampling and PMTS? **[4]**

Q7) a) Explain SCM with flow diagram? Discuss its importance in industry?**[8]**

b) Write a short note on **[8]**

i) Aggregate planning

ii) Push and Pull System

Q8) a) Discuss the importance of sales forecasting. Explain any one method of sales forecasting? **[8]**

b) Discuss MRP-I and MRP-II with suitable example. **[8]**

Q9) a) Enlist & Explain different computer aided layout design techniques? **[8]**

b) Classify & Explain different types of material handling equipments? **[8]**

Q10)a) Define Inventory and its importance. Enlist different types of Inventories? Also explain various costs involved with Inventory? **[8]**

b) A manufacturing company requires 9000 units per year. Ordering cost is Rs. 125/- per order and carrying cost is 20%. Purchase price per unit is Rs. 42 Determine **[6]**

i) EOQ

ii) Optimum number of orders

iii) Total cost including acquisition of material

c) Explain the term:- ABC analysis. **[2]**

Q11)a) Write a short note on : **[10]**

i) KRA

ii) Break even analysis

b) What is cost accounting? What are objectives of cost accounting? Explain elements of cost. **[8]**

*Q12)*a) What is industrial safety? What are the objectives of industrial safety? Explain general safety rules. **[8]**

b) Calculate B.E.P.(In Unit and In Rupee) from the following information.**[5]**

Fixed cost = Rs 1200/-

Variable cost = Rs 4000/-

Sales in rupee = Rs 7000

Sales in unit = Rs 1000/-

c) Explain the term:- Payback method. **[5]**

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