

B. Tech. 6th Semester (Mechanical Engineering)

(F. Scheme) Examination, May -2012

INDUSTRIAL ENGINEERING

Paper-ME-312-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : *Students have to attempt **five** questions in total with least **one** question from each section and **Q. No. 1** is compulsory.*

1. (a) Define method study.
- (b) Name the various incentive payment scheme.
- (c) What is economic order quantity.
- (d) Define the Breakeven point.
- (e) State difference between variable and attributes.
- (f) What is VED ?
- (g) Name the various forecasting methods.
- (h) What is PPC and its objectives.
- (i) Define Standardization, simplification and specialization.
- (j) What is value engineering. 20

Section-A

2. (a) How does job evaluation help in developing an equitable wage structure ? What precautions should be observed in installing an evaluation scheme ? 12
- (b) Define and explain the concept of productivity, how it is related to work study ? 8
3. (a) What do you understand by term rating in time study ? What are the various methods used in rating ? Describe them. 12
- (b) Draw a flow process chart for fixing a job in a lathe chuck. 8

Section-B

4. (a) Explain ABC analysis used in inventory control. 8
- (b) Determine the economic order quantity for a product whose average daily consumption rate is 80 units. The cost of each unit is Re 0.50 and inventory carrying charge is Rs. 10/-. Assuming the total working days in a year as 300, obtain the annual inventory capital also. 12

5. The fixed cost for the financial year 2011-12 of an enterprise is Rs. 60,000. The sales for this period are of Rs. 1,50,000. The variable or direct cost per unit is Rs. 5. The unit sale price for the product is Rs. 15/- and number of units sold coincides with the expected volume of production. Construct the breakeven chart and determine :
- (i) Breakeven point
 - (ii) How many minimum products should be sold to earn profits ?
 - (iii) Profit earned for sales volume of Rs. 1,20,000.
 - (iv) Margin of safety. 20

Section-C

6. Describe and explain the following :
- (i) Just in time manufacturing
 - (ii) Master production schedule 20
7. Write a short notes on :
- (i) OC Curves
 - (ii) Statistical quality control
 - (iii) Double sampling plan. 20

Section-D

8. What is Management Information System and its importance in industry ? Discuss the organizational and system structure of MIS in detail. 20
9. What do you meant by product design and development ? Explain the role of ergonomics in product design. 20