Roll No. ....

2312

B. E. 6th Sem. (Mech. Engg.)

Examination – May, 2009

INDUSTRIAL ENGG.

Paper : ME-312-E

Time : Three hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions.

1. (a) Describe the importance of method study and discuss the following tools used for the purpose :   10

     (i) Operation Process Chart

     (ii) Flow Process Chart.

    (b) What do you understand by the term normal time of an operation ? How can it be determined ? What differentiates normal time from standard time for operation ?   10

2. (a) How is the productivity measured ? What are the factors affecting productivity ? How can this be improved ?   10

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(b) What is Job Evaluation ? What are the objectives of job evolution ? Explain in detail job evaluation procedure. 10

3. (a) Distinguish between fixed and variable costs. 6

(b) The list price of a machine is Rs. 6000 and the distributor is allowed 20% discount. The marketing and administrative expenditure is 50% of factory cost and the material cost, labour cost and factory overheads are in the ratio 1:3 :2. If the cost of labour on the manufacture of the machine is Rs. 1200 determine the profit on each machine. 14

4. In an organization, the requirement of an item is 10000 units per annum at uniform rate. The procurement cost is Rs. 10 per order. The item costs Re. 1 per unit. Carrying cost is 20% of unit cost per annum. Back out or shortage cost is Rs. 5 per unit of shortage incurred. Determine the following : 20

(i) Economic Order Quantity

(ii) Maximum inventory level

(iii) Shortage Quantity

(iv) Cost of shortage

(v) Total cost of inventory.

5. (a) Explain concept of OC curve for an acceptance sampling plan. 10

(b) State the advantages of quality control. Show clearly how it can reduce the cost of production. 10

6. (a) Enumerate the principal functions of PPC and discuss each of them briefly. 10

(b) There are seven jobs which are to be processed first on machine 1 and then on machine 2. Processing times in hours are given below : 10

Job	A	B	C	D	E	F	G
Machine 1	6	24	30	12	20	22	18
Machine 2	16	20	20	13	24	2	6

Find the optimal sequence and total elapsed time. Compute the idle time on machine 2.

7. (a) "Value engineering prevents unnecessary cost build up into the product". Explain. 10

(b) Explain the role of ergonomics in product design. 10

8. Write short notes on the following : 20

(i) Role of MIS in decision making

(ii) Data flow diagram

(iii) Organizing information systems.

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