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Question Paper Code: 39710

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Mechanical Engineering

01UME910 - PROCESS PLANNING AND COST ESTIMATION

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define Motion study.
2. Define Ergonomics.
3. Define process planning.
4. What are the benefits of CAPP?
5. State the objectives of cost estimation.
6. Differentiate Fixed Costs and Variable Costs.
7. What are the Elements of Cost?
8. Define Selling Price of a Component.
9. State some examples for Direct Labour.
10. What do you mean by miscellaneous allowance?

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss in detail about the motion study.

(16)

Or

- (b) Describe the ergonomics principles applied to instrument design and control with example. (16)
12. (a) Explain the two approaches commonly used in CAPP system and bringing out their advantages and limitations. (16)

Or

- (b) List the steps involved in process planning and brief. (16)
13. (a) Why costing is essential for industrial control. (16)

Or

- (b) Explain the various types of elements of cost. (16)
14. (a) Describe the data requirements and sources of information for cost estimation. (16)

Or

- (b) In a manufacturing process, the observed time for 1 cycle of operation is 0.75 min. The rating factor is 110%. The following are the various allowances as % of normal time:
- Personal allowance = 3%
- Relaxation allowance = 10%
- Delay allowance = 2%
- Estimate the standard time (16)
15. (a) Explain the cost of the product with ladder diagram. (16)

Or

- (b) A factory is producing 1000 bolts and nuts per hour on a machine. Its material cost is Rs.75 .The factory on cost is 150% of the total labour cost and office on cost is 25% of the total factory cost. If selling price of each bolt and nut is Rs 1.75 .Calculate whether the factory is going in loss or gain and by what amount. (16)