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Question Paper Code: 39710

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

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. State the objectives of method study.
2. Define the term Ergonomics.
3. Calculate the net machine-hours available in a factory from the following data for month of June:
 - (1) Number of milling machines = 8
 - (2) Number of working days = 25
 - (3) Number of shifts per day = 2
 - (4) Time lost due to maintenance and repairs, etc. = 3 hrs. per day
 - (5) Number of hours/shift = 8
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. State the different types of allowances.

9. A batch of 500 components is produced on a capstan lathe. The work rate/piece is Rs. 2.50 and the indirect material cost/piece is Rs. 4.00. Overheads are 450% of direct labour cost. What is the total cost of the batch of component?
10. State the different methods of on-cost allocation.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the recording techniques used in method study. (16)

Or

- (b) Describe the ergonomics principles applied to instrument design and control with example. (16)

12. (a) Discuss about the material selection parameters in detail. (16)

Or

- (b) List the steps involved in process planning and brief. (16)

13. (a) Explain the components of cost estimation or job estimation. (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) Discuss in detail about data required for cost Estimation. (16)

15. (a) Explain the cost of the product with ladder diagram. (16)

Or

- (b) Segregate the fixed cost and the variable cost of running a motor car for one year. (16)