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**Question Paper Code : X 60823**

B.E./B.Tech. DEGREE EXAMINATIONS, NOV./DEC. 2020  
Seventh Semester

Mechanical Engineering

ME 2027/GE 1452/10122 MEE 21/ME 701 – PROCESS PLANNING AND COST  
ESTIMATION

(Common to Production Engineering)

(Regulations 2008/2010)

(Also Common to PTME 2027 – Process Planning and Cost Estimation for  
B.E. (Part-Time) Seventh Semester – Mechanical Engineering – Regulations 2009)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

**(10×2=20 Marks)**

1. Write the objectives of Method study.
2. What is Ergonomics ?
3. What do you understand by the term operating sequence ?
4. State the parameters considered for material selection.
5. Define cost accounting.
6. Distinguish between cost estimation and cost accounting.
7. What you mean by Depreciation ?
8. Define Multiple Cost Method.
9. What is meant by 'Overhead Expenses' ?
10. Define cutting speed.



## PART – B

(5×16=80 Marks)

11. a) Explain the principles of motion economy with suitable illustrations. (16)  
(OR)
- b) Discuss various tools and techniques of work measurement. (16)
12. a) Explain the use of computers in process planning and cost estimation and list out the advantages of CAPP. (16)  
(OR)
- b) What are factors influencing process selection and write down the process selection parameters ?
13. a) Name the various elements of cost. Explain each element in detail giving suitable examples. (16)  
(OR)
- b) Write down the step by step procedure for estimating the direct material cost. (16)
14. a) From the following data for a sewing machine manufacturer, prepare a statement showing prime cost, works/factory cost, production cost, total cost and profit. (16)

Value of stock of material as on 1.04.2010	Rs. 26,000
Material purchased	Rs. 2,74,000
Wages to labour	Rs. 1,20,000
Depreciation of plant and machinery	Rs. 8,000
Depreciation of office equipment	Rs. 2,000
Rent, taxes and insurance of factory	Rs. 16,000
General administrative expenses	Rs. 3,400
Water, power and telephone bills of factory	Rs. 9,600
Water, lighting and telephone bills of office	Rs. 2,500
Material transportation in factory	Rs. 2,000



Rent of office building	Rs. 2,000
Direct expenses	Rs. 5,000
Commission and pay of salesman	Rs. 10,500
Repair and maintenance of plant	Rs. 1,000
Works Manager salary	Rs. 30,000
Salary of office staff	Rs. 60,000
Value of stock of material as on 31.03.2011	Rs. 36,000
Sale of products	Rs. 6,36,000

(OR)

- b) i) Write the fixed cost and the variable cost of running a motor car for one year. **(8)**
- ii) Discuss the data requirements and sources of information for cost estimation. **(8)**
15. a) Explain the various methods used in an industry for allocation of overheads with an example. **(16)**

(OR)

- b) i) Explain the different items involved in the estimation of arc welding cost of a job. **(6)**
- ii) Estimate the size of the stock to forge a M.S. hexagonal headed bolt blank. The diameter of the bolt is 20 mm and length of stem is 100 mm. Assume necessary dimensions for the head. **(10)**
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