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Question Paper Code : 51829

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Seventh Semester

Mechanical Engineering

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

(Common to Production Engineering)

(Regulations 2008/2010)

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

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What are the objectives of method study ?
2. Define work measurement.
3. What do you understand by the term operating sequence ?
4. State the parameters considered for material selection.
5. List the various elements of cost.
6. What shall be the effect of overestimate ?
7. Mention any two functions of estimating.
8. What can be the sources of error in estimating ?
9. Differentiate between direct and indirect overheads ?
10. List the losses to be considered in estimating the gross weight of a forging component.

PART – B (5 × 16 = 80 Marks)

11. (a) Explain the tools and techniques of motion economy.

OR

(b) Discuss in detail the ergonomics principles and applications.

12. (a) Write notes on

(i) Developing manufacturing logic and knowledge. (8)

(ii) Selection of cost for optimal processes. (8)

OR

(b) How will you distinguish retrieval and generative computer aided process planning systems? Which is more effective? State reasons.

13. (a) Data collected at a certain period show that for the manufacture of a product, the labour cost is ₹ 400, the ratio of direct material cost, direct labour cost and direct expenses are 1 : 3 : 2. If the factory overheads are ₹ 200, administrative overheads are 20% of factory cost selling and distribution overheads are 10% factory cost and profit required is 30% of the factory cost, what should be the selling price?

OR

(b) Discuss the various methods of costing with an example.

14. (a) Discuss in detail the various methods of estimates with an example.

OR

(b) Write notes on (i) data requirements for estimation (ii) allowances in estimation.

15. (a) Explain the various methods used in an industry for allocation of overheads with an example.

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)