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Question Paper Code : 11065

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2014.

Eighth Semester

Mechanical Engineering

080120074 — PRODUCTION PLANNING AND COST ESTIMATION

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is PUSH system?

2. Why do we need bill of material information?

3. What do you mean by estimation?

4. List the common errors in costing.

5. Write the causes of depreciation.

6. Define : Prime cost.

7. How do you estimate casting cost in a foundry shop?

8. State the importance of allowances in cost estimation.

9. How do you calculate the labour cost for a milling process?

10. List out the components in boring cost estimation.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the following :

    (i) Material Requirement Planning.   (8)

    (ii) Aggregate production planning.   (8)

    Or

    (b) (i) Explain about JIT and its benefits.   (6)

    (ii) Discuss time series forecasting models.   (10)

12. (a) Compare about costing and estimation with an appropriate illustrations. (16)

Or

(b) Explain briefly the estimation procedure for an assembly shop. (16)

13. (a) Explain about fixation of product price using cost ladder with an example. (16)

Or

(b) (i) Explain about allocation of overhead expenses. (8)

(ii) A machine has been purchased for £ 1,20,000 and life will be 20 calendar years. The expected scrap value is £ 1,500. If the depreciation is charged by sinking fund method, determine the accumulation of fund after 5 years. Assume 8% compounded interest. (8)

14. (a) 500 components (dimension – head : 60mm dia × 25mm thickness, Stem : 20mm dia × 120mm length) are to be made by upsetting from 25 mm diameter. Calculate net weight, gross weight and the length of bar stock of 25 mm dia required before upsetting. Assume 5% of the net weight as shear loss and 6% of net weight as scale loss. Assume the density of material as 8 gm / cc. (16)

Or

(b) (i) Explain about estimation of foundry cost. (8)

(ii) Explain about different pattern allowances and its importance. (8)

15. (a) Determine the time taken to prepare a taper job with 35 mm minor dia and 75 mm major dia from a stock of 75 mm dia and 125 mm long bar using taper turning operation. Assume : cutting speed = 60 m / min; Hand feed by compound rest = 0.2 mm / rev.; Depth of cut should not exceed 3.5 mm. (16)

Or

(b) (i) How can you estimate the grinding time for a cylindrical grinding operation? (8)

(ii) Estimate the time required for planning a surface of 900 × 300 mm size. The cutting speed is 12m / min and feed is 1.2mm / stroke. Assume suitable clearances. (8)

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