1623

Code : 15ME61T

Register Number | | | | | | | | | | |

VI Semester Diploma Examination, Oct./Nov.-2019

ESTIMATION & COSTING

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** questions from Part – A.

(ii) Answer any **seven** questions from Part – B.

PART – A

1. Define the following terms : **5**
   (a) Depreciation
   (b) Estimation

2. Explain straight line method of calculating depreciation. **5**

3. Define the following terms : **5**
   (a) Fixed expenses
   (b) Variable expenses

4. Explain the various components of cost. **5**

5. List the various operations performed in machine shop (any 10). **5**

6. Explain the procedure of estimating the machining time for turning operation. **5**

7. Explain the procedure of estimating the machining time for tapping operation. **5**

8. Explain the factors affecting the welding cost. **5**

9. Explain the pattern allowances. **5**

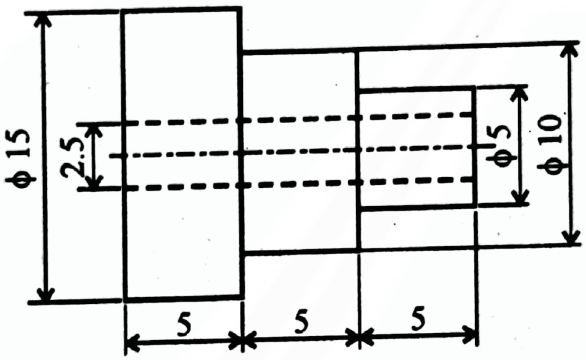
[Turn over

PART – B

10. A lathe is purchased for ₹ 80,000. The assumed life is 10 years and scrap value is ₹ 8,000. If the depreciation is charged by diminishing balance method. Determine the rate by which the value of lathe is reducing every year and estimate the depreciation fund after 2 years. **10**

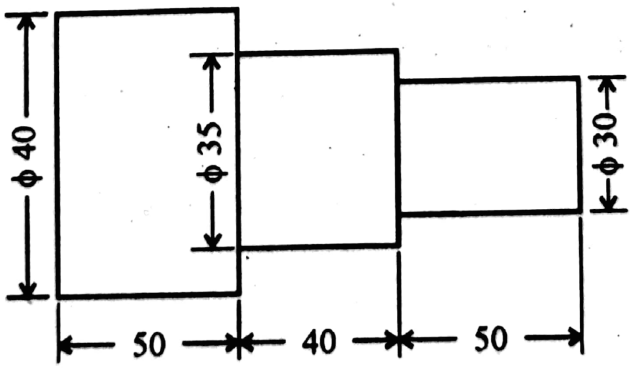
11. Find the total cost of two products A & B of on cost is 60% of prime cost. The product A has ₹ 200 as direct material and ₹ 400 as direct labour cost, while the product B has ₹ 300 as direct labour cost and ₹ 300 as direct material cost. **10**

12. Estimate the weight of cost iron used for manufacturing the step pulley as shown in figure. Assume density of cast iron as 7.2 gm/cc. **10**



All dimensions are in cm.

13. Calculate the time required to turn a stepped shaft to the dimensions shown in figure from MS stock of 40 mm dia. neglecting facing and setting up time, the depth of cut should not exceed 2.5 mm. Assume the cutting speed to be 20 m/min and feed to be 0.3 mm/rev for each cut. **10**



All dimensions are in mm.

14. Calculate the time for tapping of 20 mm dia. hole with 3 mm pitch tap on MS plate upto a depth of 30 mm. Assume the cutting speed as 10 m/min and also the return speed of tap as 2 times the cutting speed. **10**

15. Calculate the time required for making an open tank of size 40 × 40 × 40 cm by gas welding with size of sheet used is 50 × 40 × 0.3 cm. Welding is to be done on inner sides only. Assume fatigue allowances as 5%. Take welding speed as 12 min/m. **10**

16. An open water tank 1 m × 1 m × 2.5 m height is to be fabricated from MS plate of 2.5 cm thick. Estimate the cost of tank from the following data :

Density of MS = 8 gm/cc

Cost of MS plate = ₹ 6/kg

Cost of fabrication = 25% of material cost

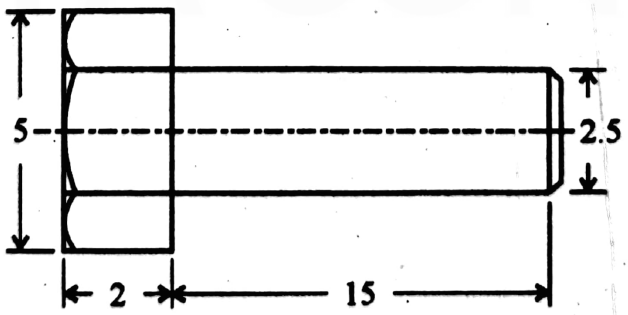
Cost of welding = ₹ 0.25 per cm length

Factory overheads charges = 30% of prime cost

Sales overheads = 20% of manufacturing cost

Profit = 25% of total cost

17. Estimate the size of the stock and weight of material required to forge 100 MS bolts as shown in figure. The bar stock diameter is 3 cm **10**



All dimensions are in cms.

18. Estimate the cost of 2000 CI pulleys as shown in figure. Its surface are to be machined after casting. The pattern is supplied by the customer itself. Following data can be used

Cost of metal = ₹ 5/kg

Moulds prepared by each worker/day = 20

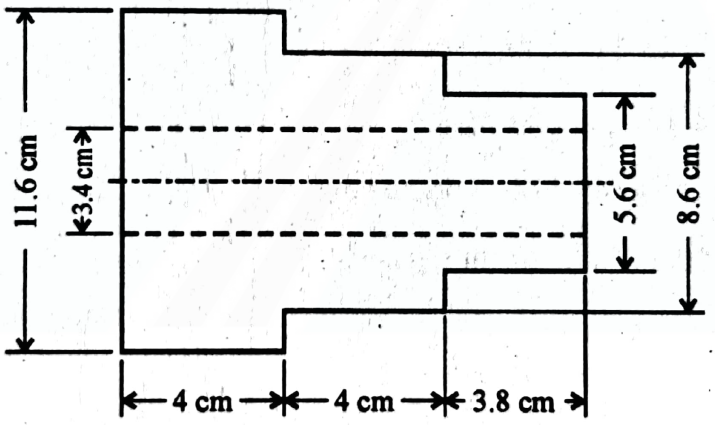
Melting charges = 20% of metal cost

Machining allowance on each side may be taken as 2 mm

Wages of each moulder = ₹ 16/day

Density of CI = 7.2 gm/cc

Overhead charges = 25% of metal cost **10**



19. (a) Explain the principles of process casting (any five). **5**

(b) Define budget and list the types of budget. **5**