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C14-M-503

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**BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DME-FIFTH SEMESTER EXAMINATION**

ESTIMATING AND COSTING

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

- Instructions :**
1. Answer **All** questions.
 2. Each question carries **Three** marks.
 3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List out any four objectives of costing?
2. Define the term depreciation?
3. Write any three functions of Estimation.
4. Write the formula for finding the volume of a) Cylinder (b) segment of Sphere?
5. Explain the step by step procedure to calculate the weight of material for a Component?
6. Define the term Machining Time?
7. List out any three types of Fabrication process.
8. Define Forging?
9. Define the terms Net weight and gross weight of Forging?
10. What are the various steps involved for making castings in Foundry?

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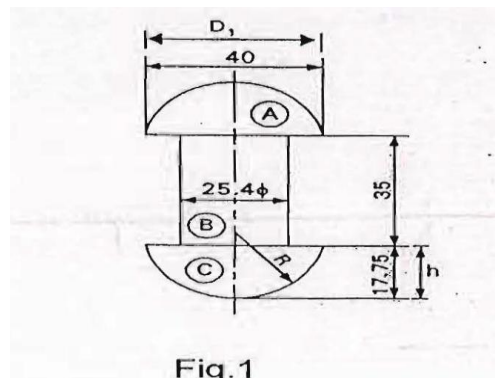
PART-B

10X5=50

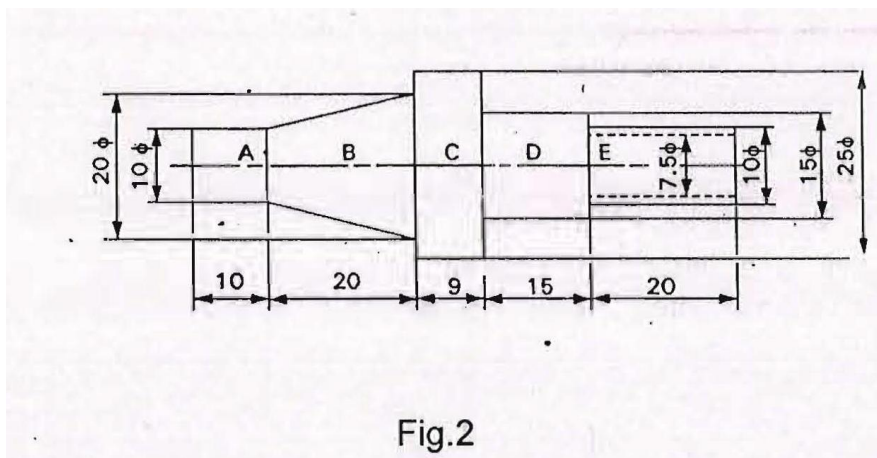
Instructions : *

1. Answer any **Five** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Briefly discuss about the Elements Costing?
12. (a) Explain straight line method of depreciation and write the advantages?
(b) Explain the Objectives of Estimation.
13. Estimate the number of rivets as shown in figure 1 which can be made from 4.5Kgs of Mild steel. Take the density of mild steel as 7.87 grams/cm³.



- * 14. Estimate the volume of material required for manufacturing 100 pieces of shaft as shown in the figure 2. The shafts are made of Mild steel and density of 8 gram/c.c and costs Rs 10 per Kg. Calculate also the materials cost for such shafts?



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15. Find the time required to turn a 60mm diameter rod to the dimensions shown in the figure3. Take cutting as 20 m/min, feeds as 1.2mm/rev, all cuts are 3mm deep?

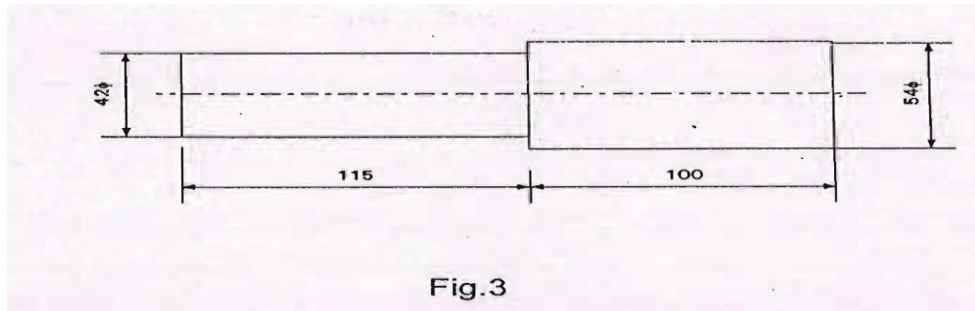


Fig.3

16. Two 1m long M.S Plates of 10mm thick are to be welded by a Lap joint with the help of 6mm electrode. Assuming following data calculate the cost of welding.

- Current used = 250 amperes
- Voltage = 30V
- Welding Speed = 10m/hr.
- Electrode used = 0.5 kg/m of welding.
- Labour charges = Rs 15/hr.
- Power charges = Rs 1/- per kwh.
- Cost of electrodes = Rs 15/- kg.
- Machine efficiency = 60%

17. 100 Mild steel pieces for a component as shown in the figure 4 are to be drop forged from a 4 cm diameter bar stock. Estimate the cost of manufacturing given that

- Cost of material = Rs 100/- meter.
 - Forging charges = 0.05 Rs/cm² surface area.
 - On cost = 10 of material cost
- Consider all possible losses during operations.

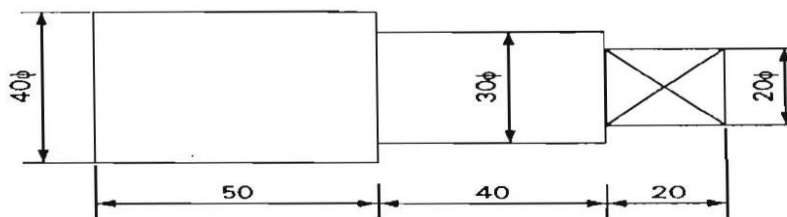


Fig.4

18. Cast iron pulley is shown in figure 5 Estimate the cost of 200 CI Pulleys using the following data.

- Cost of metal = Rs 10/kg
 Moulds prepared by each worker per day = 20
 Melting charges = 20% of metal cost

Machining Allowance on each side may be taken as 2mm
Wages to each moulder= Rs 20/-day
Density of CI = 7.2 grams/c.c
Over head charges = 25% of metal
Pattern is supplied by the consumer.

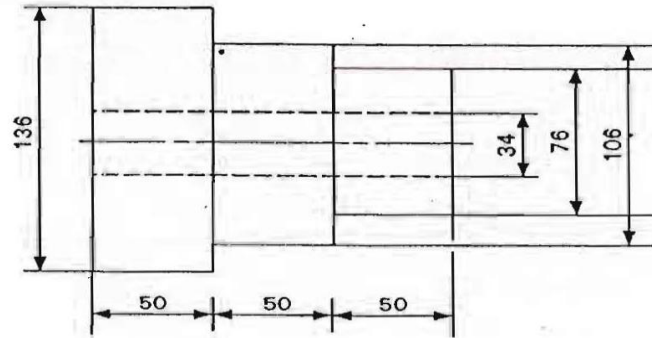


Fig.5

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