



C09-M-603

3781

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2014

DME—SIXTH SEMESTER EXAMINATION

INDUSTRIAL ENGINEERING, ESTIMATING AND COSTING

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=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.

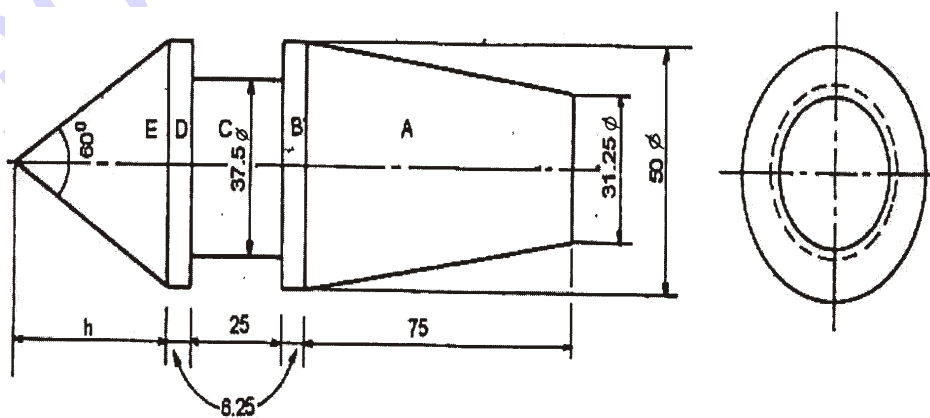
1. State the advantages of PMTS.
2. What are therbligs?
3. What is the necessity of quality control?
4. What are the advantages of control charts?
5. Differentiate between estimating and costing.
6. Define prime cost.
7. Write the formula for finding the volume of frustum of pyramid.
8. What is depth of cut?
9. State the relationship between thickness of plate and size of electrode in gas welding.
10. List out the forging losses that are occur in drop forging.

PART—B

10×5=50

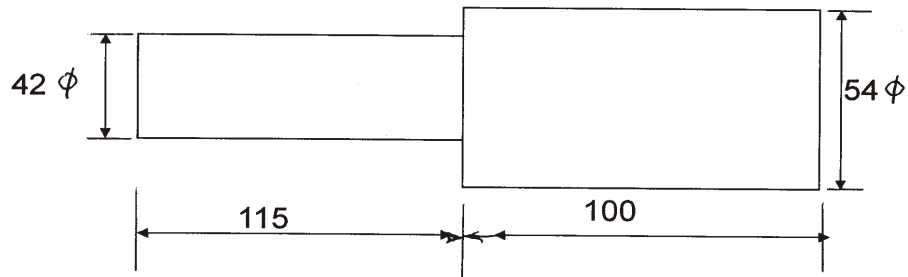
- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. State and explain the importance of various allowances used in time study.
12. Explain work sampling and list out its advantages.
13. Explain how the ideal OC curve differs with general OC curve.
14. Explain the functions of estimating.
15. A certain product is manufactured in batches of 200. The direct material cost for this batch is found to be ₹ 60. Direct labour cost is ₹ 60 and overhead expenses are ₹ 40. If the selling expenses are 50% of the factory cost, what will be the selling price of each product to earn the profit of 15% of the total cost?
16. The dimensioned figure below shows a 'lathe centre'. Estimate the weight and cost of material for the same if the material weighs 7.787 gm/cc and material cost is ₹ 14 per kg :



All dimensions are in mm

- * 17. Find the time required to turn a 60 mm diameter rod to the dimensions shown in the figure. Take cutting speed as 20 m/min, feed as 1.2 mm. All cuts are 3 mm deep :



18. Find the welding material cost for making a rectangular frame for a gate $2.5 \text{ m} \times 1.5 \text{ m}$ from an angle of size $40 \text{ mm} \times 40 \text{ mm} \times 5 \text{ mm}$. Assume the following data :

Oxygen consumption— $0.1 \text{ m}^3/\text{hr}$ available at ₹ $0.80/\text{m}^3$

Acetylene consumption— $0.4 \text{ m}^3/\text{hr}$ available at ₹ $5/\text{m}^3$

Welding speed—4 m per hour

Length of filler rod used—3.4 m/meter of welding

Filler rod diameter—2.5 mm

Filler rod material cost—₹ 3

Welding to be done on both sides.
