



C09-M-603

3781

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2013

DME—SIXTH SEMESTER EXAMINATION

INDUSTRIAL ENGINEERING, ESTIMATING AND COSTING

Time : 3 hours]

[Total Marks : 80

PART—A

- Instructions** : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answer should be brief and straight to the point.

1. Mention any six objectives of method study.
2. Write any six uses of standard data.
3. List out the various functions of inspection department.
4. State the advantages of statistical quality control.
5. State any four functions of estimating.
6. List out any six examples of sellingover heads.

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7. Write the formula for finding volume of—(a) cylinder, (b) segment of sphere and (c) sphere.
8. Define cutting speed, feed and depth of cut.
9. List out the various costs to be considered for estimation of gas welding cost.
10. List out various forging operations and explain any one of them.

PART—B

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. Explain in detail the procedure of method study.
12. Define work sampling. State the advantages and disadvantages of work sampling.
13. Describe about economical conformance between cost of quality and value of quality.
14. Explain the functions of estimating.
15. A drilling machine has been purchased for ₹ 35,000. Its estimating value of the machine at the end of 5 years is ₹ 5,000. Calculate depreciation at the end of each year using sum of year's digits method.

16. Estimate the volume of the material required for manufacturing 100 pieces of shaft as shown in Fig. 1. The shafts are made of MS weighs 8 grams/c.c. and cost ₹ 10 per kg. Calculate the material cost for such shafts.

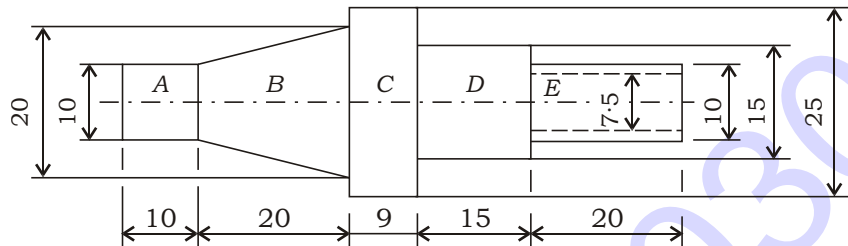


Fig. 1

17. Find the time required to turn a 60 mm diameter rod to the dimensions as shown in Fig. 2. Take cutting speed as 20 m/min, feed as 1.2 mm/rev, all cuts are 3 mm deep. All dimensions are in millimeters.

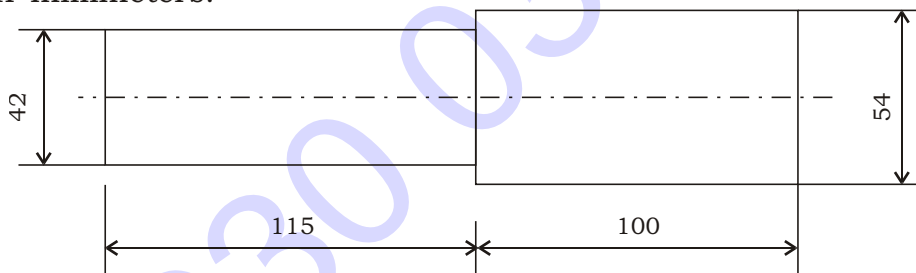


Fig. 2

18. Estimate the cost welding two plates of size 1000 mm long, 400 mm wide and 5 mm thickness to make to a piece 1000 mm 800 mm size. Assume the following data :

Consumption of oxygen	: 0.25 m ³
Consumption of acetylene	: 0.25 m ³
Size of filler rod used	: 3 mm
Consumption of filler rod used	: 2 m/m of weld
Rate of welding	: 4.5 m/hr
Cost of oxygen	: ₹ 12/cubic meter
Cost of acetylene	: ₹ 60/cubic meter
Cost of filler metal	: ₹ 25/kg
Density of filler metal	: 8 grams/cm ³

No preparation is required. Use leftward technique.
