



3781

C09-M-603

3781

**BOARD DIPLOMA EXAMINATION, (C-09)
OCTOBER/NOVEMBER-2018
DME - SIXTH SEMESTER EXAMINATION**

INDUSTRIAL ENGINEERING AND 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. What is work study?
2. What is the formula to calculate standard time?
3. List any three types of inspection methods.
- * 4. What are the main elements of cost?
5. What are the objectives of estimation?
6. Give any three examples of factory overheads.
7. What are the steps followed to calculate weight of material for a component?
8. What is meant by machining time and write its general formula
9. Sketch any three butt weld joints.
10. What are forging losses?

*

PART-B

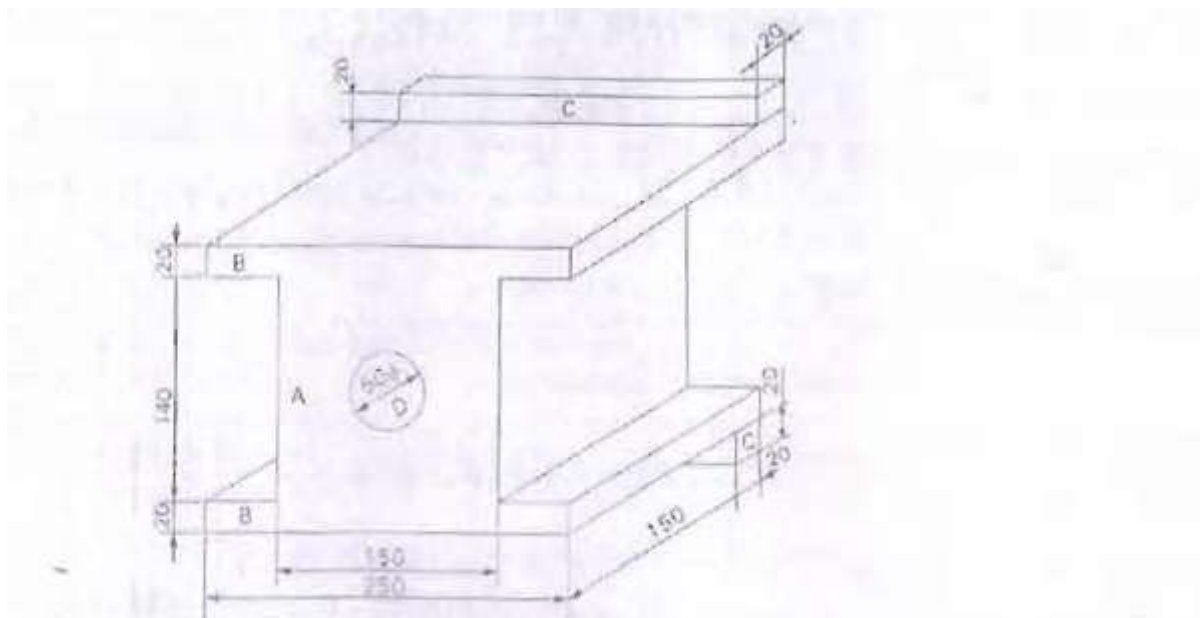
10X5=50

- 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

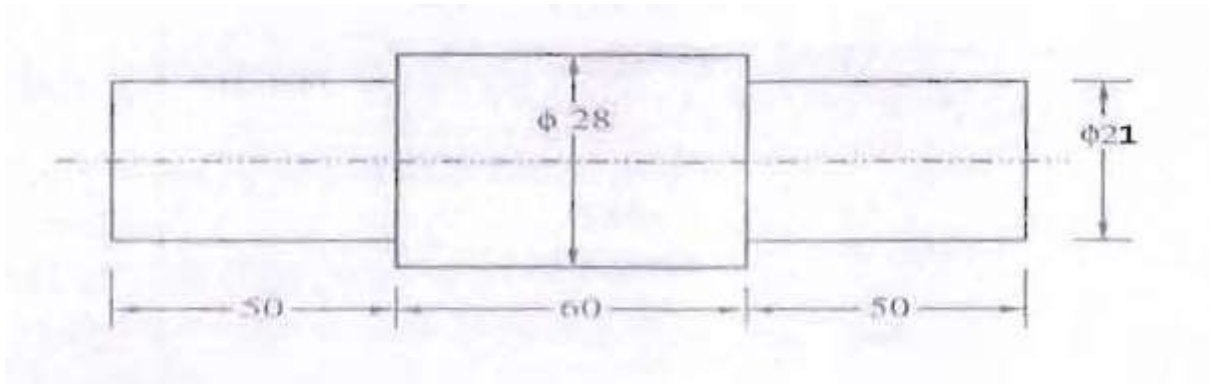
11. Write a short note on (a) String diagram (b) Two hand process chart
12. Explain the steps followed in calculation of standard time with a neat block diagram
13. The following inspection data refers to 10 samples of 300 items each. Construct a P chart on a graph sheet and give your comments:

| Sample no. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-------------------|----|----|----|----|----|----|----|----|----|----|
| No. of defectives | 25 | 30 | 35 | 40 | 45 | 35 | 40 | 30 | 20 | 50 |

14. Differentiate between estimating and costing
15. A machine was purchased for Rs. 4,00,000/-. The estimated life of the machine was 15 years and its scrap value is Rs. 45,000. If the rate of interest on depreciation fund is charged at 6%, calculate the rate of depreciation by sinking fund method.
16. Calculate the amount of material required for the iron slide block shown in figure. The density of iron is 7.15 gm/cc. All dimensions are in mm.



17. Find the time required to turn 3.5cm dia bar to the dimensions shown in figure. Cutting speed is 15.4 m/min and feed is 1mm/ref. All cuts are 3.5mm deep. All dimensions are in mm.



18. Two 1m long M.S plates of 10mm thick are to be welded by a lap joint with the help of 6mm electrode. Assume the following data. Calculate the cost of welding:

- a) Current used = 250 amperes
- b) Voltage = 30V
- c) Welding speed = 10m/hr
- d) Electrode used = 0.5 Kg/m of welding
- e) Labor charges = Rs. 1 per Kwh
- f) Cost of electrodes = Rs. 15/Kg
- g) Machine efficiency = 60%

*

*