



C09-M-603

**3781**

**BOARD DIPLOMA EXAMINATION, (C-09)**

MARCH / APRIL - 2019

**DME - VI SEMESTER EXAMINATION**

**INDUSTRIAL ENGINEERING & ESTIMATING AND COSTING**

Time : 3 Hours]

[Total Marks : 80

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**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.

- 1 Define work study.
- 2 Write the need to provide for various allowances in determination of standard time.
- 3 State the advantages of quality control.
- 4 Define statistical quality control.
- 5 What is costing?
- 6 List any four objectives of cost accounting.
- 7 Write the formula for finding volume of  
(a) pyramid, (b) circular ring (c) cone.
- 8 What is the purpose of calculating the machining time?
- 9 What is the principle of oxyacetylene gas welding?
- 10 Define the terms net and gross weight.

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[ Contd...

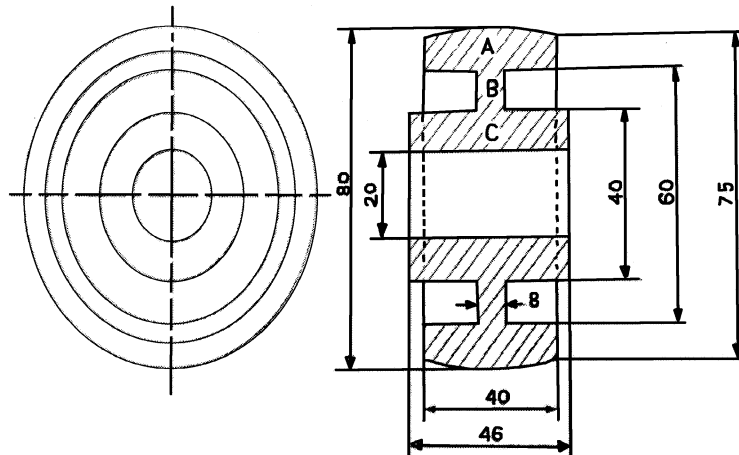
## PART - B

10×5=50

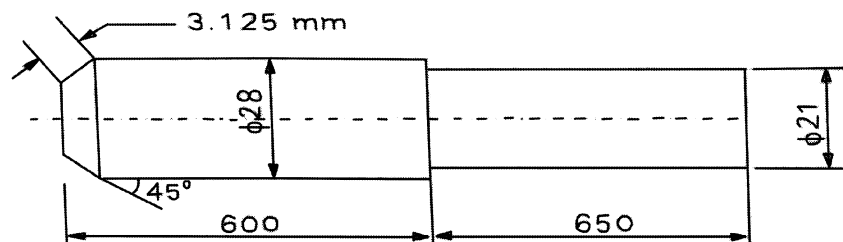
- Instructions :**
- (1) Answer any **FIVE** questions.
  - (2) Each question carries **TEN** marks.
  - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11 Explain in detail the various steps involved in systematic methods of improvement.
- 12 What is work sampling? Gives its objectives and advantages.
- 13 What are the differences between X and R charts and p charts?
- 14 What are the constituents of estimation? Describe them in brief.
- 15 A small firm is producing 100 pens per day. The direct material cost is found to be Rs. 160, direct labour cost Rs. 200 and factory overheads chargeable to it is Rs. 250. If the selling price on cost is 40% of the factory cost, what must be the selling price of each pen to realize a profit of 14.6% of the selling price?

- 16 What will be the weight of the pulley required to be manufactured according to dimensions shown in figure? The density of material is 7.2 gms/cu.cm. assume 30% of the finished material is required for finishing purpose.



- 17 Estimate the time required to reduce a 42 mm bar to the dimensions shown in figure below with a cutting speed of 16.5 m/min. and feed of 1 mm/rev. Assume all cuts are 3.5 mm deep. All dimensions are in mm.



- 18 Two 1 m long M.S plates of 10 mm thick are to be welded by a lap joint with the help of 6 mm electrode. Assuming following data calculate the cost of welding.
- |                        |                       |
|------------------------|-----------------------|
| (a) Current used       | = 250 amperes         |
| (b) Voltage            | = 30V                 |
| (c) Welding speed      | = 10 m/hr             |
| (d) Electrode used     | = 0.5 kg/m of welding |
| (e) Labour charges     | = Rs. 15/- hr         |
| (f) Power charges      | = Rs. 1/- per kwh     |
| (g) Cost of electrodes | = Rs. 15/- kg         |
| (h) Machine efficiency | = 60 %                |