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3781

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL-2019

DME - SIXTH SEMESTER EXAMINATION

INDUSTRIAL ENGINEERING & ESTIMATING AND COSTING

Time: 3 Hours

Maxium Marks : 80

PART -A

10x3=30M

Instructions: 1) Answer all the questions. Each question carries THREE marks
2) Answers should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Write any three objectives of Method study
- 2) Write any three advantages of PMTS
- 3) List any three objectives of inspection
- 4) State the characteristics of normal distribution curve.
- 5) List any three objectives of estimation
- 6) Differentiate between depreciation and obsolescence.
- 7) Briefly write the procedure to calculate the weight of a material for a component.
- 8) Find the time required to drill a hole of diameter 10 mm and depth 50mm. Assume cutting speed as 20 m/min and feed as 0.2 mm/rev
- 9) Mention the various costs considered to arrive the total cost of welding
- 10) * How do you estimate the foundry cost?

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* **PART -B**

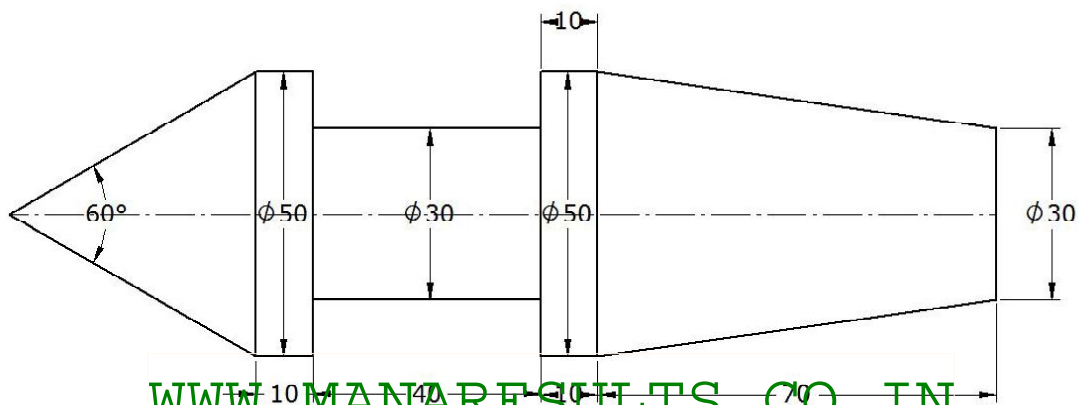
5x10=50M

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

- 11) (a) Explain the role of Work study in increasing productivity
 (b) Draw the symbols of Flow process chart and explain their significance.
- 12) What is Standard Time? What are the constituents of standard time?
- 13) Draw the fraction defective chart for the following data and give your comment on process control.

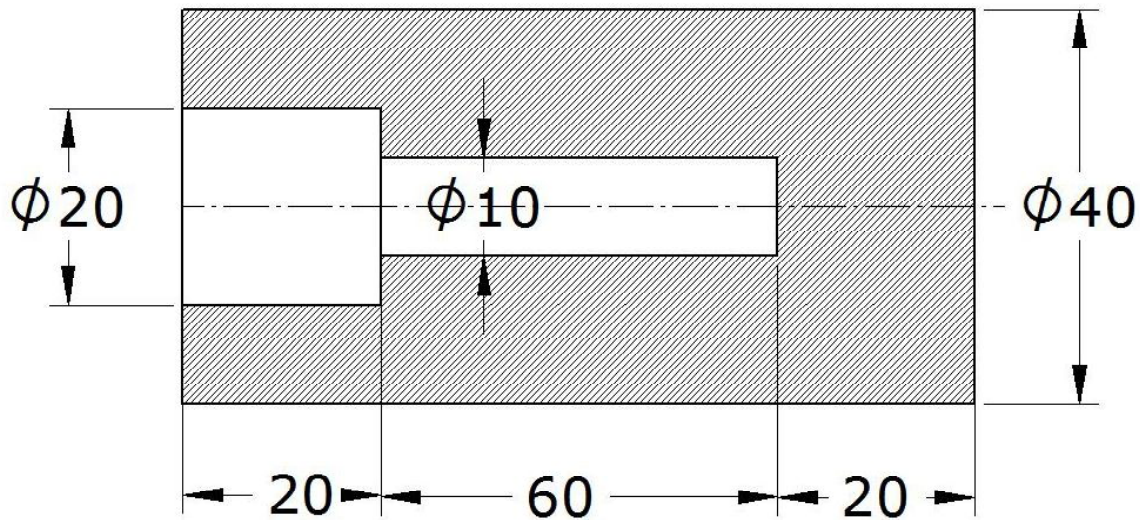
Sample No.	1	2	3	4	5	6	7	8	9	10	11	12
Sample size	100	100	100	100	100	100	100	100	100	100	100	100
No.of defectives	8	5	7	5	14	0	8	10	10	3	3	5

- 14) What are the constituents of estimation? Describe them in brief.
- 15) The market price of a product is Rs 60,000 and the discount allowed is 20% of the market price. It is found that selling expenses were 50% of factory cost and the material cost, labour cost and the factory overheads are in the ratio of 1:4:2. If the material cost was Rs.4000, what profit or loss was made by the factory on each machine.
- 16) Calculate the weight and cost of 100 lathe centers shown in Fig 1. Assume density of material as 7.8 gm/cc and the cost of material is Rs 60 per kg. All dimensions are in mm.



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- 17) Calculate the time required for drilling a component as shown in the Fig.2 cutting speed is assumed as 20m/min and feed as 0.02cm/rev. (All dimensions are in mm)



- 18) Two 3 meter long M.S plates of 10mm thick are to be welded by a lap joint on both sides. Estimate the cost of electric arc welding using the following data.

- Current used = 250amp
- Voltage = 30V
- Welding speed = 12m/hr
- Electrode used = 0.45kg/m of weld
- Labour charges = Rs.25/- per hr.
- Power charges = Rs.5/- per kwh
- Cost of electrodes = Rs.50 per kg.
- Welding transformer efficiency = 60%

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