

Seat
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BBI1302

Manufacturing Engineering - I
(New) (1040)

P. Pages : 3

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer two subquestions from each unit.
5. Draw neat sketches wherever necessary.
6. Figures to the right indicate full marks.

UNIT - I

1. a) What is core. Explain different types of core used in the moulding process. **10**
- b) Describe the following casting processes with neat sketches.
 - i) Pressure Die casting. **5**
 - ii) Centrifugal casting. **5**
- c) Name the various method of NDT. Explain any two non destructive method at inspecting casting. **10**

UNIT - II

2. a) Explain the following operation at sheet metal working. **10**
 - i) Deep Drawing.
 - ii) Shallow Drawing.
 - iii) V - Bending.
 - iv) Embossing.
- b) Define forging. How will you classify forging hammers. Describe some primary difference among hammers mechanical presses & hydraulic presses. **10**

- c) i) Differentiate between Hot working & cold working process. 5
- ii) Differentiate between Rolling process & forging process. 5

UNIT - III

3. a) Answer the following question in brief.
- i) Why the cleaning of joint is important before welding. 2
- ii) What is Arc Blow. How it can be overcome in the arc welding. 2
- iii) What are the function of electrode coating in the welding process. 2
- iv) Name the shielding gases used in 'Inert Gas Arc Welding' method. 2
- v) Why Brazing gives stronger joint than soldering. 2
- b) Explain with neat sketch.
- i) TIG welding process. 5
- ii) Percussion welding process. 5
- c) Explain the principle of resistance welding. Name various type of resistance and explain any one in detail with its advantages, disadvantages & applications. 10

UNIT - IV

4. a) Describe the following methods of Gear manufacturing. 10
- i) Casting.
- ii) Extrusion.
- iii) Stamping
- iv) Roll forming.
- b) i) Explain Gear shaping by Rack & Pinion cutter method. 5
- ii) Explain Thread Grinding process. 5

- c) Write a short notes on: **10**
- i) Thread milling.
 - ii) Gear lapping.

UNIT - V

5. a) Write a short notes on : **10**
- i) Drilling.
 - ii) Boring.
 - iii) Milling.
 - iv) Shaping.
- b) State & explain different work holding devices. **10**
- c) i) Explain bar feeding mechanism used on capstan lathe with neat sketch. **5**
- ii) Differentiate between capstan & Turret lathe. **5**
