

22446

22223

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following:** **10**
- a) State (any four) operations performed on the lathe.
 - b) List any four parts of standard shaper.
 - c) State four different types of patterns.
 - d) Define forging process.
 - e) Give two practical applications of spot welding.
 - f) Name at least two products manufactured by vacuum forming.
 - g) List any four welding defects.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain tool signature of single point cutting tool.
 - b) Classify the shaping machines.
 - c) List the different properties of plastics.
 - d) Compare hot rolling with cold rolling process.
- 3. Attempt any THREE of the following:** **12**
- a) Explain any two cutting parameters of drilling operations.
 - b) Find time required on lathe machine for one complete cut on workpiece of 60 mm diameter and 400 mm long. The cutting speed is 50 m/min and feed is 0.5 mm / rev.
 - c) Explain vertical shaper with neat sketch.
 - d) Differentiate between thermo setting plastics and thermoplastic.
- 4. Attempt any THREE of following:** **12**
- a) Draw a neat labelled sketch of radial drilling machine.
 - b) Explain the working principle of standard slotting machine with neat sketch.
 - c) Differentiate between hot chamber and cold chamber die casting.
 - d) Explain any two casting defects with their causes of formation.
 - e) Explain direct extrusion process.
- 5. Attempt any TWO of the following:** **12**
- a) Explain various types of chips observed in conventional machining process with neat sketch.
 - b) With neat sketch, explain construction and working of cupola furnace.
 - c) Explain the classification of rolling mills with neat sketch.

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[3]

Marks

6. Attempt any TWO of the following:

12

- a) Explain quick return motion mechanism used in shaper with neat sketch.
 - b) Draw neat sketch showing TIG welding process. Explain its working.
 - c) Explain press forging with neat sketch.
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