

22446

24225

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 answer with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Assume suitable data, if necessary.  
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. Attempt any FIVE of the following:

10

- Name different types of chips.
- List different shaping operations.
- Enlist basic steps in casting process.
- Define term 'Forging'.
- List the advantages of welding process.
- List any four casting defects.
- State the application of TIG welding.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain term cutting speed and feed.
  - b) Classify the shaping machines.
  - c) Explain the different types of molding sand.
  - d) Compare direct extrusion and indirect extrusion process with respect to –
    - i) Movement
    - ii) Force
    - iii) Friction
    - iv) Simplicity in design.
- 3. Attempt any THREE of the following:** **12**
- a) Explain with neat sketch knurling operation.
  - b) Explain single point cutting tool signature.
  - c) Compare shaper and slotting machine.
  - d) Explain vacuum forming with neat sketch.
- 4. Attempt any THREE of the following:** **12**
- a) Draw a labelled diagram of radial drilling machine.
  - b) Differentiate between hot rolling and cold rolling.
  - c) Explain with neat sketch shaping machine.
  - d) Explain any two types of core with neat sketch.
  - e) Explain various element of gating system in casting process.
- 5. Attempt any TWO of the following:** **12**
- a) State the various operations performed on drilling machine explain any two.
  - b) Write any four forging operation and explain any two.
  - c) Enlist the various types of pattern and explain split pattern with sketch.

**6. Attempt any TWO of the following:****12**

- a) Explain with neat sketch the direct extrusion and state its advantages and disadvantages.
  - b) Explain TIG welding with neat sketch and state advantages and disadvantages and application.
  - c) Explain quick return mechanism used in shaper with neat sketch.
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