

22446

23124

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) Designate a tool 8-10-6-6-5-10-0.8 signature in ASA system.
  - b) Enlist the types of shapers.
  - c) State properties of moulding sand.
  - d) Define forging. State its types.
  - e) State the four advantages of Plasma Arc welding.
  - f) Name any four types of Pattern.
  - g) State the applications of TIG welding.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain the mechanics of chip formation with neat diagram.
  - b) Express the specifications of slotting machine.
  - c) State importance of colour scheme for pattern. Illustrate a common colour scheme.
  - d) Differentiate between open die forging and closed die forging.
- 3. Attempt any THREE of the following:** **12**
- a) Explain cutting parameters of Lathe machine with their SI units.
  - b) Draw a neat sketch of Radial drilling machine and label the all parts.
  - c) Explain any two types of feed in connection with the working of a Slotter machine.
  - d) Explain the processes of sand preparation and sand conditioning.
- 4. Attempt any THREE of the following:** **12**
- a) Write down the steps involved for internal thread cutting on lathe machine parts.
  - b) Explain working principle of shaping machine with neat sketch.
  - c) Explain calendering plastic process with neat sketch.
  - d) Describe with neat sketch Blow moulding process.
  - e) Describe with neat sketch direct extrusion process.
- 5. Attempt any TWO of the following:** **12**
- a) Explain various drilling machine operation with neat sketch. (Any three)
  - b) Explain construction and working of cupola furnace.
  - c) Describe in brief the various types of Rolling Mills used in Hot Rolling.

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**Marks**

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

**12**

- a) Explain key way machining process on slotting machine.
  - b) Determine three defects in welding with their causes and remedies.
  - c) Explain with neat sketch forging process for making bolt head.
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