

# 17402

**11920**

**3 Hours / 100 Marks**

Seat No.

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

**Marks**

**1. Attempt any FIVE of the following:**

**20**

- a) Classify presses. Describe one in brief.
- b) Define forging and state its types.
- c) Enlist any four merits and demerits of cold rolling.
- d) State any four important properties of plastics.
- e) Explain the term cutting speed and feed.
- f) Explain the combination die with neat sketch.
- g) State the properties of moulding sand.

P.T.O.

- 2. Attempt any FOUR of the following: 16**
- a) Explain with schematic diagram the principle of thread cutting on lathe.
  - b) Sketch and describe in brief of radial drilling machine.
  - c) Determine different defects in welding. State their causes and remedies (Any two).
  - d) Explain briefly with neat sketch the process of wire drawing.
  - e) Compare between open die and closed die.
  - f) Classify pattern and explain any one of them with neat sketch.
- 3. Attempt any FOUR of the following: 16**
- a) Describe twist drill nomenclature using sketches.
  - b) Explain the principle of resistance welding processes with neat sketch.
  - c) Differentiate between hot rolling and cold rolling processes.
  - d) Name various parts of a power press and describe any one of them.
  - e) Determine two different defects in casting. State their causes and remedies.
  - f) Name the factors which govern the selection of a proper material for pattern making.
- 4. Attempt any FOUR of the following: 16**
- a) Explain counter boring and counter sinking operations.
  - b) Explain blow moulding process.
  - c) Explain plasma arc welding with neat sketch.
  - d) Differentiate between Direct extrusion and Indirect extrusion.
  - e) Explain the processes of sand preparation and sand conditioning.
  - f) Explain hot chamber die casting with neat sketch.

- 5. Attempt any FOUR of the following:** **16**
- a) Explain cutting tool nomenclature for single point cutting tool.
  - b) Draw a neat sketch of cupola furnace and label all parts on it.
  - c) Differentiate between Soldering and Brazing.
  - d) Explain color coding system used in pattern making.
  - e) Name various die accessories and describe one using neat sketch.
  - f) Explain upset forging with neat sketch.
- 6. Attempt any FOUR of the following:** **16**
- a) State the various important parts of a lathe and give their function.
  - b) Explain with neat sketch press forging.
  - c) Write common materials used for processing plastics and discuss their relative merits and demerits.
  - d) Explain with neat sketch the working principle of TIG welding.
  - e) Name four common thermoplastic and four common thermosetting plastic and give uses of each.
  - f) Explain following operations with neat sketches (Any Two):
    - (i) Punching
    - (ii) Piercing
    - (iii) Blanking
    - (iv) Lancing and
    - (v) Notching.
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