

17402

11819

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) 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) Enlist any eight applications of rolling.
- b) Explain direct extrusion with neat sketch.
- c) Enlist any four merits and demerits of cold rolling.
- d) Explain the term tool signature related to lathe machine.
- e) Draw a neat sketch of cupola furnace and label all parts on it.
- f) Enlist any eight types of pattern.
- g) Explain any two and properties of plastics with an example.

P.T.O.

- 2. Attempt any FOUR of the following: 16**
- a) Differentiate between open and closed die friging.
 - b) Explain three high rolling mill with neat sketch.
 - c) Enlist any four merits and applications of indirect extrusion.
 - d) Define:
 - (i) Piercing
 - (ii) Lancing
 - e) Differentiate between bending and drawing.
 - f) Give detailed classification of press machines.
- 3. Attempt any TWO of the following: 16**
- a) Draw a neat sketch of progressive die. Explain it's working principle with it's applications.
 - b) Explain colour coding used during pattern design.
 - c) Enlist any four defects occured after casting. State it's causes and remedies.
- 4. Attempt any FOUR of the following: 16**
- a) Explain U bending and edge bending with neat sketches.
 - b) Explain any two properties of moulding sand.
 - c) Explain pit moulding with neat sketch.
 - d) Differentiate between MIG and TIG welding processes.
 - e) Enlist any four applications of soldering and brazing.
 - f) Explain with neat sketch following lathe operations:
 - (i) Taper turning
 - (ii) Facing

5. Attempt any TWO of the following:**16**

- a) Define following terms:
 - (i) Cutting speed of lathe machine.
 - (ii) Feed of lathe machine.
 - (iii) Rake angle of single point cutting tool.
 - (iv) Helix angle of drill bit.
- b) Explain following operations with neat sketches in drilling machine.
 - (i) Counter boring
 - (ii) Counter sinking
- c) Explain following plastic moulding processes with neat sketches.
 - (i) Calendering
 - (ii) Blow moulding.

6. Attempt any FOUR of the following:**16**

- a) Enlist any four types of welding defects. State it's causes and remedies.
 - b) Explain spot welding with neat sketch.
 - c) Differentiate between gas welding and resistance welding.
 - d) Draw a neat sketch of nomenclatures of a twist drill.
 - e) State the functions of following parts of lathe machine:
 - (i) Chuck
 - (ii) Carriage
 - (iii) Tool post
 - (iv) Tail stock
 - f) Explain compression moulding with neat sketch.
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