

17402

21718

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. a) **Attempt any SIX of the following:** **12**
- (i) Define forging, state its types.
 - (ii) Explain drawing operation with neat sketch.
 - (iii) Explain punching operation with neat sketch.
 - (iv) Why colour coding of pattern is required?
 - (v) Name any four metals used for making patterns.
 - (vi) Give practical applications of spot welding.
 - (vii) What is knurling operation and why it is performed?
 - (viii) Write any four properties of plastics.
- b) **Attempt any TWO of the following:** **08**
- (i) Explain progressive die with neat sketch.
 - (ii) Differentiate between brazing and soldering. (any four points)
 - (iii) Explain blow moulding process with neat sketch.

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- 2. Attempt any FOUR of the following:** **16**
- a) With neat sketch explain direct extrusion process.
 - b) State the function of the following:
 - (i) Die block and
 - (ii) Guide of die set
 - c) Explain any four properties of moulding sand.
 - d) Explain TIG welding with neat sketch.
 - e) List the cutting parameters of turning operation. Explain in brief.
 - f) Describe calendering process with neat sketch.
- 3. Attempt any FOUR of the following:** **16**
- a) What is drop forging? Explain with neat sketch.
 - b) Differentiate between open die and closed die forging.
 - c) Draw the block diagram of die set component and label it.
 - d) Explain centrifugal casting with figure.
 - e) Differentiate between hot chamber and cold chamber die casting. (any four points)
 - f) Define tool signature and explain with suitable example.
- 4. Attempt any FOUR of the following:** **16**
- a) Draw neat sketch of three high rolling mill.
 - b) Explain notching and lancing operation in press operation.
 - c) Define core in moulding process and list the different types of core.
 - d) Explain with neat sketch counter boring and countersinking operation of drilling machine.
 - e) Draw a neat sketch of radial drilling machine and name its part.
 - f) Distinguish between thermosetting plastics and thermoplastics. (any four points)

- 5. Attempt any FOUR of the following:** **16**
- a) Compare hot rolling with cold rolling process. (any four points)
 - b) Explain following forging operations :
 - (i) Upsetting and
 - (ii) Bending
 - c) Enlist the press operations. Explain blanking operation in detail.
 - d) State the causes and remedies of the following casting defects:
 - (i) Blow holes
 - (ii) Misrun
 - e) Explain laser beam welding with neat sketch.
 - f) Draw the nomenclature of twist drill showing various elements on it.
- 6. Attempt any TWO of the following:** **16**
- a) State the principle of resistance welding and state its types. Explain seam welding with neat sketch.
 - b) Explain with neat sketch, construction and working of cupola furnace.
 - c) Define taper. Explain taper angle calculation with neat sketch. State the four methods of taper turning on lathe.
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