

22446

23242

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**
- Enlist basic parts of centre lathe machine.
 - Enlist shaping operations. (at least four)
 - Define master pattern.
 - State advantages of open die forging. (at least two)
 - Enlist filler metal use in brazing.
 - What is machining allowances?
 - Define weldability.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) State various drilling machining operation. Explain counter boring operation with neat sketch.
 - b) Differentiate between Shaper and Planner (at least four points)
 - c) State any eight properties of plastic.
 - d) Explain with neat sketch Forward Extrusion process.
- 3. Attempt any THREE of the following: 12**
- a) Explain the mechanics of chip formation with neat sketch.
 - b) Find the time required to turn a work piece from 70 mm diameter to 50 mm diameter, having a length of 300 mm. The cutting speed is 40 m/min and feed rate is 0.5 mm/rev. The radial depth of cut should not exceed 2 mm.
 - c) Explain the function of following slotting machine parts.
 - i) Saddle
 - ii) Cross-Slide
 - iii) Ram
 - iv) Rotary table
 - d) What requirements needed in gating system to achieve free casting defects.
- 4. Attempt any THREE of the following: 12**
- a) Explain the function of basic parts of radial drilling machine.
 - b) Explain with neat sketch working principle of shaper machine.
 - c) Enlist types of cores use in casting process. Explain horizontal core with neat sketch.
 - d) Explain calendaring process with neat sketch.
 - e) Give the advantages and disadvantages of cold working process.

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

- a) Explain the following with neat sketch taper turning operation
 - i) Taper turning by form tool
 - ii) Taper turning by setting over the tailstock.
- b) Draw neat sketch of Cupola furnace and label all parts on its.
- c) Explain with neat sketch closed die forging process.
Give at least four advantages and limitation of it.

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

- a) Explain with neat sketch whitworth quick return mechanism.
 - b) Explain with neat sketch Electron Beam Welding.
 - c) Differentiate between hot rolling and cold rolling (at least six points).
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