

313355

12526

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 answer with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Assume suitable data, if necessary.  
(6) 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) Define bulk factor.
  - b) State any two advantages of transfer moulding.
  - c) Define Daylight opening and write its formula.
  - d) Write any two limitations of injection moulding.
  - e) State the raw materials used in rotational moulding.
  - f) Write any two demerits of rotational moulding.
  - g) State the basic principle of thermoforming process.

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- 2. Attempt any THREE of the following: 12**
- a) Explain difference between hand-operated and automatic compression moulding machine.
  - b) Explain the effect of following process parameter and materials on transfer moulded articles :—
    - i) curing time
    - ii) flow properties
  - c) State types of clamping system and explain with neat sketch of hydro-mechanical clamping system.
  - d) State types of rotational moulding machines and explain with neat sketch of Carousel type machine.
- 3. Attempt any THREE of the following: 12**
- a) Explain with neat sketch of pot-type transfer moulding.
  - b) Describe any four defects, their causes and remedies occurs in injection moulded products.
  - c) Elaborate a brief note on ‘Moulds for rotomoulding’.
  - d) State the effect of following process variables :—
    - i) Mould temperature
    - ii) Plastic memory
    - iii) Hot elongation on thermoforming process.
- 4. Attempt any THREE of the following: 12**
- a) Describe any four faults, its causes and remedies of compression moulded product.
  - b) Explain with neat sketch of screw transfer moulding machine.
  - c) Compare compression moulding over transfer moulding.
  - d) Explain the effect of processing parameters on the quality of the injection-moulded products.
  - e) Explain with neat sketch of batch type rotational moulding.

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

- a) Describe with neat sketch of single toggle and double toggle clamping system.
- b) Explain with neat sketch of heating and cooling system used in rotational moulding.
- c) Describe with neat sketch of following thermoforming process :-
  - i) Plug assist forming
  - ii) Matched mould forming.

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

- a) Explain with neat sketch of flash type, positive type and semi-positive type compression mould.
  - b) Describe constructional features of the following :-
    - i) Short capacity
    - ii) Injection pressure
    - iii) Suck back.
  - c) Find out any six defects, its causes and remedies in rotational moulded article.
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