

22388

22223

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**
- a) Define Plasticizing capacity.
 - b) State the principle of compression molding process.
 - c) Enlist the material used in compression molding.
 - d) State the limitations of compression molding.
 - e) Enlist the types of transfer molding machine.
 - f) State any four products manufactured by rotational molding.
 - g) State the advantage of thermoforming process.

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- 2. Attempt any FOUR of the following:** **12**
- a) Describe the injection unit of injection molding with neat sketch.
 - b) List the steps/stages of compression molding processing and explain with neat sketch.
 - c) Differentiate between compression and transfer molding process.
 - d) Describe troubleshooting guide of rotational molding process.
 - e) Explain plug assist forming with neat sketch.
- 3. Attempt any FOUR of the following:** **12**
- a) State advantage and limitation of injection molding process.
 - b) Define postcuring. State the purpose of postcuring. Name any two method of postcuring used for compression molded products.
 - c) Explain the terminology related with injection molding
 - i) Clamping force
 - ii) Mould day eight opening
 - d) Explain troubleshooting guide for transfer molding process.
 - e) Enlist process parameter of thermoforming process and explain any two parameters in brief.
- 4. Attempt any THREE of the following:** **12**
- a) Define preheating. State the purpose of preheating. Enlist plastic material for which preheating is necessary and write any two advantage of preheating in injection molding.
 - b) Enlist the type of preheater used in compression molding and explain principle and working of infrared preheater.
 - c) Explain with neat sketch principle and working of transfer molding process.
 - d) Enlist types of heating and cooling system used in rotational molding and explain any one system in brief along with neat sketch.
 - e) Explain the troubleshooting guide for thermoforming process.

5. Attempt any THREE of the following: 12

- a) Describe with neat sketch the injection molding process along with applications.
- b) Enlist the process parameter of compression molding and explain any two processing parameters.
- c) Suggest suitable transfer molding process to manufacture electric switch and explain it with neat sketch.
- d) State the type of rotational molding machines and explain the principle and working of biaxial rotational molding machine with sketch.
- e) “To manufacture disposable dinner dish” suggest suitable thermoforming process and explain it with neat sketch.

6. Attempt any TWO of the following: 12

- a) Suggest plastic molding process to manufacture “sintex water storage tank” and explain principle and process with neat sketch.
 - b) State any six defects in injection molding and mention the probable cause and suggest suitable remedies for respective defect.
 - c) Enlist the types of clamping systems used in injection molding. Draw neat sketch of double toggle clamping and explain it and also justify “Toggle clamping is positive type of clamping used in injection molding”.
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