

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Sem. – IV - Examination –June- 2011****Subject code: 142301****Subject Name: Basic Plastics Processing And Thermal Engineering****Date:06/06/2011****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Explain the Term” Plastic Processing Techniques”. List Various Processing Techniques (Methods) used for Plastics with Selection Criteria. **07**

(b) Explain Compression Molding Process in brief with neat sketch. **07**

Q.2 (a) Explain the following in brief (Any Two) **07**
(1) Bulk Factor (2) Perform (3) Powder well

(b) Compare: Compression Molding & Transfer Molding. **07**

OR

(b) List the Mold Types for Compression Molding. **07**
Explain Positive Mold with neat sketch.

Q.3 (a) Define Transfer Molding. Explain Pot Type Transfer Molding Process with neat sketch. **07**

(b) Explain Material characteristics required for the Thermoforming Process. **07**

OR

Q.3 (a) Define Thermoforming. List the Advantages and Disadvantages of it. Also list application. **07**

(b) List Types of Thermoforming Process.Explain Plug Assist Forming with neat sketch. **07**

Q.4 (a) Define Blow Molding. Give classification of Blow Molding Process. Explain Accumulator head type Blow Molding Process. **07**

(b) Explain Injection Blow Molding Process with neat sketch. **07**

OR

Q.4 (a) Explain Parison Programming with neat sketch. **07**

(b) Define Stretch Blow Molding. Explain Stretch Blow Molding Process with neat sketch. **07**

Q.5 (a) Classify Types of Heat Exchanger according to direction of flow. Explain any two. **07**

(b) Explain Shell and Tube heat exchanger with neat diagram. **07**

OR

Q.5 (a) Define Conduction and Derive Fourier’s law for Conduction **07**

(b) Define: Radiation and Convection. **07**

Solve: The outer surface of a concrete (15x 4) m is kept at a temperature of 10⁰C.while the inner surface is kept at 40⁰C.Thermal conductivity of the concrete is 1.2W/m ⁰k.Determine the thermal resistance of the wall and rate of heat loss through it.