

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2013****Subject code: 732401****Date: 28-11-2013****Subject Name: Plastics Packaging Technology****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)** Enumerate polymers commonly used in packaging industry with its applications and properties. **07**
- (b)** Write a short note on extrusion blow moulding technique. **07**
- Q.2 (a)** What is the yield of film? Calculate the yield of 25.4 μm Polypropylene film. (S.G 0.9 g/cm^3) **07**
- (b)** Give the properties and applications of polyesters in packaging. **07**
- OR**
- (b)** Define packaging. List and explain about types of packaging. **07**
- Q.3 (a)** Write a short note on skin pack and blister pack. **07**
- (b)** Discuss in detail about the injection blow moulding process. **07**
- OR**
- Q.3 (a)** Why the surface treatment is required for the printing? Explain with suitable examples. **07**
- (b)** What are barrier properties? Explain procedure to determine it for the plastic film. **07**
- Q.4 (a)** Explain tensile test conducted on plastic film for packaging purpose. **07**
- (b)** Compare extrusion blow molding and stretch blow molding with respect to packaging industry. **07**
- OR**
- Q.4 (a)** Explain the plugassisted vacuum forming technique. Give its advantages and disadvantages. **07**
- (b)** Write a short note on optical properties of the packaging materials. **07**
- Q.5 (a)** Explain in detail about the different types of printing techniques. **07**
- (b)** Explain the terms : shrink pack, blister pack, orientation, skin pack, vacuum pack, stretch blow moulding **07**
- OR**
- Q.5 (a)** Discuss the environment related issues due to plastic packaging materials. **07**
- (b)** Write short note with respect to packaging. **07**
- 1) Offset printing
- 2) Screen printing
