

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – III • EXAMINATION – WINTER 2012****Subject code: 732401****Date: 26/12/2012****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) Define packaging. List and explain about types of packaging. 07
(b) List some polymers commonly used in packaging industry. Explain applications and properties. 07
- Q.2** (a) Comparison of different polyolefin materials use in packaging. 07
(b) Write short note with respect to packaging. 07
1) Offset printing
2) Screen printing
- OR**
- (b) Explain the terms : blister pack, shrink pack, skin pack, vacuum pack, orientation, Stretch blow moulding 07
- Q.3** (a) List properties and applications of PET as a packaging material. 07
(b) Explain manufacturing process of 4.5 liter PET bottle used in the packaging industry. 07
- OR**
- Q.3** (a) What is GTR? Explain procedure to determine it for the plastic film. 07
(b) List and explain the test conducted on PET bottles use for soft drink packaging. 07
- Q.4** (a) List properties and applications of LDPE, LLDPE and HDPE. 07
(b) Explain tensile test conducted on plastic film for packaging purpose. 07
- OR**
- Q.4** (a) Define surface treatment. Why polyolefins are irrespective with ink? List the surface treatment process carried out on plastic packaging materials. 07
(b) Define thermoforming process and list advantages and disadvantages with respect to packaging industry. 07
- Q.5** (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) Explain about functions of packaging materials. 07
- OR**
- Q.5** (a) Explain corona discharge method in detail with neat sketch. 07
(b) Compare extrusion blow molding and stretch blow molding with respect to packaging industry. 07
