

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2162310

Date:08/05/2018

Subject Name:Plastic Packaging Technology

Time:10:30 AM to 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.

- Q1. a. What is Packaging? **03**
b. Difference between Primary and Secondary Packaging **04**
c. Which Plastic materials are preferred for film application? Highlight advantages and limitations of each **07**
- Q2. a. What is purpose of Labelling? **03**
b. List features of controlled atmosphere packaging **04**
c. Discuss in detail the functions of a Package. **07**
- OR**
- c. Give the properties and applications of LDPE, HDPE and LLDPE used as plastics packaging material. **07**
- Q3. a. What are the essential features of good closures? **03**
b. Define: cohesive strength, delamination, dimensional stability, barrier properties **04**
c. Give properties and applications of Polystyrene (PS) and Polyamides (Nylons) used in packaging. **07**
- OR**
- Q3. a. State the changes brought by moisture on food products **03**
b. What is the role of nanotechnology in packaging? **04**
c. Explain flexographic printing and rotogravure printing with diagram. **07**
- Q4. a. Mechanical Hazards in Packaging **03**
b. What are barrier properties? Explain procedure to determine it for the plastic film **04**
c. Describe Pad printing process with neat diagram and also give their applications. **07**
- OR**
- Q4.a. What are essentials in a consumer package? **03**
b. Describe the various mechanical tests on packages **04**
c. Explain Injection blow molding (IBM) process with neat diagram. Give difference between IBM and EBM **07**
- Q5.a. What are colligative properties? **03**
b. Give properties and applications of Polypropylene (PP) and Polyvinyl chloride (PVC) used in packaging. **04**
c. Define surface treatment. Why polyolefins are irrespective with ink? List the surface treatment process carried out on plastic packaging materials **07**
- OR**
- Q5.a. Define coefficient of friction. **03**
b. Write a note on: Tear strength. **04**
c. Write down the advantages of packaging **07**