

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (NEW) EXAMINATION – WINTER 2021****Subject Code:2172312****Date:25/11/2021****Subject Name:Additives and Compounding of Plastics****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What is the significance of Compounding of Plastics with additives?	03
(b) Give functions and classification of Fillers.	04
(c) Discuss in detail the construction and working of Ribbon Blender.	07
Q.2 (a) Define Chemical and Physical Blowing agents.	03
(b) State the differences between Dyes and Pigments.	04
(c) Explain the construction and working of a High Speed Mixture with a neat diagram.	07
OR	
(c) Define Additives and list various Additives used to modify Optical properties and Mechanical properties.	07
Q.3 (a) What is the function of Impact Modifier? Give suitable example.	03
(b) Describe Antistatic Agent function and explain its uses.	04
(c) Discuss mechanism and types of Antioxidants used for plastics.	07
OR	
Q.3 (a) Describe types of Extruder in short.	03
(b) Define: Lubricants. Explain with suitable examples.	04
(c) List various types of Plasticizers used in plastics and discuss how addition of plasticizer affects Tg of PVC.	07
Q.4 (a) Write a note on: Conductive additives	03
(b) What do you mean by Dispersive and Distributive mixing? Discuss.	04
(c) With help of neat diagram explain the working of a Banbury mixture used for compounding of plastics	07
OR	
Q.4 (a) List the technological requirements of Additives.	03
(b) What is Nucleating agent? Give examples of it	04
(c) Define Heat Stabilizer. Explain role of Stabilizer in PVC in detail.	07
Q.5 (a) Explain the purpose of a Mold Release Agent	03
(b) Which Plastics and additives were used in Plastics Gears and Bottles?	04
(c) Describe the construction and working of a Two Roll Mill.	07
OR	
Q.5 (a) Explain Drum mixer.	03
(b) Describe Additives for Recycling.	04
(c) Give details on use of plastics in Electronics and Telecommunications, Medical and Furniture.	07
