

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019

Subject Code: 2172312

Date: 26/11/2019

Subject Name: Additives and Compounding of Plastics

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.

		MARKS
Q.1	(a) Define: Additives. List the most important additives use for Plastic material.	03
	(b) List and explain in brief about Technical requirement of additives.	04
Q.2	(c) Give detail classification of additives.	07
	(a) Define Chemical and Physical Blowing agents	03
	(b) Define plasticizers. List the function of plasticizers.	04
	(c) Discuss in detail the construction and working of ribbon blender with a neat diagram.	07
OR		
Q.3	(c) Explain about Impact modifier in detail.	07
	(a) Explain the purpose of a mold release agent	03
	(b) Explain continuous and batch type mixing process	04
	(c) Explain the construction and working of banbury mixer with a neat sketch.	07
OR		
Q.3	(a) List the limitations of mixing theory	03
	(b) Short note on Anti blocking agent.	04
	(c) Explain the construction and working of a two roll mill.	07
Q.4	(a) Define nucleating agent. Give examples of it.	03
	(b) Define Anti-oxidant. Explain Polymer oxidation cycle in brief.	04
	(c) Explain Anti-oxidants cycle in detail.	07
OR		
Q.4	(a) Compare: Dyes and Pigments	03
	(b) Explain anti-slip additives with examples.	04
	(c) Explain the construction and working of a high speed mixture with a neat diagram.	07
Q.5	(a) Define compounding. Which are the reasons for compounding?	03
	(b) Define flame retardants? Explain the mechanism of functioning of flame retardants.	04
	(c) Explain about Anti-static Agents in detail.	07
OR		
Q.5	(a) Compare: Additives and Compounding	03
	(b) Write note on conductive fillers	04
	(c) Write a short note on theory of mixing	07
