

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022****Subject Code:2172312****Date:05-01-2023****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.
4. Simple and non-programmable scientific calculators are allowed.

	<b>MARKS</b>
<b>Q.1</b> (a) Write note on conductive fillers	<b>03</b>
(b) Short note on Anti blocking agent.	<b>04</b>
(c) Explain the construction and working of banbury mixer with a neat sketch.	<b>07</b>
<b>Q.2</b> (a) Define compounding. Which are the reasons for compounding?	<b>03</b>
(b) Define flame retardants? Explain the mechanism of functioning of flame retardants.	<b>04</b>
(c) Discuss in detail the construction and working of ribbon blender with a neat diagram.	<b>07</b>
<b>OR</b>	
(c) Define fillers. Give classification and function of fillers in detail.	<b>07</b>
<b>Q.3</b> (a) Define Chemical and Physical Blowing agents	<b>03</b>
(b) Define plasticizers. List the function of plasticizers.	<b>04</b>
(c) List the technological requirements of additives	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Define Impact modifiers. State the function and examples of impact modifiers.	<b>03</b>
(b) Explain anti-slip additives with examples.	<b>04</b>
(c) Explain the construction and working of a high speed mixture with a neat diagram.	<b>07</b>
<b>Q.4</b> (a) Define nucleating agent? Give examples of it.	<b>03</b>
(b) Compare: Dyes and Pigments	<b>04</b>
(c) Define Anti-oxidants. Explain about it in detail	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Define Additives. List the additives use for plastics.	<b>03</b>
(b) Write a short note on theory of mixing	<b>04</b>
(c) Define Heat stabilizer. Explain role of stabilizer in plastic in detail.	<b>07</b>
<b>Q.5</b> (a) List the limitations of mixing theory	<b>03</b>
(b) Compare: Additives and Compounding	<b>04</b>
(c) Give detailed classification of Additives.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) Explain continuous and batch type mixing process	<b>03</b>
(b) Explain the purpose of a mold release agent	<b>04</b>
(c) Explain the construction and working of a two roll mill.	<b>07</b>

\*\*\*\*\*