

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2172303/2172312****Date:14/05/2019****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.

		MARKS
<b>Q.1</b>	(a) Define Additives. List the additives use for plastics.	<b>03</b>
	(b) Compare: Additives and Compounding	<b>04</b>
	(c) Give detailed classification of Additives.	<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) Write note on conductive fillers	<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) 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>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>

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