BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2023)

CLASS: BTECH **SEMESTER : VII**
BRANCH: CHEMICAL ENGINEERING – PLASTICS AND POLYMER **SESSION : MO/2023**

SUBJECT: CL408 ELASTOMER TECHNOLOGY

TIME: 02 Hours **FULL MARKS: 25**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates**

			CO	BL
Q.1(a)	Define the term rubber latex.	[1]	CO1	BL1
Q.1(b)	Outlining the preparation of rubber pale crepe from natural rubber latex with neat process flow diagram.	[4]	CO1	BL2
Q.2(a)	Comparing between gutta percha and natural rubber	[2]	CO1	BL2
Q.2(b)	Categorizing the different form of the natural rubber derived from virgin rubber latex (give example of at least three)	[3]	CO2	BL2
Q.3(a)	Illustrate the need for compounding of raw rubber before curing? Outlining the main compounding ingredients used to give a reasonably good product?	[2]	CO2	BL3
Q.3(b)	Expressing the role of filler in rubber reinforcement. On what basis are the fillers classified?	[3]	CO2	BL2
Q.4(a)	Define the term "vulcanization" in rubber technology.	[1]	CO2	BL2
Q.4(b)	Discuss the various types of sulfur and non-sulfur of vulcanization process.	[4]	CO2	BL2
Q.5(a)	Classify accelerator based on its function. Give example of each category.	[3]	CO2	BL2
Q.5(b)	Demonstrate the degradation of rubber by ozonation. Write the reaction scheme for degradation.	[2]	CO2	BL3

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