

M.Sc Semester-2 Examination

Polymer Science

Second Semester Exam (2024) APRIL

CHEP411 Latex & Foam Technology

Time: 2.5 Hours

Max. Marks 70

General instructions:

1. All questions are compulsory
2. Draw neat figure where ever necessary

Q.1	(a)	Describe comparison for the properties and applications of PVC, PVAc, Acrylic, and Carboxylated SBR.	07
Q.1	(b)	Write in detail the technical properties requires in latex	07
		OR	
Q.1	(a)	Write a note on Neoprene.	07
Q.1	(b)	Discuss modification of NBR with application.	07
Q.2	(a)	Explain in detail machinery is required for latex compounding process with neat diagrams.	07
Q.2	(b)	Discuss in detail about vulcanizing agents.	07
		OR	
Q.2	(b)	Write a note on dispersing & stabilizing agents.	07
Q.2	(a)	Discuss in detail on styrene & vinyl acrylics.	07
Q.3	(a)	What is the role of pH in latex stability and performance? How does pH affect particle size distribution and chemical stability?	07
Q.3	(b)	Discuss Dry Rubber Content (DRC) and Total Solids Content (TSC) in latex formulations. How are these parameters measured, and what do they indicate about the latex composition?	07
		OR	
Q.3	(a)	Explain the mechanical stability testing of latex in detail.	07
Q.3	(b)	What are the factors influencing the size distribution of latex particles. How does size distribution impact product properties and performance?	07
Q.4	(a)	How latex is utilized in adhesives & give its application? What advantages does it offer over other adhesive materials?	07
Q.4	(b)	Discuss manufacturing process of latex coated coir.	07
		OR	
Q.4	(a)	Write a note on latex paints & coatings.	07
Q.4	(b)	Discuss various dipping methods in detail.	07
Q.5		Attempt All	14
	1.	Give two examples of gelling agents.	1
	2.	What is the trade name of Buna-S?	1
	3	What is the name of the tree used to extract latex?	1

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4	What is the significance of latex coating on paper?	1
5	Which production method is employed to manufacture medical gloves?	1
6	Give types of accelerators with examples.	1
7	What is coupling agent?	1
8	Give examples of non-carbon fillers.	1
9	Which substance is incorporated for latex preservation?	1
10	Explain the compounding methods used for Neoprene latex.	1
11	What are the stabilization methods for latex dispersion?	1
12	Explain the significance of latex foam in industrial applications.	1
13	What is the process of electro deposition of latex?	1
14	Differentiate between closed and open cell structures in foam.	1

Best of Luck
