M.SC.-II (Chemistry) (CBCS Pattern) Fourth Semester CBCS PSCHT16.4-Elective - Polymer Chemistry Paper - XVI

P. Pages : 2 Time : Three Hours		2 ree Hours $\star 3548 \star$	GUG/W/18/11463 Max. Marks : 80	
1.	a)	What is ionic polymerization? Derive the rate equation for cationic po	lymerization. 8	
	b)	What is step polymerization? Derive an expression for the degree of polycondensation action reaction.	olymerization 8	
		OR		
	c)	Write a note on electrochemical polymerization.	4	
	d)	Explain chain polymerization.	4	
	e)	Derive an expression for rate of free radical polymerization.	4	
	f)	Compare addition & condensation polymerization.	4	
2.	a)	Explain the techniques of bulk polymerization.	8	
	b)	What are Ziegler & Natta Catalyst? Discuss the mechanism involved i polymerization.	n Z-N 8	
		OR		
	c)	Explain the emulsion polymerization.	4	
	d)	Explain stereospecific polymerization.	4	
	e)	What is interfacial polycondensation.	4	
	f)	Explain coordination polymerization.	4	
3.	a)	Explain applicability of NMR with respect to polymer characterization	n. 8	
	b)	Describe the TGA method for characterization of polymers.	8	
		OR		
	c)	Explain X-ray diffraction method for characterization of polymers.	4	
	d)	Give preparation & properties of graft polymer.	4	
	e)	What is block copolymerization.	4	
	f)	How IR method is used for characterization of polymers.	4	

4.	a)	What is the Biomedical polymer? Describe the dental polymer.	8		
	b)	Explain the processing & applications of polyphosphazenes	8		
OR					
	c)	Explain the artificial kidney.	4		
	d)	Write a note on silicone polymers.	4		
	e)	Write note on co-ordination polymers.	4		
	f)	Give synthesis & application of sulphur containing polymer.	4		
5.	a)	What is ring opening polymerization.	2x8=16		
	b)	Give properties of cationic polymers.			
	c)	Name various phase techniques used for polymerization.			
	d)	Give advantages of suspension polymerization.			
	e)	Write note on DTA method.			
	f)	Explain random polymerization.			
	g)	What is biomedical polymer of contact lease.			
	h)	Give applications of coordination polymer.			
