Bachelor of Science (S.Y.B.Sc.) Fourth Semester B.Sc. 2482 - Biochemistry Paper-II (Biophysical and Biochemical Techniques-II)

P. Pa Time	iges : e : Thr	2 ee Hou	rs * 0 9 9 4 *	GUG/W/18/1281 Max. Marks : 50
	Note	s: 1.	All questions are compulsory and carry equal marks.	
1.		Discus with th	ss the technique of cellulose acetate electrophoresis & high voltage neir applications.	electrophoresis 10
			OR	
		Give a	detailed account of disc gel electrophoresis & its applications.	10
2.		Descri	be the technique of scintillation counter for measurement of radioa	activity. 10
		What	is contrifucation? Discuss the following types of contrifuces	10
		wnat	is centrifugation? Discuss the following types of centrifuges.	10
		1) L	Desk top centrifuge.	
		ii) H	ligh speed centrifuge.	
		iii) U	Iltracentrifuge.	
3.	a)	What	are solubilizers? What is their use in gel electrophoresis?	21/2
	b)	Discus	ss the applications of SDS-PAGE electrophoresis.	21/2
	c)	Give t	he clinical applications of isotopes.	21/2
	d)	Explai	in the term-RPM and RCF. What is their relationship.	21/2
			OR	
	e)	What	is the effect of pH & temperature on electrophoretic mobility?	21/2
	f)	Briefly	y discuss the radioimmunoassay technique.	21/2
	g)	Explai	in the principle of isotopic tracer technique.	21/2
	h)	Write	a note on isopycnic centrifugation.	21/2
4.	a)	Explai	in how the separated components are detected in gel electrophoresi	s. 2 ¹ / ₂
	b)	Descri	be the principle of isoelectric focusing.	21/2

	c)	What is autoradiography? What are its applications?				
	d)	Explain how molecular weight of a molecule is determined by sedimentation velocity method.				
OR						
	e)	Discuss the different types of gels used in gel electrophoresis.				
	f)	Briefly explain how pH gradient is established in isoelectric focusing.				
	g)	Discuss the various types of Geiger-Muller tubes use in measurement of radioactivity.				
	h)	ifferentiate between differential and density gradient centrifugation.				
		Attempt any ten of the following.				
		a) Name the buffer commonly used in paper electrophoresis.	1			
		b) What is zone electrophoresis?	1			
		c) Name the stain which detect protein in electrophoresis.	1			
		d) Give the full form of ELISA.	1			
		e) Give any one application of Isoelectric focusing.	1			
		f) Define immunofluorescence.	1			
		g) What are Cerenkov radiations?	1			
		h) What is the unit of radioactivity?	1			
		i) What are stable isotopes.	1			
		j) What is buoyant density?	1			
		k) What is sedimentation coefficient?	1			
		1) What is the use of counterpoise tube in analytical centrifuge?	1			

5.