M.Sc. (Sem.-I) Examination

Biomedical Technology

December 2018

Time : 2-30 Hours] [Max. Marks : 70

NB: All questions are compulsory. Illustrate your answers with neat diagrams wherever necessary.

Q-1	(A)	Answer the following		
		(i)	Explain briefly various epithelial tissues.	07
		(ii)	Describe the histology of the small intestine.	07
			OR	
		(i)	Discuss the principle and construction of phase contrast Microscope. Mention its applications	07
		(ii)	Explain the instrument and Technique of Epi-fluorescence Microscopy.	07
	(B)	MCQ / SQ (Any Four out of Six)		04
		(i)	What are myoepithelial cells?	
		(ii)	What are paracrine secretions?	
		(iii)	What are goblet cells?	
		(iv)	Define Resolution in Microscope.	
		(v)	Discuss the relationship between Numerical Aperture and resolution.	
		(vi)	Enlist the types of eye pieces in Light Microscope.	
Q-2	(A)	Answer the following		
		(i)	Explain secondary active transport with suitable examples.	07
		(ii)	Give an account on Microfilaments.	07
			OR	
		(i)	Write a note on Cell cycle and its regulation.	07
		(ii)	Give a brief note on GERL system.	07
	(B)	MCQ / SQ (Any Four out of Six)		04
		(i)	What is chromatin?	
		(ii)	Give name of the physical properties of plasma membrane	
		(iii)	What is the diameter of microtubule?	
		(iv)	Name the marker enzyme for mitochondrial inner membrane.	
		(v)	What is microtrabecular lattice?	
		(vi)	Give name of protein molecules involved in formation of F1 subunit.	
Q-3	(A)	Write the following		
		(i)	Explain in detail fundamentals of thin layer chromatography.	07
		(ii)	Describe the columns which are used in Gas chromatography.	07
			OR	
		(i)	Describe in detail working mechanism of HPLC.	07
		(ii)	Discuss the Paper chromatography method.	07
	(B)	MCQ / SQ (Any Three out of Five)		03
		(i)	Define pH	
		(ii)	Name the detectors used in gas chromatography.	
		(iii)	What is resolution in chromatography?	
		(iv)	Give principle of chromatography.	
		(v)	What is capacity factor?	
Q-4	(A)	Write the following		
		(i)	Write a note on Isoelectric focusing	07
		(ii)	Explain density gradient centrifugation	07
			OR	
		(i)	Write a note on myography	07
		(ii)	Explain ultracentrifugation	07
	(B)	MCQ / SQ (Any Three out of Five)		03
		(i)	What is the relation between g and rpm?	
		(ii)	Give full form of SDS-PAGE.	
		(iii)	How sonography works?	
		(iv)	What is the use of agarose electrophoresis?	
		(v)	What is the use of TEMED and APS?	