



## **BRAINWARE UNIVERSITY**

## Term End Examination 2023-2024 Programme – B.Sc.(MLT)-2020/B.Sc.(MLT)-2021 Course Name – Special Techniques in Laboratory Science Course Code - BMLT603 ( Semester VI )

Full	Marks: 60	Time : 2:30 Hou		
ľ	The figure in the margin indicates full marks. Can own words as fai	didates are required to give their answers in their		
		Service Processor Control		
	Grou	A-qı		
1.	(Multiple Choice Choose the correct alternative from the following	Type Question) 1 x 15=15		
(i)	In gas chromatography, the basis for separation material is the difference in	of the components of the volatile		
	a) Partition coefficients c) Molecular weight	b) Conductivity d) Molarity		
(ii)	(ii) Identify the spectroscopy technique is working on principal of the emissions radiation?			
(iii)	<ul><li>a) Flame photometry</li><li>c) UV spectroscopy</li><li>The most abundant immunoglobulin class in se</li></ul>	b) Mass spectroscopy. d) All of these rum is		
(iv)	a) IgG c) IgM Chromogen involves:	b) IgE d) None of these		
(v)	<ul><li>a) Antigen antibody interaction</li><li>c) Epitope Paratope interaction</li><li>Epitope signifies:</li></ul>	b) Enzyme substrate complex d) All of the these		
1	<ul><li>a) Antibody binding site</li><li>c) Antigen-antibody interaction</li><li>Which of the following types of spectroscopy of framework of an organic compound?</li></ul>	b) Antibody binding site d) All of these an tell us the most about the carbon		
(vii)	<ul><li>a) UV-visible spectroscopy</li><li>c) NMR spectroscopy</li><li>In flow cytometry which of the combination is</li></ul>	b) Infra-red spectroscopy d) Mass spectrometry impossible?		
(viii)	<ul><li>a) Both the labeled antigens in same particle</li><li>c) One of the labeled antigen</li><li>Chosse the fluorescent dye can be used for red</li></ul>	b) None of the labeled antigens on a particle d) All can be true fluorescence?		
	a) Rhodamine	b) Fluorescein		

d) DAPI

c) Carmine

(ix)	There are two types of scattering in FACS		
	a) Forward scattering	b) side scatter	
(x)	c) Backward scatter The half life of a radioisotope is	d) Both and b	
	a) half the time taken for complete decay	b) half the time taken for half the de	ecay
(xi)	c) time taken for complete decay Rem refers to	d) time taken for half the decay	
	a) biological damage measurement caused by radiation	b) water content measurement in hu	ıman
(xii)	c) Electrolyte measuement in body Bacquerel is a	d) None of these	
	a) unit of light energy	b) unit of radioactivity	
/v:::	c) Types of radiation	d) half-life of radioisotope	
(XIII	Place the following reactants in their proper or enzyme-linked antibody 2 = known antigen 3 =	patient serum 4 = substrate	
	a) 2413	b) 3214	
lviv	c) 1432	d) 2314	
(XIV	) Isoenzymes be separated by	b) Gel electrophoresis and lon exchai	nge
	a) Column chromatography and Ion exchange chromatography.	chromatography	
	<ul> <li>c) Gel electrophoresis and Column chromatography.</li> </ul>	d) Electron Microscopy	
(xv)	Name the type of density gradient centrifugation	on used for?	
	<ul> <li>a) Purification of viruses, ribosomes, and membranes</li> </ul>	b) To remove small particles	
	c) To remove dirt	d) To get rid of big particles	
	Grou	ір-В	
	(Short Answer T	ype Questions)	3 x 5=15
		gation	(3)
	2. Compute the principle of density gradient centrifugation 3. Explain the principle of FACS		(3)
	ifferentiate between GPC and GC xplain the diagnosis of thalassemia using HPLC Te	a a h m i m u a	(3)
6 A	nalyze the various detection methods used in HP	ecnnique.	(3)
d	isadvantages.	ce and their advantages and	(3)
Ir	OI an experiment sample A and B containing geno		4-1
s	pectrometry at 540 nm wavelength. Analyze the	result	(3)
	Grou	p-С	
	(Long Answer Ty	rpe Questions)	5 x 6=30
7.	Illustrate the principle of AGAROSE GEL electrophisignificance.	noresis process and indicate its	(5)
8. 1	Evaluate the half-life hours of Technitium-99m ha	as decay constant of 3 2×104 E/c	(5)
9. 1	Deduce the mathematical expression of RCF and	Explain why it is unitless	(5) (5)
10. 1	Predict the advantages of using HPLC for thalasse ${\sf methods}$ ?	emia detection compared to other	(5)
11. I	nterpret whether paper chromatography be use	d for blood storage purpose?	(5)
12.	n case of Reverse phase chromatography the elucolarity justify with proper explanation.	ite molecules are separated based on the	neir (5)

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