



BRAINWARE UNIVERSITY

Term End Examination 2023-2024 Programme - B.Sc.(MLT)-2019/B.Sc.(MLT)-2021 Course Name – Cytopathology Course Code - BMLT502 (Semester V)

Time: 2:30 Hours Full Marks: 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

- Choose the correct alternative from the following:
- (i) In Papanicolaou staining, what color do RBCs typically appear under the microscope?
 - a) Blue

b) Pink

c) Green

- d) Brown
- (ii) What is the purpose of using a cryoprotectant, such as OCT compound, in Cryostat sectioning?
 - a) To prevent tissue freezing

- b) To enhance tissue sectioning
- c) To protect tissue morphology during freezing
- d) To speed up the freezing process
- (iii) What is the primary advantage of Cryostat sectioning in comparison to traditional paraffin sectioning?
 - a) Faster processing time

- b) Longer storage capability
- c) Easier sectioning of hard tissues
- d) Higher quality staining
- (iv) What is the significance of primary antibodies in immune cytochemistry?
 - a) They produce a visible signal.
- b) They directly bind to antigens of interest.
- c) They amplify the detection signal.
- d) They label cellular structures with fluorescent tags.
- (v) What is the significance of identifying pus cells and epithelial cells in urine microscopic analysis?
 - a) To determine urine color

- b) To assess kidney function
- c) To diagnose urinary tract infections
- d) To measure urine pH
- (vi) A patient presents with chest pain and shortness of breath. Pericardial fluid analysis reveals a high count of pus cells. Choose what condition is most likely affecting this patient?
 - a) Kidney stones

b) Pericarditis

(vii)	c) Diabetes Which of the following is NOT a commonly used	d) Asthma enzyme in enzyme cytochemistry?	
(*,	a) Horseradish peroxidase (HRP) c) Catalase	b) Alkaline phosphatase (AP) d) DNA polymerase	
(viii)	What is the primary function of pleural fluid?		
	a) Lubricate the heart	b) Lubricate the abdominal organs	
	c) Facilitate lung expansion and reduce friction	d) Aid in digestion	
(ix)	Which condition is characterized by the accumulato compression of the heart?	ation of excessive pericardial fluid, leading	
	a) Pericarditis	b) Pericardial effusion	
	c) Pericardial tamponade	d) Pericardial rupture	
(x)	What is the role of a slide scanner in automation	-assisted cytology?	
	 a) To transport and load slides onto a robotic slide loader 	 b) To interpret cytology slides using artificial intelligence 	
	 c) To digitize and capture images of cytology slides 	d) To prepare liquid-based cytology (LBC) slid	es
(xi) Which of the following is NOT typically found in p	oleural fluid?	
	a) Protein	b) White blood cells	
	c) Platelets	d) Glucose	
(xi	 i) Illustrate the appearance of CSF under normal corepresentation. 	nditions. Choose the most accurate	
	a) A clear, colorless liquid	b) A thick, yellow substance	
	c) A cloudy, pinkish fluid	d) A greenish, foul-smelling liquid	
(xi	ii) Which of the following is NOT a benefit of autom	ation in cytology laboratories?	
	 a) Improved accuracy and reproducibility of results 	 b) Reduced labor costs and workload for cytotechnologists 	
	c) Faster turnaround time for reporting results	d) Increased requirement for manual sample processing	
(xi	v) Which condition is characterized by the accumulation fluid with high protein content?	ation of a clear, straw-colored pericardial	
	a) Pericardial tamponade	b) Viral pericarditis	
0.0	c) Cardiac tamponade	d) Pericardial effusion due to malignancy	
(x	 Isosthenuria is a condition in which urine specific choose common underlying cause of isosthenuria 		
	a) Dehydration	b) Overhydration	
	c) Kidney dysfunction	d) Urinary tract infection	
	Grou	n.D	
	(Short Answer T		_1 [
	The State of the S	ype Questions) 3 x 5:	=15
2.	Write a short note on liquid based cytology.	(2)	
	What does FNAC stand for?	(3)	
4.	Define Enzyme Cytochemistry.	(3)	
5.	Interpret the primary objectives of automation in cy	rtology? (3)	
	Provide a brief overview of the Cryostat.	(3)	
	OI	(3)	
	Conclude the result of Papanicolaou stain	After the second of the second	

Group-C

(Long Answer Type Questions)	5 x 6=30
 Contrast between different types of cytological technique. Categorize different components of the Cryostat-Microtome with Their Uses. Explain the principle and procedure of cytospin technique. Summarize the formation and circulation of CSF. List some of the identifying characteristics of malignant cells. Write short notes on Automatic Tissue Processor. 	(5) (5) (5) (5) (5)
OR Summarised the procedure of Pap stain.	(5)