

BV (4/CBCS) MLT/MDT VC 3

2024

MEDICAL LAB & MEDICAL LABORATORY TECHNICIAN / MOLECULAR DIAGNOSTIC TECHNOLOGY

QP : Medical Laboratory Technician

Paper : MLT-VC-4036/MDT-VC-4036

(**Pathology-IV**)

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Fill in the blank : 1×7=7

(a) In cytopathology, the term 'FNA' stands for _____.

(b) The term 'cytoplasmic vacuolization' refers to the presence of _____ within the cytoplasm of cells.

(c) In breast FNAC, a smear showing cohesive clusters of cells with round to oval nuclei and scant cytoplasm is suggestive of _____.

- (d) The minimum age requirement for blood donation in most countries is typically _____ years.
- (e) The Coombs' test is commonly employed in the diagnosis of _____ hemolytic anemia.
- (f) The genes encoding HLA antigens are located on chromosome _____.
- (g) Patients undergoing autologous transfusion may undergo _____ to optimize their red blood cell levels before donation.

2. Answer the following questions :

2×4=8

- (a) Discuss the importance of blood donor selection in transfusion medicine.
- (b) Describe one precaution to be taken for gynecological sample collection.
- (c) Define immuno-haematology and its significance in blood banking.
- (d) What are the primary anticoagulants used in blood banking?

(3)

3. Answer any *three* of the following questions :

5×3=15

- (a) Describe the ABO blood group system in detail, including its subgroups and clinical implications.
- (b) Explain the role of blood containers, anticoagulants and storage conditions in maintaining blood quality. 2+2+1=5
- (c) Discuss the significance of autologous transfusion in clinical practice.
- (d) Explain the significance of fine needle aspiration in the diagnosis of thyroid nodules.
- (e) Explain the procedures for specimen collection and transportation in both gynecological and non-gynecological samples.

4. Answer any *three* of the following questions :

10×3=30

- (a) Discuss the organization, standards, procedures, techniques and quality control measures in a blood bank. 1+2+3+2+2=10
- (b) Describe the role of HLA antigens in immune response and their significance in tissue transplantation. How does HLA matching impact transplant success rates? 5+3+2=10

- (c) Discuss the purpose and procedure of autologous transfusion in detail. 10
- (d) Describe the staining technique used in Papanicolaou stain and its significance in cytology. 7+3=10
- (e) Explain the methodology used for identifying blood groups, highlighting the importance of accurate blood typing in transfusion medicine. 6+4=10
- (f) Explain the procedure and significance of the Coombs' test in blood banking. 6+4=10
