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Barasat, Kolkata -700125



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – DMLT-2023

Course Name – Histopathology & Blood Banking

Course Code - DMLT401

(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[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

1. Choose the correct alternative from the following :

- (i) Identify the most commonly used Fixative in tissue fixation-.
 - a) Zenkers Fluid
 - b) Formalin Sublimate
 - c) 10% Formalin
 - d) Alcohol
- (ii) Select the mismatch type of tissue for Decalcification-.
 - a) Calcified Tissue
 - b) Fibrous tissue
 - c) Bone
 - d) Teeth
- (iii) Which following stain is used to observe Fungi & Intracellular Parasite ?
 - a) PAP Stain
 - b) PAS Stain
 - c) VG Stain
 - d) Reticulin Stain
- (iv) Identify the preferable size of Section for Microtomy-.
 - a) 1-2 μ
 - b) 3-5 μ
 - c) 10-15 μ
 - d) 7-8 μ
- (v) Honing represents-.
 - a) Polishing of Knife
 - b) Cutting of blade
 - c) Sharpening of Knife
 - d) Cutting of blocks
- (vi) In PAS Stain, Haematoxylin is related to _____.
 - a) Primary Stain
 - b) Mordant
 - c) Decolourizer
 - d) Counter Stain
- (vii) PAS Stain is not used to determine _____.
 - a) Polysaccharide
 - b) Mucoprotein
 - c) Fat
 - d) Mucin
- (viii) What is Sudan IV stain primarily used for?
 - a) Staining carbohydrates
 - b) Detecting Lipids
 - c) Identifying nucleic acids
 - d) Staining Protein
- (ix) What is the shelf life of stored whole blood in CPDA-1 anticoagulant?

- a) 7 Days
c) 35 Days
- b) 21 Days
d) 42 Days
- (x) Which component of CPD anticoagulant prevents coagulation by chelating calcium?
a) Citrate
c) Dextrose
- b) Phosphate
d) Adenine
- (xi) Choose the temperature required for the preservation of Random Donor Platelets.
a) 1-2°C
c) 24°C
- b) 2-6°C
d) 37°C
- (xii) Which method is commonly used to separate blood components in blood banking?
a) Separation
c) Autoclaving
- b) Centrifugation
d) Filtration
- (xiii) Which of the following blood components does NOT require crossmatching before transfusion?
a) Packed RBCs
c) Platelets
- b) Plasma Cells
d) Granulocyte Concentrate
- (xiv) What is the shelf life of Fresh Frozen Plasma (FFP) when stored at -18°C or lower?
a) 3 months
c) 1 year
- b) 6 months
d) Indefinite
- (xv) What is the basis of blood group determination in the ABO system?
a) Type of hemoglobin
c) Shape of red blood cells
- b) Presence or absence of specific antigens on red blood cells
d) Level of iron in the blood

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define Fixative. Classify Fixative. (3)
 3. Bring the Section down to distilled water - Conclude the importance and mention the steps of the phrase. (3)
 4. Conclude the purpose and mechanism of Periodic Acid Schiff Stain. (3)
 5. Discuss about different Blood components on the basis of their storage and shelf life. (3)
 6. What is the routine Stain done in Histopathology Laboratory? How can it be performed ? (3)
- Conclude the result for interpretation.

OR

Predict the possible type of genotypes in case of A, B, AB and O blood group individually. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Prepare a list and create a comparison among different Stains used on Histopathology Laboratory on the basis of their Purpose and Mechanism. (5)
8. Analyze the parameters for selecting ideal blood donors. (5)
9. Classify the different types of Blood Donation. (5)
10. Describe the steps involved in tissue processing for formalin-fixed paraffin-embedded (FFPE) samples. What is the significance of each step in preparing tissue for histological examination? (5)
11. Name the stain that preserves the structure of Collagen and Smooth muscle. Outline the staining procedure. (5)
12. Provide a brief knowledge on TTIs. How would you perform those tests in Laboratory? (5)

OR

How would you perform Cross-matching before Blood transfusion? (5)