



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(MLT)-2022/B.Sc.(MLT)-2023

Course Name – Immuno Hematology, Blood Banking & Blood Transfusion

Course Code - BMLTC601

(Semester VI)

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) State the correct temperature for storing Fresh frozen plasma for a period of 5 years.
 - a) at -70 degree celcius
 - b) at -4 degree celcius
 - c) at -20 degree celcius
 - d) at room temp.
- (ii) Select the correct term to describe the process of separating blood components during donation.
 - a) cytapheresis
 - b) plasmapheresis
 - c) Apheresis
 - d) Leukapheresis
- (iii) Which test should be done to best confirm an incompatible blood transfusion reaction?
 - a) Indirect Coombs test
 - b) Direct Coombs test
 - c) Du test
 - d) none of these
- (iv) How long days can whole blood be stored with CPDA?
 - a) 12 days
 - b) 21 days
 - c) 35 days
 - d) 48 days
- (v) Identify which of the following is the least likely complication after massive blood transfusion?
 - a) Hyperkalemia
 - b) Hypothermia
 - c) Citrate toxicity
 - d) Metabolic Acidosis
- (vi) After a blood transfusion, the febrile non-hemolytic transfusion reaction (FNHTR) occurs due to _____.
 - a) Alloimmunization
 - b) Antibodies against donor leukocytes and HLAAg
 - c) Allergic reaction
 - d) Anaphylaxis
- (vii) Cryoprecipitate contains all the blood coagulation factors except _____.
 - a) Factor VIII
 - b) Factor X
 - c) Fibrinogen
 - d) Von Willebrand factor
- (viii) Which antibodies are found in plasma of a person with type A blood?

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- a) anti-A, but not anti B
c) both anti-A and anti B
- b) neither anti-A nor anti B
d) anti-B, but not anti-A
- (ix) Which of the following is a room temp reactive antibody?
a) Anti Le
c) Anti c
b) Anti Jk
d) None of these
- (x) Which component is obtained by centrifuging whole blood at a light spin ?
a) RDP
c) Platelet Rich Plasma
b) Cryoprecipitate
d) Platelet Poor Plasma
- (xi) A patient with blood group O is mistakenly transfused with AB blood. What is the likely consequence?
a) No reaction, as O is a universal donor
c) Severe hemolytic transfusion reaction
b) Mild allergic reaction
d) No effect due to the Rh factor
- (xii) Which test is performed before blood transfusion to ensure donor and recipient compatibility?
a) Coomb's test
c) ELISA
b) Cross-matching
d) Bleeding time test
- (xiii) A patient undergoing a blood transfusion experiences fever and chills. The cross-match test was negative before transfusion. What is the most likely cause?
a) Febrile non-hemolytic transfusion reaction
c) Iron overload
b) ABO incompatibility
d) Clotting factor deficiency
- (xiv) Which blood component is separated using a platelet-rich plasma (PRP) method?
a) Packed red blood cells
c) Fresh frozen plasma
b) Whole blood
d) Random donor platelets
- (xv) A patient requires a platelet transfusion. Which blood bag system is most suitable for platelet separation?
a) Single blood bag
c) Triple blood bag
b) Double blood bag
d) Quadruple blood bag

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Apply the concept of secretor status to predict Lewis blood group phenotypes. (3)
3. Briefly differentiate Cold and warm antibodies. (3)
4. Briefly discuss about Random Donor Platelet (RDP). (3)
5. What is LISS, and what is its purpose in blood bank ? (3)
6. Analyze why anti-D antibodies are more immunogenic than antibodies against other Rh antigens. (3)

OR

Differentiate between Major and Minor Crossmatch techniques. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss about Cryoprecipitate detailing its preparation techniques and exploring its therapeutic applications. (5)
8. Justify the Frequency of testing performance of transmission diseases in blood bank. (5)
9. Create a comprehensive evaluation strategy for assessing the quality of whole blood stored in a blood bank intended for transfusion. (5)
10. Define blood substitutes. Explain their importance and applications in modern medicine. (5)
11. Examine the biochemical composition of CPDA and explain how each component contributes to blood preservation. (5)
12. Compare and contrast acute hemolytic transfusion reactions and delayed hemolytic transfusion reactions. (5)

OR

Analyze the different types of blood bags used in blood banking and their specific applications.

(5)

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