



NAM-003-038401

Seat No. _____

**B. Voc. (Medical Laboratory & Molecular
Diagnostic Technology) (Sem. IV) Examination**

March / April - 2017

MLMDT-4.1 : Immunohematology & Blood Banking

Faculty Code : 003

Subject Code : 038401

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) The paper is divided in two sections.
(3) Figures on right indicate marks.

SECTION - I

- 1 Answer the following questions : **20**
- (1) Define an antigen.
 - (2) What do you mean by agglutination reaction?
 - (3) Give one example of enzyme used in ELISA test.
 - (4) Enlist the genes responsible for ABO antigen on RBC.
 - (5) Mention the Antibody present in plasma of Bombay blood group person.
 - (6) What is the chemical nature of ABO antigens?
 - (7) Peripheral smear findings in case of HDN.
 - (8) What is exchange blood transfusion?
 - (9) What is full form of TRALI?
 - (10) Write any two anticoagulants used in blood bank.
 - (11) Describe use of blood collection monitor.
 - (12) What is adverse donor reaction?

- (13) What is apheresis?
- (14) Universal color coding for Antisera-D is.....
- (15) Time - Temperature - Pressure ration for autoclave is
- (16) Full form of QMS.
- (17) Define cryoprecipitate.
- (18) Give example of high resolution HLA typing technique.
- (19) What is the major role of HLA antigens ?
- (20) What is the shelf life of leucocyte poor red cell concentrate?

SECTION - II

2 (a) Answer in brief : (any 3) **3×2=6**

- (1) Enlist the types of ELISA test.
- (2) What is Bombay blood group?
- (3) Write the use of FFP.
- (4) Name two methods for Hb estimation in blood bank.
- (5) Write the mandatory tests of donated blood.
- (6) Write the use of tachometer.

(b) Answer in brief : (any 3) **3×3=9**

- (1) Discuss Rh blood grouping technique.
- (2) What is the shelf life of various blood components?
- (3) Types of blood bags used in blood bank.
- (4) Write a brief note on structure of MHC Class I and II molecules.
- (5) Write advantages and disadvantages of Crystalloid, albumin and plasma as replacement fluid.
- (6) What is NAT? Write its importance.

(c) Answer in brief : (any 2) **2×5=10**

- (1) Describe mandatory transfusion transmitted infections detection methods in India.
- (2) Discuss Forward blood grouping system.
- (3) Describe blood donor screening criteria.
- (4) Write the importance of Coomb's test.
- (5) Write a note on cryoprecipitate preparation and its uses.

3 (a) Answer in brief : (any 3) **3×2=6**

- (1) Give universal color coding for Anti-A, Anti-B and Anti-D.
- (2) What is the type of antibody A and B and Rh antibody?
- (3) Four name of infections transmitted via blood.
- (4) Write briefly about Pooled random donor platelet concentrates.
- (5) Write in brief about DP-DQ gene families

(b) Answer in brief : (any 3) **3×3=9**

- (1) Write method to identify D^U variant.
- (2) What are the hazards of blood transfusion?
- (3) What are the possibilities of blood group in children with mating of A/O with B/O genotype?
- (4) Describe various departments of blood bank.
- (5) Write about importance of patient history and medication before Apheresis.
- (6) Write a brief note on PCR with Sequence specific oligonucleotide probe(SSOP) for HLA compatibility.

(c) Answer in brief : (any 2)

2×5=10

- (1) Describe Cross-matching techniques.
 - (2) Basic investigation in case of blood transfusion reaction.
 - (3) Write a note on Apheresis procedure.
 - (4) Describe categories of BMW as per biomedical waste management rules-2016.
 - (5) Describe Microlymphocytotoxic test along with its Pros and Cons.
-