



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS 10M)

AML 2353 : BLOOD TRANSFUSION

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: JULY 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this examination

- *Answer booklet*

This paper consists of **TWO** sections.

Answer all questions in **Section A** and **B**. $\frac{1}{2}$ marks deducted for any wrong answer in **Section A**.

*This paper consists of **6 PRINTED** pages*

SECTION A (40MARKS)

1. Blood components prepared by centrifugation are referred to as?
 - a) Plasma derivatives
 - b) Wet products
 - c) Fractional products
 - d) Labile products

2. The following are not reasons for storage of RBC at 4°C
 - a) Provision of nutrients
 - b) Stoppage of clotting
 - c) Reduction of bacterial growth
 - d) Reduction of metabolic rate of RBCs

3. The following is a standard procedure for the transfusion of blood products
 - a) Transfusion must be within 4 hours after seal is broken
 - b) Plasma is not thawed before transfusion
 - c) Whole blood is always transfused when packed cells are requested.
 - d) Red cells are warmed to 37°C before transfusion

4. The laboratory request form should contain the following
 - a) Technologist signature
 - b) Reason for transfusion
 - c) Donor number
 - d) Units of blood products required

5. The following are indications for exchange transfusion except
 - a) Neonatal Jaundice
 - b) ABO HDNB
 - c) Rh HDNB
 - d) Elective surgery

6. The following blood is suitable for transfusion to neonates
 - a) Aged blood above 21 days can be used
 - b) Blood should not be more than 7 days old
 - c) Blood should be compatible with maternal serum
 - d) Blood should be compatible with fathers serum

7. Test for suitability of serum for blood grouping include the following
 - a) Affinity
 - b) Availability
 - c) Avidity
 - d) Rapidity

8. The following may disqualify one from being a donor
 - a) Old age
 - b) Underage
 - c) Sound mind
 - d) Unsound mind

9. Antibody titre in sensitized individuals may ?
 - a) Peak only after 72hours
 - b) Not peak before 6 hours
 - c) Not rise with secondary sensitization
 - d) Not need primary sensitization

10. The following is true of avid sera
 - a) React within 2 -15 seconds of antigens contact at 37°C only
 - b) React within 2-15 seconds at room temperature
 - c) React within 2-15 seconds at the respective temperature
 - d) React within 2-15 seconds in special circumstances only

11. Antibody titre that are recommended for blood grouping sera include the following
 - a) Anti A 1: 512
 - b) Anti B 1: 512
 - c) Anti A 1:256
 - d) Anti D 1: 256

12. Anti sera label (lids) are colour coded as follows
 - a) Anti -A : Trypan blue
 - b) Anti-B : Acriflavine
 - c) Anti-D: Grey
 - d) Anti-E : Sky blue

13. The following statements are true for Rh anti D
 - a) A titre of 1:8 in mothers may not result in HDNB
 - b) It is a warm incomplete antibody
 - c) It is cold albumin reacting antibody
 - d) A titre of 1:16 may result in HDNB

14. Normal errors in blood group serology may be due to?
 - a) Mislabeling
 - b) Auto antibodies
 - c) Specific antibodies
 - d) Dirty tubes

15. The following is true in the reverse grouping (ABO)
- Isohemolysins hemolysins Anti-A and Anti-B always agglutinate red cells
 - Isohemolysins hemolysins Anti-A and anti B may hemolyze cells with complement
 - A pink supernatant after initial spin indicates absence of agglutins
 - Known serum is used to detect unknown antibodies
16. The following is (are) true concerning the D^u test
- It is performed to detect weak and or partial Rh D antibodies
 - It is performed to detect weak Rh D antigens
 - It is performed on all Rh D negative individuals
 - It is an indirect antiglobulin test
17. Reasons for performance of the six tube technique at all times include the following except?
- Detection of weak antigens
 - Disagreement between serum and cell grouping is observable
 - It is not possible to have rouleaux factors
 - It is possible to detect autoantibodies
18. Lectins are important in blood grouping, the following have blood grouping A1 specificity
- Banderea simlicifolia
 - Ulex europaeus
 - Dolichos biflaras
 - Vicia cracca
19. The chromosome where the ABO genes are mapped is?
- Chromosome 9
 - Chromosome 6
 - Chromosome 1
 - Chromosome 11
20. Genes that govern antibody production are mapped on chromosomes?
- 2,11 and 22
 - 2,14 and 11
 - 2,22 and 11
 - 22,2 and 14
21. Persons having homozygous recessive gene h
- Can make antibody H
 - Cannot make antigen A
 - May have Lewis antigens in their serum
 - May not have Lewis antigens in their serum

22. Rh blood group genes include the following
- RHAG
 - RHCE
 - RHD
 - RHE
23. The following is true concerning the ISBT (international Society for blood transfusion) nomenclature.
- It does not adopt the Rosenfield nomenclature for phenotyping
 - It uses numerical to account for both blood group genes and antigens
 - Any new antigens are placed in a unique series before confirmation.
 - It is based on the Weiner notation
24. Other than their antigenicity Rh blood group antigens are classified as?
- Transporters and channels
 - Complement regulators
 - Carbohydrates
 - Adhesion and receptors
25. Transfusion reactions involve the following except?
- Antigen- antigen binding
 - Antibody – antibody binding
 - Antigen – antibody binding
 - Autoantibody – antigen binding.
26. Untoward effects of blood donation may result in the following
- Haemolytic anaemia
 - Arterio – venous fistula
 - Asphyxia
 - Fear
27. Donated blood if refrigerated may result in the following except?
- Activation of compliment factors
 - Preservation of red cells
 - Inactivation of macrophages
 - Preservation of labile factors

SECTION B ESSAY (60MARKS) Answer all questions

Question ONE

Describe cold chain equipment and the management of blood banks in transfusion practice

(20marks)

Question TWO

a) Describe the procedure for antibody screening test

(10marks)

b) List item that must be included in the blood compatibility label

(10marks)

Question THREE

a) Outline the laws of inheritance attributable to the ABO blood group system

(10marks)

b) List FIVE plasma derivates

(5marks)

c) List FIVE registers that are important to keep in the blood transfusion centre.

(5marks)