



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR:
DIPLOMA IN MEDICAL LABORATORY SCIENCE
AML 2304 : BLOOD BANKING AND TRANSFUSION PRACTICE
END OF SEMESTER EXAMINATION
SERIES: DECEMBER 2016
TIME: 2 HOURS
DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO** Section(s). Attempt ALL questions.

Circle the correct answer in section A.

Section A

1. The following are specific areas for training of laboratory personnel in the blood bank except
 - a. Antibody screening
 - b. Component preparation
 - c. Issue of blood products
 - d. Tissue banking
2. The following is true concerning organization of blood transfusion services in various countries
 - a. No more than two types of organizations can exist in one country
 - b. All types of organizations can coexist in a country
 - c. Organizations dealing with blood services need not be registered
 - d. Only red crescent organization is allowed in Islamic countries
3. Levels of blood transfusion service include the following except?
 - a. Basic full-range
 - b. Advanced service
 - c. Highly active

- d. Highly productive
4. The technical director in the blood bank service must have the following
 - a. Post graduate training in medicine
 - b. Post graduate training in transfusion science
 - c. MLS training
 - d. Training in medicine
 5. The Donor Health Assessment Questionnaire is divided into the self administered section and the _____ section
 - a. Health care provider assisted
 - b. Donor panel organizer assisted
 - c. Counseling section
 - d. Recovery section
 6. Estimation of donor requirements in a country may be done using the following
 - a. Acute beds
 - b. Total hospital beds
 - c. None-fixed percentage
 - d. Fixed percentage
 7. Blood may be stored in one of two ways. Which of the following is true?
 - a. Only freezers are used for storage of blood
 - b. Walk in cool rooms cannot be used for blood storage in Kenya
 - c. Blood products are only stored in fridges
 - d. Walk in cool rooms maximize space and have higher storage capacity
 8. The following is not an item for disposal consideration in the blood bank
 - a. Blood past use by date
 - b. Contaminated blood samples
 - c. All blood held in quarantine
 - d. Contaminated blood held in quarantine
 9. The following is true about quarantined blood
 - a. Freezer room capacity must be 7times the average daily collection
 - b. All blood must be held in temperature controlled storage
 - c. Cool rooms must have 2.5times the daily collection capacity
 - d. Quarantine is done immediately blood enters the collection center
 10. Functional considerations for the processing area includes the following except?

- a. Separate male and female toilets
 - b. Component preparation ‘
 - c. Courier waiting area
 - d. Process managers office
11. The following are carried out in the blood donor laboratory except?
- a. Infectious disease markers
 - b. Crossmatch
 - c. Haemopoietic stem cell processing
 - d. Cord blood processing and storage
12. Adverse reactions may most likely occur in neonates than in adults because?
- a. Immune system of the neonate is well developed
 - b. Adult immune system is well developed
 - c. Neonates are protected by maternal IgA
 - d. Adults have lower immunity
13. Adverse reactions are commonly as a result of the following error
- a. Technical error
 - b. Storage error
 - c. Clinicians error
 - d. Clerical error
14. In ABO incompatibility, the following statements are true
- a. 90% of incompatible cells are destroyed within 2minutes of infusion
 - b. No hemoglobin is noticeable in plasma after infusion
 - c. Blood group O does not lead to incompatibility
 - d. AB bloods cannot be transfused at any time
15. The half-life of free Haptoglobin is?
- a. 30minutes
 - b. 7minutes
 - c. 5days
 - d. 1 day
16. Visual inspection of post-transfusion plasma will generally detect?
- a. Complement fixation
 - b. Agglutination
 - c. Hemolysins

- d. Dialysis
17. Extravascular clearance refers to?
- a. Complement fixation
 - b. Involvement of the liver and spleen in Ab-Ag clearance
 - c. Opsonization
 - d. Macrophage activation
18. Hemolytic disease of the new born occurs when?
- a. Increased RBC lifespan
 - b. Decreased RBC life span
 - c. Accelerated Red Cell destruction
 - d. Increased Red Cell Growth
19. The following proteins are present in plasma and normally bind haemoglobin split products
- a. Ahaptoglobin
 - b. Hemopexin
 - c. Albumin
 - d. Prothrombin
20. IgG class of antibodies commonly associated with haemolytic disease include the following except?
- a. IgG 1
 - b. IgG 2
 - c. IgG 3
 - d. IgG 4
21. The reaction of foetal blood cells with antiglobulin during Rh haemolytic disease is?
- a. Indirect
 - b. Negative
 - c. Neutral
 - d. Direct
22. Severe haemolytic disease is characterized by the following
- a. Indirect bilirubin levels greater than 4.5mg/dl
 - b. Cord haemoglobin levels greater than 11gms/dl
 - c. Cord haemoglobin levels greater than 11gms/dl
 - d. Direct bilirubin less than 4gms/dl
23. The following is true concerning platelet involvement in severe Haemolytic disease
- a. Thromboasthenia

- b. Thrombocytopenia
 - c. Thrombocytosis
 - d. Thromocytorthemia
24. Clinically stable patients with severe anaemia require the following
- a. Mandatory plasma transfusion
 - b. Mandatory red cell transfusion
 - c. Clinical observation and stabilization
 - d. Mandatory volume expansion
25. The following is true concerning therapeutic use of blood
- a. Blood is used as a cure for hypovolemic shock
 - b. Respiratory distress is cured by blood transfusion
 - c. It is important to investigate and treat underlying causes
 - d. Prevention of underlying causes of anaemia increase the need and use of blood
26. The first treatment for hypotension, shock or acute blood loss should be ?
- a. Infusion of normal saline
 - b. Packed red cells
 - c. Whole blood
 - d. Colloid solution
27. The following are true concerning transfusion in neonates
- a. A dose of 15ml/kg body weight increases Hb by 3gram/dL
 - b. Preterm babies may not require transfusions
 - c. Blood donation does not increase infectious disease risk
 - d. A dose of 15ml/kg body weight increases Hb by less than 1gram/dL
28. The following are functions of the hospital transfusion committee except?
- a. Ensure staff education on blood use
 - b. Monitor the hospital blood transfusion practices
 - c. Develop national transfusion guidelines
 - d. Monitor and investigate adverse reactions
29. Uncrossmatched blood may be given in the following conditions
- a. After the first 12 units
 - b. Three days after massive transfusion
 - c. In case of emergency
 - d. When donor blood is 'O' Rh D negative

30. Adverse reactions associated with transfer of blood tissue within species mostly affect?
- Neonates
 - Chimeric twins
 - Adults
 - None of the above
31. The following are clinical symptoms associated with acute intravascular transfusion reactions
- Shock and circulatory collapse
 - Haptoglobin depletion
 - Anuria and or Oliguria
 - Arterio-venous fistula
32. Laboratory investigation of transfusion reactions include the following except?
- Repeat ABO and Rh testing
 - Repeat crossmatch with implicated units
 - Discard all crossmatch tubes
 - Retain all samples
33. Anticoagulants used in blood transfusion practice contain the following
- Phosphates
 - Acidic citrate
 - Galactose
 - 2,3-diphosphoglycerate
34. After breaking the seal for all blood components,
- They should be returned to the Lab and restored
 - They should be used within 4hours
 - They should be warmed to 37⁰C
 - They should be transfused for up to 8hours
35. Plasma derivatives include the following
- Red Blood Cells
 - Platelets
 - Albumin
 - Fibrinogen
36. The national blood policy must include the following areas except?
- Formulate legislation
 - Devise means for delegation of services

- c. Establish framework for commercialization
 - d. Design laws for prohibition of commercialization
37. The main responsibilities of a donor panel organizer include the following except?
- a. Donor drive publicity
 - b. Reporting of overall status of donor panels
 - c. Maintaining donor records
 - d. Phlebotomy
38. Permanent deferral is recommended in the following except?
- a. Cancer
 - b. Multiple sexual partners
 - c. High risk behavior
 - d. Bleeding disorders
39. The following blood is not a type collection facility used blood banking
- a. Mobile vehicles
 - b. Demountable collection centre
 - c. Surmountable collection unit
 - d. Standalone static collection centre
 - e. Static collection centre in the blood bank
40. The following statements are true concerning cryoprecipitates (CP)
- a. CP is obtained when separation was done within 8 hours and cooling within 30minutes of separation
 - b. CP contains up to 100% of the original factor VIII
 - c. Fibrinogen makes up about 30% of CP
 - d. CP is obtained when fresh frozen plasma is thawed at $+1^{\circ}\text{C}$ - $+6^{\circ}\text{C}$

Section B

41. Discuss the following
- a. ABO haemolytic disease of the newborn 10mks
 - b. Blood bank personnel
42. Describe the following transfusion reactions
- a. Haemolytic transfusion reactions 10mks
 - b. Post transfusion purpura 5mks

c. Allergic transfusion reactions 5mks

43. Discuss the scope of the following departments in the blood bank

a. Collection Centre 10mks

b. Laboratories 5mks

c. Inventory and distribution 5mks