



**TECHNICAL UNIVERSITY OF MOMBASA**

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN MEDICAL LABORATORY SCIENCES

AML 2304 : BLOOD BANKING AND TRANSFUSION PRACTICE

SPECIAL/ SUPPLIMENTARY EXAMINATIONS

**SERIES:** SEPTEMBER 2018

**TIME:** 2 HOURS

**DATE:** Pick Date Sep 2018

**Instructions to Candidates**

You should have the following for this examination

*-Answer Booklet, calculator, examination pass and student ID*

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

**Circle the correct answer in section A.**

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1. International Society of Blood Transfusion recommends the following as safe donors
  - a. Remunerated donors
  - b. Autologous donors
  - c. Replacement donors
  - d. Family donors
2. The following are considerations when developing a national blood transfusion service except
  - a. It should be based on current scientific and practical principles
  - b. Sophisticated equipment must be used in all countries
  - c. Accurate cost efficient use of national resources
  - d. Ensure technical expertise is available locally for sophisticated equipment

3. The following is true concerning a centralized service system
  - a. It is not cumbersome in large countries like india
  - b. The system is divided into smaller autonomous regions
  - c. Quality standards are easily coordinated and maintained
  - d. None of the above Is true
4. Levels of blood transfusion service include the following except?
  - a. Basic full-range
  - b. Advanced service
  - c. Highly active
  - d. Highly productive
5. The purpose of a Donor Health Assessment Questionnaire includes the following
  - a. Elect donor panel organizers
  - b. Select eligible donors
  - c. Bar eligible donors
  - d. Select donor panel
6. The following information is not obtained from the Donor Health Assessment Questionnaire
  - a. Previous transfusion reactions
  - b. Previous donation
  - c. Previous deferrals
  - d. Pregnancy and child birth
7. The decision to transfuse should be based on the following?
  - a. Low haemoglobin concentration only
  - b. Faint patient
  - c. Heart rate only
  - d. Both Haematologic and clinical status
8. Haemoglobin concentration after transfusion of one unit increases by the following value
  - a. 2grms/dL
  - b. 1gram/dL
  - c. 5gram/dL
  - d. 100gram/dL
9. During delivery the following conditions are critical and may require stand-by grouped and crossmatched blood
  - a. Stable mother at 7gms/dL
  - b. Dyspnoic mother at 5gms/dL
  - c. Asymptomatic mother at 10gram/dL
  - d. 6gns/dL post-partum Hb clinically stable
10. The following is true concerning autologous donors
  - a. Only two units can be collected prior to surgery
  - b. Collections can be 5days apart
  - c. Unused autologous blood must be discarded
  - d. Screened and tested blood may be released into the general donor pool

11. The following is not a clinical transfusion procedure
  - a. Recording of indications for transfusion
  - b. Accurate completion of request form
  - c. Crossmatching of blood unit
  - d. Check patient for signs of transfusion reaction
12. The following is true concerning therapeutic use of blood
  - a. Blood is a cure for anaemia
  - b. Respiratory distress is cured by blood transfusion
  - c. It is important to investigate and treat underlying causes of anaemia
  - d. Prevention of underlying causes of anaemia increase the need and use of blood
13. PRBC transfusions are indicated for the following
  - a. Hypoxia due to reduced red cell volume
  - b. Hypoxia due to inadequate red cell mass
  - c. Coagulation factor deficiency
  - d. Increased oncotic pressure
14. The accommodation in the blood bank should be?
  - a. Smooth
  - b. Multistoreyed
  - c. Easily relocatable
  - d. Dry
15. Normally blood flow in the centre should be?
  - a. Multidirectional
  - b. Unidirectional
  - c. Two-way
  - d. Unstructured
16. The following are considerations for hours of operation in the blood bank. Which one is false?
  - a. 24 hours service for distribution area
  - b. Out of business hours for collection
  - c. 24 hour service for inventory
  - d. Business hour service for all departments
17. The following is not a type of collection facility used by the blood bank service
  - a. Mobile vehicles
  - b. Demountable collection centre
  - c. Surmountable collection unit
  - d. Standalone static collection centre
18. The following is false concerning blood processing in the blood bank
  - a. Component preparation is not part of processing
  - b. Quarantine storage is located here
  - c. Labeling before inventory is done here
  - d. Processing maybe collocated with inventory or testing

19. The following is not a consideration for the location of blood bank
- Staff amenities
  - Security
  - Proximity to major transport routes
  - Proximity to a hospital
20. The heat dissipation space between cabinet and wall should be?
- 75mm between cabinet and wall
  - 50mm between cabinet and wall
  - 75mm between two cabinets
  - 50mm between two walls
21. The following is true concerning inventory and distribution area in the blood bank centre
- It is not concerned with dispatch of verified blood
  - Workload here is rarely 24/7
  - Should always be located at ground level
  - No storage is done here
22. Which of the following is not part of the donor bank laboratory layout
- Teaching laboratory
  - Nucleic acid testing laboratory
  - Component preparation
  - Quality control laboratory
23. Clinical manifestations of adverse reactions of blood transfusion are referred to as?
- Haemolytic disease
  - Transfusion reactions
  - Febrile reactions
  - Eczemic disease
24. Clinical symptoms associated with adverse reactions in transfusion result from?
- Destruction of donor serum
  - Destruction of donor cells
  - Destruction of patient cells
  - Destruction of donor antibodies
25. Destruction of Red cells is mediated by the antibodies through the following pathways
- Complement activation and cell damage
  - Platelet aggregation
  - Opsonization and phagocytosis
  - Immune clearance
26. Immune clearance of antigen antibody complexes occurs in the following sites
- Intramuscularly
  - Intravascularly
  - Intracranially
  - Extravascularly

27. Adverse reactions are commonly as a result of the following error
- Technical error
  - Storage error
  - Clinicians error
  - Clerical error
28. Blood group O donors may transfer the following antibodies to recipients except?
- Anti-A,B
  - Anti-B
  - Anti-C
  - Anti-A
29. Clinical symptoms majorly associated with reduced blood flow include the following
- Fever
  - Wheezing
  - Hypotension
  - Feeble pulse
30. Recommended laboratory tests during transfusion reactions include?
- Repeat crossmatch
  - Repeat ABO and Rh testing
  - Blood pressure
  - Fever
31. Febrile reactions are implied when patient temperatures rise without no other known cause! The rise in temperature should be?
- At least 1°C
  - Less than 1°C
  - At least 3°C
  - At least 37°C
32. Antibodies implicated in Extravascular reactions are predominantly?
- IgA
  - IgG
  - IgM
  - IgD
33. Passively acquired antibodies from donor blood may be responsible for the destruction of?
- Patient antibodies
  - Patient Red Cells
  - Donor Red Cells
  - Leucocytes
34. The most common cause of Rh haemolytic disease is?
- Antibody D
  - Antibody c
  - Antigen D
  - Antibody E

35. The peripheral blood picture in HDN may exhibit the following characteristics
- Erythrophagocytosis
  - Erythroblastosis
  - Neutropenia
  - Macrocytosis
36. Antibodies other than ABO and Rh D frequently involved in Haemolytic disease belong to the following blood groups
- Kell
  - MNS
  - Xg
  - Chido
37. The following are features of compatibility labels except?
- Use of indelible ink
  - Clear and easy to read
  - Hard to interpret
  - Made of adhesive labels
38. The storage of whole blood at 4°C has the following purpose
- Destroy pathogens
  - Maintain oxygen carrying ability of red cells
  - Allow continued growth of any pathogens
  - Reduce the metabolic rate of the Red cells
39. The following statement is true concerning temperature ranges during transport and storage of whole blood
- Transport of preprocessed blood +20°C for <6hrs
  - Storage of processed or preprocessed blood 4°C up to 35days
  - Transport of processed blood 20°C - 24°C up to 24hrs
  - Transport of processed blood 2°C - 10°C <24hrs
40. The following statements are true concerning fresh frozen plasma(FFP) except?
- Obtained when plasma is cooled rapidly to below -20°C after separation
  - FFP Is rich in factor III
  - The optimal temperature for storage is -30°C
  - It should normally be used as a volume expander

## Section B

41. Describe the donor health assessment questionnaire 20mks
- 42.
- a. Outline the scope of static collection centers 10mks
  - b. Illustrate Laboratory layout in the blood bank 10mks
43. Discuss the following 5marks each
- a. Febrile transfusion reactions
  - b. ABO haemolytic disease of the newborn
  - c. Blood requisition form
  - d. Advantages and disadvantages of cold room storage