



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 & 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 basic functions of a blood donor center includes the following except?
 - a. Donor recruitment
 - b. Distribution of blood samples
 - c. Participation in clinical use of blood
 - d. Diagnosis
2. The following is true concerning the Kenya National Blood Transfusion Organization model
 - a. It is a hospital based system
 - b. It is a rigid centralized system
 - c. It is a mixed system
 - d. None of the above applies
3. Full automation and stem cell banking is found in the following level of service
 - a. Advanced only
 - b. Sophisticated
 - c. Highly productive

- d. Basic full range
4. 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
 5. Incentives given to donors include the following except
 - a. Inscribed plaques
 - b. Letters of acknowledgement
 - c. Currency
 - d. Badges
 6. The accommodation in the blood bank should be?
 - a. Smooth
 - b. Multistoreyed
 - c. Easily relocatable
 - d. Dry
 7. Normally blood flow in the centre should be?
 - a. Multidirectional
 - b. Unidirectional
 - c. Two-way
 - d. Unstructured
 8. The scope of collection services includes the following except?
 - a. Donor screening
 - b. Blood collection
 - c. Supervision of donor recovery
 - d. Distribution of processed blood
 9. The following is not part of the collection centre layout
 - a. Interview area
 - b. Donor lounge
 - c. Donation area
 - d. Loading dock
 10. What is the main purpose of partitioning of work flow areas in the blood bank
 - a. Keep workers apart

- b. Effectively separate tested and untested blood
 - c. Maintain donor secrecy and integrity
 - d. Keep unwanted persons away from the laboratory
11. Clinical manifestations of adverse reactions of blood transfusion are referred to as?
- a. Haemolytic disease
 - b. Transfusion reactions
 - c. Febrile reactions
 - d. Eczemic disease
12. The major cause of death as a result of the effects of adverse reaction is?
- a. Hemolytic disease of the new born
 - b. Acute hemolytic transfusion reaction
 - c. Extravascular reactions
 - d. Febrile reactions
13. Normally, split Hb liberated into the plasma maybe bound by?
- a. Haptoglobin
 - b. Myoglobin
 - c. Hemopexin
 - d. Albumin
14. Incompatible red cells are normally damaged by?
- a. The liver
 - b. The spleen
 - c. The complement system
 - d. Monocyte-macrophage system
15. The following tests are useful in detection of Haptoglobin depletion
- a. Schumms test
 - b. Mancini's radial immune diffusion assay
 - c. Serum Iron
 - d. Serum Ferritin
16. Ascertaining the immunological cause of transfusion reactions is normally difficult due to?
- a. The scarcity of pre- and post-transfusion samples
 - b. The availability of pre- and post-transfusion samples
 - c. The scarcity of pre-transfusion samples only
 - d. The lack of laboratory staff

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17. During transfusion reaction the following are characteristics attributable to the leucocytes

- a. Erythrophagocytosis
- b. Erythroblastosis
- c. Decreased degranulation
- d. Thrombocytosis

18. ABO HDNB/F occurs invariably when the Mother is?

- a. Blood group A
- b. Blood Group B
- c. Blood group D
- d. Blood group O

19. During ABO haemolytic disease, maternal blood group is

- a. Invariably O
- b. Variable but predominantly O
- c. AB or O
- d. A, AB and B

20. The following conditions are rare in ABO Haemolytic disease

- a. Hydrops
- b. Erythrophagocytosis
- c. Mild jaundice
- d. Microspherocytosis

21. The titre for anti-D in (mothers) at which sensitization is likely to occur is?

- a. 2
- b. 4
- c. 8
- d. 16

22. The following RBC conditions are also present in Rh haemolytic disease.

- a. Anisocytosis
- b. Polychromasia
- c. Pinocytosis
- d. Albuminemia

23. The following is true concerning the transfusion of blood

- a. Transfusion is a substitute for plasma
- b. Transfusion must be based solely on saving life

- c. All hypoxic patients need a transfusion
 - d. None of the above
24. Effective transfusion requires the following
- a. Maximum of 20ml/kg body weight for children
 - b. A minimum of 2 units of blood for adults
 - c. A maximum of 10ml/kg body weight(packed cells)
 - d. Blood equivalent to that lost during haemorrhage
25. PRBCs are indicated for the following
- a. Hypoxia due to reduced red cell volume
 - b. Hypoxia due to inadequate red cell mass
 - c. A decreased blood volume
 - d. Coagulation factor deficiency
26. During pregnancy, plasma volume increases by the following
- a. 10%
 - b. 25%
 - c. 40%
 - d. 30%
27. The following is false concerning considerations for paediatric transfusions
- a. Hb less than 4gms/dL to be transfused
 - b. Transfusion recommended for Hb less than 5gms/dL
 - c. In Hb greater than 5gms/dL consider transfusion in severe burns
 - d. Most surgeries need transfusion in congenital anaemias
28. During platelet transfusion, the following considerations are necessary except
- a. Ensure ABO compatibility
 - b. Ensure Rh-D incompatibility
 - c. Investigate cause of increased platelet destruction
 - d. Ascertain platelet count lower than 50 000/mm³
29. The following blood samples must be obtained to accompany requests for blood to the laboratory
- a. Patients' blood
 - b. Donor blood
 - c. Anticoagulated blood
 - d. None of the above
30. The following are features of compatibility labels except?

- a. Use of indelible ink
 - b. Clear and easy to read
 - c. Hard to interpret
 - d. Made of adhesive labels
31. Causes of acute hemolytic transfusion reactions include the following except?
- a. Passively transferred antibodies in plasma
 - b. Most IgM antibodies
 - c. Complement fixing IgG antibodies
 - d. Non-complement fixing IgG antibodies
32. When there is severe depletion of Haptoglobin, haemoglobin may bind to
- a. Macrophages
 - b. Red Blood Cells
 - c. Albumin
 - d. Granulocytes
33. The purpose of a transfusion is?
- a. To provide blood components to improve patient condition
 - b. To expand blood volume
 - c. To alleviate circulatory overloads
 - d. To cause Lung injury
34. During air travel, blood is stored in pressurized cabins due to?
- a. Leakage prevention
 - b. Prevent it from freezing
 - c. Uphold its dignity
 - d. Prevent contamination
35. Cooling plates and cooling pouches are generally used for?
- a. Storage of unprocessed blood
 - b. Transport of processed blood
 - c. Transport of processed plasma
 - d. Storage of cryoprecipitates
36. The following are considerations when developing a national blood transfusion service
- 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
37. Short term deferral can be recommended for the following
- a. Minor illness
 - b. Use of anti-platelet agents
 - c. Previous transfusion
 - d. Immunization
38. Considerations for neonatal transfusion include the following except?
- a. Acute blood loss >10% volume
 - b. Haemoglobin < 7gms/dL
 - c. Hb less than 8gms/dL with decreased vigour
 - d. Hb 12gms/dL with mild respiratory distress
 - e. Hb<12gms/dL without weight gain in 7 days
39. The following is not a biosafety considerations in the blood bank
- a. Accessible handwash
 - b. Cold and hot water in blood handling areas
 - c. Inaccessible handwash to minimize risk of haemolysis
 - d. Structural building soundness
40. The production of active amines and inflammatory agents will lead to the development of?
- a. Fever
 - b. Amenorrhoea
 - c. Feeble pulse
 - d. Anorexia

Section B

41. Discuss the following
- a. Rh haemolytic disease of the newborn 10mks
 - b. Blood bank refrigerators
42. Describe the following transfusion reactions (5mks each)
- a. Febrile transfusion reactions
 - b. Circulatory overload
 - c. Transfusion related acute lung injury
 - d. Bacterial overload
43. Discuss blood donor service in the context of the following
- a. Donor recruitment
 - b. Evolution of blood bank services