



Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF
MEDICAL LABORATORY SCIENCES
BMLS

AML 4312 : BLOOD TRANSFUSION II

SEMESTER EXAMINATION

APRIL 2014 SERIES

2 HOURS

Instructions to candidates:

This paper consists of **TWO** sections **A** and **B**

Section A -Contains MCQS, Answer **ALL** questions in **Section B**.

SECTION A - MCQs - (30marks)

1. Which below is not an indication for transfusion of Red blood cells
 - a) Haemorrhage
 - b) Chronic symptomatic anemia
 - c) Acute crisis of sickle cell disease
 - d) Haemophilia
 - e) Low haemoglobin in pre operate patient
2. Indications of use of plasma
 - a) Disseminated intravascular coagulopathy
 - b) Anemia
 - c) Haemorrhage
 - d) Patients with low INR
 - e) None of the above
3. Autologous transfusion can be carried out in the following scenarios, which is false

- a) Can be carried out in a patient undergoing elective surgery
 - b) In healthy patient
 - c) Patients with haemoglobin of more than 11 g/dl
 - d) Not accepted in sepsis
 - e) Easily carried out in children
4. Massive blood transfusion is best described as:
- a) Transfusion of blood more than patients blood volume in less than 24 hours
 - b) Transfusion of blood more than 1 pint in less than 10minutes
 - c) Transfusion of less than 10% of patients blood volume in less than 10 minutes
 - d) Transfusion of blood more than 10% of the patients blood volume in less than 24 hours
 - e) None of the above
5. The following can be transfused which can not
- a) Immunoglobulins
 - b) White blood cells
 - c) Platelets
 - d) Hormones
 - e) Coagulation factors
6. Which statement is false
- a) 1 unit of packed red blood cells increase haemoglobin by 1g/dl
 - b) 1 unit of platelets in adults increase platelet count by 30-60 x 10⁹/l
 - c) 1 unit of packed red blood cells increase the haematocrit by 3%
 - d) A patient with a haemoglobin of 7 g/dl will need to be transfused 3 pints to reach the WHO baseline value for haemoglobin levels
 - e) 5-10mls /Kg of platelets in neonates rarely increases platelets to any significant amount
7. Which below is an acute non infectious transfusion complications:
- a) Post transfusion purpura
 - b) Febrile non haemolytic reaction
 - c) Micro chimerism
 - d) Transfusion associated Graft versus host disease
 - e) HIV
8. In Kenya blood screening for infectious disease includes the following except
- a) VDRL
 - b) HTLV1/2
 - c) HIV
 - d) Hepatitis B virus
 - e) Hepatitis C virus
9. Febrile non haemolytic reaction
- a) Most common non infectious acute reaction
 - b) Fevers are due to release of cytokines from WBCs
 - c) Fever usually resolves in the first 15 minutes
 - d) Usually secondary to all antibodies to the white bloods, platelets
 - e) It's a severe letal, fatal reaction

10. Hemolytic transfusion reaction :
- Mostly due to donor incompatibility with recipient blood
 - Delayed hemolytic reaction is extravascular
 - Acute haemolytic reaction is intravasacular
 - Commonly diagnosed by visualization of recipients plasma which is pinkish.
 - Men/Male gender is more predisposed to hemolytic transfusion reaction
11. Which statement is true about the ABO system
- Blood group A has antigen A on the Red blood cells
 - Blood group A has antibody A on the Red blood cells
 - Blood group AB is the universal recipient
 - Blood group O has antigen A and antigen B
 - Blood group AB has Antibody A and B
12. If a patient's blood group is unknown and requires platelets. Which blood group is safest to use :
- O
 - A
 - AB
 - B
 - None
13. If a patient is Rh negative and receives Rh positive platelets. What will happen :
- Nothing
 - Patient should receive Rh positive blood after that
 - Patient should be given Rh immunoglobulin
 - Patient will have a febrile non haemolytic reaction
 - None of the above
14. Which below is not an indication for exchange transfusion
- Haemophilia
 - Severe anaemia
 - Severe hyperbilirubinemia
 - Cord bilirubin more than 4mg/dl
 - Serum bilirubin to albumin ration exceeding beyond normal levels
15. Which below is the function of exchange transfusion:
- Helps remove coagulation factors
 - Helps replace sickle cells
 - Helps replace the fibrinogen levels
 - Provides albumin which provides new bilirubin binding sites
 - None of the above
16. Which below is a technique used for exchange transfusion:
- Immediate spin
 - 2 catheter push-pull technique
 - 3 catheter push-pull technique
 - Venesection
 - None of the above

17. Which below is not a property of a stem cell
- Self renewable
 - Pluripotentiary
 - Repair
 - Unspecialized
 - Mature specialized cell
18. Totipotent cells
- Usually of embryonic origin
 - Best harvested from early embryo of age 1-3 days
 - Has limited range of cell type
 - Can become any kind of cell
 - None of the above
19. The following are some of the potential uses (ethical) of stem cell. Which is an unethical use:
- Stroke
 - Baldness
 - Myocardial infarction
 - Cloning
 - Cancers
20. Which statement below fits the terminology “blood cold chain”.
- A systemic process for the safe storage and transport on of blood from its collection from a donor to its administration to the recipient
 - Its called a cold chain as blood, a biological component is kept cold to reduce bacterial contamination
 - Cold process also enhances the half life of collected blood
 - Blood is stored at 4°C until the point of transfusion
 - All the above statements describe the blood cold chain
21. Which below are some of the activities involved in the blood cold chain process
- Storage, packing, transportation and maintenance of equipment
 - Storage , screening, transfusing a recipient
 - Only storage of blood
 - Storage and separation and utilization of blood components
 - None of the above
22. In most blood banks, oldest products should be used first. In which situation should old products not be used
- Transfusing a patient with multiple injuries
 - Transfusing a neonate
 - Transfusing a servile person
 - Transfusing a gravid individual
 - Transfusing intraoperative
23. Which below should be monitored in a patient under going exchange transfusion:
- Renal function tests
 - Blood sugar
 - EEG

- d) Urinalysis
 - e) All the above
24. Microschimerism :
- a) Is best described a persistence of actogenic cell population
 - b) Its an old well recognized complication
 - c) Common in the electively transfused patients
 - d) Occurs within the first 24 hours of a transfusion
 - e) It is an infectious transfusion complication
25. Tissue therapy can be used in the following except
- a) Spinal surgery
 - b) Congertal heart disease
 - c) Dental repairs
 - d) Burns
 - e) All the above are examples where tissue therapy can be used
26. A safe tissue harvest includes the following except
- a) Screening for HIV
 - b) Screening for hepatitis B and C
 - c) Screening for malaria
 - d) Through examination to rule out risky lifestyle
 - e) Use of aseptic retrieval
27. Which of the organs below does not need ABO /Rh typing:
- a) Kidney
 - b) Bone
 - c) Livers
 - d) Heart
 - e) Lungs
28. What has made the use of tissue banking successful:
- a) Use of immunosuppressants
 - b) Availability of ABO/Rh screening
 - c) Availability of HLA screening
 - d) Availability of easy screening for HIV/hepatitis
 - e) All the above
29. During a blood drive :
- a) Need to ensure adequate fluids for donors
 - b) Storage of blood should be in freezes boxes
 - c) Aspectic disposal of all contaminated materials
 - d) Adequate disposal of all contaminated
 - e) All the above
30. Apheresis donation :
- a) Withdrawal of desired component from donor while residual parts are retransfused to donor
 - b) Helps obtains specific derivatives
 - c) Cytopheresis is an example

- d) Takes longer than normal blood donation
- e) Easy to setup and is widely found

SECTION B ESSAY
(ANSWER ALL QUESTION IN THIS SECTION)

- 1. Discuss haemolytic reaction as a complication of transfusion **(20marks)**
- 2. (a) Write short notes on stem cells **(10marks)**
(b) State which components can be transfused and give two indications for each **(10marks)**