



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012
SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE (MEDICAL LABORATORY SCIENCE)

HML 208: TRANSFUSION SCIENCE I

DATE: Thursday, 29th March, 2012

TIME: 8.00 a.m. – 10.00 a.m.

Section A (Answer ALL questions: 5 marks each)

1. What is Autologous blood transfusion? (5mks)
2. Health check before donating blood is paramount in blood transfusion. Briefly discuss five factors that are considered in the health check of the donor (5marks)
3. Describe the hemolytic disease of the new born (HDN) (5mks)

Section B (Answer any ONE question, 20 marks)

4. a) Outline the clinical significance of blood groups (5mks)
b) Discuss five infectious diseases that are screened on donor blood before transfusion (15mks)
- 5 a) Outline the ABO blood group system (5mks)
b) Discuss the guidelines for the use of blood in tropical countries (15mks)

Section C: MCQ's (Answer ALL questions: 15 marks)

1. Which is the most common Rhesus antibody present against antigen
 - a) Anti D
 - b) Anti C
 - c). Anti E
 - d) None of the above
2. The following are objectives of quality assurance (QA) in blood transfusion practice except
 - a) To prevent unnecessary blood transfusion.
 - b) To provide blood that is not safe.
 - c) To avoid performing compatibility testing
 - d) None of the above

3. The following is among the important infectious agent that is screened before blood is transfused, which one is it?
- a) HIV 1 and 2
 - b) Ebola virus
 - c) Hepatitis A virus
 - d) None of the above
4. When donating blood, a donor must not be left
- a) Unattended
 - b) Examined
 - c) Educated
 - d) None of the above
5. The following are blood collection pack except
- a) Single bag collection pack
 - b) Double bag collection pack
 - c) Pediatric quadruple bag collection pack
 - d) Cuff.
6. The anticoagulant solution used in blood collection bag is
- a) Sodium citrate
 - b) CPDA -1 (Citrated phosphate dextrose adenine)
 - c) CPDG -1 (Citrated phosphate dextrose guanine)
 - d) None of the above
7. During the donor blood collection when the blood begins to flow, the pressure of the cuff is reduced to
- a) 40 – 60 mmHg
 - b) 40- 60 mgHg
 - c) 40-50 mgHg
 - d) 40-70 mmHg.
8. Which of the following is the commonest problem which may occur when collecting blood?
- a) Crying
 - b) Faint

- c) Slowing of the flow of blood
 - d) Dizziness
9. Which one of the following is not among the adverse donor reactions:-
- a) Nausea
 - b) Faint
 - c) Dizziness
 - d) Blood clotting in the needle
10. What is the 1st step to be done when haematoma occur during blood collection
- a) Immediately release the pressure of the cuff
 - b) Remove the needle
 - c) Explain to the donor what has happened
 - d) None of the above
11. A donor who has been vaccinated recently with a live vaccine should should not donate blood for ----- or longer depending on the vaccine.
- a) 3-4 weeks
 - b) 4-6 weeks
 - c) 3-5 weeks
 - d) None of the above
12. Transfusion of bacterially contaminated blood can cause
- a) Fever
 - b) Pain
 - c) Swelling
 - d) None of the above
13. All of the following are symptoms of blood contaminated with bacteria except
- a) Blood appears haemolyzed
 - b) Blood appears yellow in color
 - c) Clotting
 - d) Blood appears yellow in colour
14. A person ABO blood group depends on the
- a) A, B or O gene
 - b) AB gene

- c) O gene
 - d) None of the above
15. A person who inherits B Gene expresses _____ antigen on their red cells
- a) O antigen
 - b) A antigen
 - c) B antigen
 - d) None of the above
16. The recessive O gene is expressed only when _____ genes are absent
- a) A and B
 - b) A and O
 - c) B and O
 - d) None of the above
- 17 The Rhesus blood group system consist of six genes ie Cc Dd and _____
- a) Ee
 - b) Aa
 - c) Bb
 - d) Gg.
18. Why is antigen D regarded as the most medically important of the Rhesus antigen
- a) It is stronger
 - b) It is the most immunogenic
 - c) It is commonly found on the surface of red cells
 - d) None of the above
- 19 The safe transfusion of patients depends on the _____
- a) Correct ABO grouping of donors and recipients
 - b) Correct ABO grouping of donors
 - c) Correct ABO recipients
 - d) None of the above
20. Antigen _____ antibody reaction is affected by:-
- a) Type of antibody
 - b) Ionic strength of the antigen
 - C) Low PH

- D) None of the above
21. HDN is most likely to be caused by
- a) ABO compatibility
 - b) Rhesus incompatibility
 - c) a and b
 - d) None of the above
- 22 There can be no Rhesus incompatibility caused by anti -D antibody unless the mother is _____ and the infant is Rh positive
- a) Rh negative
 - b) Rh positive
 - c) Red cells coated with anti D
 - d) None of the above
23. The most serious often fatal transfusion reactions are caused by the following except:-
- a) Transfusing ABO incompatible blood
 - b) Transfusing infected blood
 - c) Transfusing blood which has expired
 - d) Transfusion rhesus incompatibility
24. It is essential to ensure that quality assurance in blood transfusion practice is
- a) Monitored
 - b) Not affordable
 - c) Not unrealistic
 - d) None of the above
- 25 Blood is mainly used in the management of emergencies involving the following except:-
- a) Women with severe anemia
 - b) Young children with life threatening anaemia
 - c) Young children usually below 5 years with life threatening anemia
 - d) Infants with falciparum malaria
26. New born infants with a serum bilirubin above _____ an exchange blood transfusion is required
- a) 300 $\mu\text{mol/l}$

b) 300 mol/l

c) 350 mol/l

d) None of the above

27. Basic physical examination include the following except

a) Swollen glands

b) Skin rashes

c) Abnormal bleeding

d) Pulse rate of the person

28. A donor should not give blood when their temperature is _____

a) Raised

b) Low

c) Normal

d) None of the above

29. Transfusing blood containing *T. cruzi* can cause

a) Chagas disease

b) Syphilis

C) Hepatitis A.

d) None of the above

30Antigen A exist as strongly reacting Antigen A1 and a weakly reacting antigen

a) A2

b) a1

c) a2

d) None of the above.