



TECHNICAL UNIVERSITY OF MOMBASA
Faculty of Applied & Health Sciences
DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS 13J & 14J (MID))

AML 2303: HAEMATOLOGY III

SPECIAL/SUPPLEMENTARY EXAMINATIONS

SERIES: JUNE/JULY 2015

TIME: 2 HOURS

INSTRUCTIONS:

– Answer All questions.

This paper consists of Eight printed pages.

SECTION A

1. Vasoconstriction mechanism plays the following roles in haemostasis, except
 - A. Narrow the vessel
 - B. Reducing blood flow through the vessel
 - C. Prevent excessive blood loss
 - D. Repair the injured vessel
 - E. Arrest bleeding in small vessels
2. The following substances are produced through stimulation of cutonomic nervous system to bring about vabonstriction. Which of the following substances does not aid vasoconstriction?
 - A. Epinephrine
 - B. Norepinephrine
 - C. Adenosine diphosphate
 - D. Barotonin
 - E. Thromboxanes
3. Platelets are activated by?
 - A. Vasoconstriction
 - B. Damaged blood vessels
 - C. Coagulation factors
 - D. Savotonis
 - E. Fib-inolysis mechanism
4. What is platelet adhesion?
 - A. Is the attachment of platelets to the subentothial of damaged blood vessels
 - B. Is the clumping of platelets to one another at the site of injury
 - C. Is the activation of platelets to produce procoagulants substances
 - D. Is activation of platelets cause vasoconstriction
 - E. Is the activation of platelets to activate coagulation factors
5. Von willebrand factor (VWF) is produced by the platelets, it carries the following coagulation factor
 - A. Factor VII
 - B. Factor VIII
 - C. Factor IX
 - D. Factor XII
 - E. Factor X
6. The role of von willebrand factor in haestosis is?
 - A. To enhance platelets secretion activity
 - B. To enhance activation of coagulation factors
 - C. To pontentiate platelets adhesion and platelets aggregation at the damaged site
 - D. To hasten vasoconstriction
 - E. To pontentiate injury repair

7. Tissue plasminogen activator (t-PA) converts proenzyme plasminogen into plasmin is produced by?
 - A. Endothelial cells
 - B. Platelets
 - C. Liver
 - D. Kidney
 - E. Red blood cells

8. The end-product of fibrinolytic mechanisms includes
 - A. Plasminogen
 - B. Plasmin
 - C. Fibrin
 - D. Degradation products
 - E. Fibrinogen

9. Protein C pathway
 - A. Activate coagulation factors
 - B. Activate cofactors
 - C. Inhibits Heparin
 - D. Activate Fibrinolysis
 - E. Activate vasoconstriction

10. What are the characteristics of vascular disorders
 - A. Blood vessels fails to form clot
 - B. Blood vessels takes long to heal
 - C. Spontaneous bleeding from the small vessels
 - D. The underlying collagen fibre is not adequately formed
 - E. Blood vessels are prone to infection

11. The following are acquired vascular disorders, which one is not?
 - A. Senile purpura
 - B. Vasculitis
 - C. Simple easy bruising
 - D. Myeloma
 - E. Scurvy

12. Thrombocytopenia is a caused of acquired quantitative platelets disorders is caused by the following condition except?
 - A. Von willebrand factor (VWF)
 - B. Severe trauma
 - C. Megablastic anaemia
 - D. Infection
 - E. Excessive destruction of platelets

13. The effect of non steroidal Anti-Inflammatory Drugs (HUSAIDs) includes
- A. Inhibits platelets includes
 - B. Inhibits platelets adhesion
 - C. Inhibits platelets secretion
 - D. Inhibits collagen synthesis
 - E. Inhibits vitamin K synthesis
14. The effects of snake venom and bee sting on platelets includes
- A. Destroy platelets
 - B. Inhibits platelets aggregation
 - C. Inhibits platelets adhesion
 - D. Inhibits platelets secretion
 - E. Inhibits platelets activation
15. The symptoms of haemophilia includes the following except
- A. Soft tissue bleeding
 - B. Develop joint bleeding
 - C. Infant may suffer from profuse post ci-cumcission hemorrhage
 - D. Nose and gum bleeding
 - E. Women have long menstrual periods
16. The importance of Vitamin C is haemostasis is
- A. Activation of platelets
 - B. Activation of clotting factors
 - C. Formation of collagen tissue of blood vessels
 - D. Inhibition of haemostasis
 - E. Activation of fibrinolysis
17. In activated partial thromboplastin time test (ADPTT) which one of the following is not a reagent.
- A. Kaolin reagent
 - B. Phospholipid
 - C. Calcium chloride
 - D. Tissue extract
 - E. Plasma
18. What is the test for investigation of extrinsic pathway
- A. Prothrombin time
 - B. Whole blood clotting time
 - C. Bleeding time
 - D. Activated partial thromboplastin time
 - E. Thrombin time

19. In prothrombin time result is expressed in prothrombin ratio (PR), what is prothrombin ratio
- A. Ratio of thromboplastin to sample
 - B. Ratio of abnormal prothrombin time to manufacture prthrombin time
 - C. Ratio of prothrombin time of a patient to prothrombin time of the control
 - D. Ratio of thromboplasin to that of the samle
 - E. Ratio of thromboplastin to that of control used.
20. In the prothombin time test using Russels method, the thromboplastin used is?
- A. Human brain
 - B. Rabbit brain
 - C. Bovine brain
 - D. Venom
 - E. Rat brain
21. Causes of prolonged prothombin time includes the following, excepts?
- A. Patient on oral anticoagulant
 - B. Vitimin K deficiency
 - C. Liver diseases
 - D. Disseminated intravascular disorder (DIC)
 - E. Patient on heparin
22. The bleeding time is a test done for investigation of which condition
- A. Extrinsic pathway deficiency
 - B. Intrinsic pathway deficiency
 - C. Platelets function
 - D. Integrity of the entire haemostasis mechanism
 - E. Fibrinolytic deficiency
23. Whole clotting time is investigated by the following method
- A. Dukes method
 - B. Lee and white method
 - C. Ivys method
 - D. Template method
 - E. Standard sterile method
24. A prolonged thrombin time and a normal reptilase time is a diagnostic of the presence of which product?
- A. Fibrinogen
 - B. Fibrinogen/fibrin degradation products (FDP)
 - C. Heparin
 - D. Prothrombin
 - E. Plasminogen

25. Full blood count report is needed before investigation of any Haemostasis disorder, what is the important of full blood count report haemostasis disorder screening?
- A. To check the quality of plasma
 - B. For investigation of thrombocytopenia
 - C. To check for anaemia
 - D. For differential count
 - E. To investigate deficiency of clotting factors
26. The normal range for thrombin time is
- A. Not more than 20 seconds
 - B. 2 – 7 minutes
 - C. 10 – 30 seconds
 - D. 2 – 10 seconds
 - E. 1 – 2 minutes
27. The predisposing factors to leukaemia includes the following except
- A. Previous chemotherapy
 - B. Down's syndrome
 - C. Occupational chemical exposure
 - D. Viral infection
 - E. Hypertension
28. Clinical onset, defines leukemia into which category?
- A. Myeloid and lymphoid
 - B. Chronic and acute
 - C. Malignancy and benign
 - D. Progressive and regressive
 - E. Lethal and non-lethal
29. Philadelphia (ph) chromosome is present in which type of leukemia?
- A. Chronic myeloid leukaemia
 - B. Chronic lymphocytic leukaemia
 - C. Acute myeloid leukaemia
 - D. Acute lymphocytic leukaemia
 - E. Prolymphocytic leukaemia
30. Disadvantage of “particle smears” for making bone marrow film includes
- A. Smears are thick
 - B. Smears are difficult to stain
 - C. Squashing cause disruption of the cells
 - D. Films have head, body and ridged tail
 - E. Smears cannot be preserved for long

31. Differential cell count on aspirated bone marrow film is reported on the following form
- A. Histogram
 - B. Myelogram
 - C. Haemogram
 - D. Leucogram
 - E. Laukaemiagram
32. The following are characteristics of leukaemia cells which one is not
- A. Macrocytes
 - B. Nuclear-cytoplasmic ratio
 - C. Degree of cytoplasmic basophilia
 - D. Size of nucleoli
 - E. Microcytes
33. Chronic myeloid leukaemia is characterized by gross production of which cells?
- A. Eosinophil
 - B. Lymphocytes
 - C. Monocytes
 - D. Neutrophils
 - E. Basophils
34. In acute lymphocytic leukemia 80% of the malignant cells are primitive precursor of which cell?
- A. T-Lymphocyte
 - B. B-Lymphocytes
 - C. Monocytes
 - D. Neutrophils
 - E. Red blood cells
35. Symptoms of the acute monocytic leukaemia includes the following except
- A. Gum infiltration
 - B. Lymphadenopathy
 - C. Hepatosplenopathy
 - D. Hepatosplenomaly
 - E. Central nervous system
 - F. Splenomegaly
36. Leukemia predominantly affects?
- A. Children
 - B. Male and female
 - C. Female
 - D. Male
 - E. Elder woman

37. Platelets pooled plasma (PPP) is made from
- A. 10 normal people
 - B. 40 normal people
 - C. 30 normal people
 - D. 15 normal people
 - E. 3 normal people
38. Active form of coagulation factors are denoted by subscript of letter
- A. c
 - B. a
 - C. b
 - D. d
 - E. e
39. Sources of Vitamin C include the following
- A. Citrus fruits
 - B. Avocado
 - C. Mangoes
 - D. Vegetable
 - E. Pawpaw fruit
40. Coagulation screening is first line of investigation in the following patients
- A. Diabetic patient
 - B. Actively bleeding patients
 - C. Anaemia patients
 - D. Patients with fever
 - E. Hypertension patients

SECTION B

1. a) Discuss the intrinsic pathway of coagulation system. **(12 marks)**
- b) Describe the following haemostasis disorders
- i) Non willbrand disease. **(4 marks)**
 - ii) Disorder of fibrinolytic system. **(4 marks)**
2. a) Describe how a good quality plasma is obtained for screening of coagulation disorders. **(12 marks)**
- b) Describe how Thrombin time test is done, and the causes of prolonged thrombin time. **(8 marks)**
3. a) How is acute myeloid leukaemia diagnosed. **(10 marks)**
- b) Describe **THREE** ways of obtaining bone marrow. **(10 marks)**