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. Vasocontriction
   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. Proten 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. Spontanous 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 secrection
    D. Inhibits collagen synthesis
    E. Inhibits vitamin K synthesis

14. The effects of shake 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 join bleeding
    C. Infant may suffer from phrofuse 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 or 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 lymphcytic 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 characterics of leukaemia cells which one is not
    A. Macrocytes
    B. Nucldear-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. Eosipnophil
    B. Lymphcystes
    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)**