THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Applied & Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

DIPLOMA IN MEDICAL LABORATORY SCIENCES (DMLS 10M)

AML 2352: HAEMATOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: OCTOBER 2012
TIME ALLOWED: 3 HOURS

<u>**Instructions to Candidates:**</u>
You should have the following for this examination
- *Answer Booklet*

This paper consists of sections **A, B & C**
Answer **ALL** questions in section **A** & **B**
Answer any **THREE** questions in section **C**
This paper consists of **SIX** printed pages
SECTION A (ANSWER ALL QUESTIONS – 1 MARK EACH)

1. Microcytic hypochromic anaemia may be seen in the following conditions:
   a) Thallasemina anaemia
   b) Haemolytic anaemia
   c) Iron deficiency anaemia
   d) Megaloblastic anaemia

2. The dissolution of fibrin clot is carried out by the process of:
   a) Haemolysis
   b) Lipolysis
   c) Fibrinolysis
   d) Glycolysis

3. Another name for azuxe B is:
   a) Trimethylthionim
   b) Tetrabromophenolphthalein
   c) Azure
   d) Azurey

4. The young neutrophil cell is usually referred to as:
   a) Bi spectacle cell
   b) Multi segmented cell
   c) Hypersegmentation
   d) Stab cell

5. Toissoris fluid contains the following:
   a) Sodium chloride
   b) Copper sulphate
   c) Cycerine
   d) Trisodim citrate

6. Reticrilocytes are:
   a) Immature red cells
   b) White blood cells
   c) Platelets
   d) Macro red blood cells

7. The following are haemoglobin precursors:
   a) CoA
   b) Cylcine
   c) Nit B12
   d) None of the above

8. Brilliant cresyl blue is used to demonstrate:

a) Sickle cells
b) Reticulocytes
c) Myeloblast
d) Normoblast

9. Lack of intrinsic factor in the gut causes
   a) A plastic anaemia
   b) Pernicious anaemia
   c) Magaloblastic anaemia
   d) Iron deficiency anaemia

10. Which one of the following is a composition of drabkins solution:
    a) Sodium sulphate
    b) Potassium citrate
    c) Sodium bicarbonate
    d) Potassium folate

11. The most immature cell in the granulocytic series is the:
    a) Nubriblast
    b) Megakaryoblast
    c) Promyolocyte
    d) Mycloblast

12. Lymphocytes are mainly produced in the following organs:
    a) Thymus
    b) Liver
    c) Lymphoid tissues
    d) Spleen

13. The most primitive mother cell where haemotopoesis begins is called:
    a) Medullary
    b) Intramedullary
    c) Extramedullary
    d) Stream cell

14. The anticoagutant of choice when performing osmotic fragility test is:
    a) Trisodim citrate
    b) Hepanin
    c) Ammonium exalate
    d) EDTA

15. Haemoglobin solubility test may be used for the screening of:
    a) HbF
    b) HbA
    c) Sickle Cell Haemoglobin
    d) HbA2

16. Which of the following stains are used for retienlocyte preparation:
    a) Leishman stain

b) New methleno blue
c) Field's stain
d) Brilliant cresyl blue

17. Chromicity of a red cell refers to:
    a) Its Hb concentration
    b) The net weight of the cell
    c) The ratio of Hb to red cell mass
    d) The cell stroma to Hb ratio

18. Which of these abnormalities are sex-linked?
    a) G-GPD deficiency
    b) Christmas disease
    c) Factor II deficiency
    d) Haemophilia A

19. Plasmin destroys:
    a) Thrombin
    b) Plasminogen
    c) Fibrinogen and Fibrin
    d) Retionlocytes

20. Which of the following is substitution for platelet factor 3 in KCCT is:
    a) Kaolin
    b) Cephalin
    c) Vitamin K
    d) Brain thromboplastin

21. Which of the following is a visual method in Hb estimation:
    a) Cynamethaemoglobin
    b) Calorimetric method
    c) Sahli method
    d) Oxyhaemoglobin method

22. Which of the following coagulation factor are vitamin K dependant:
    a) II
    b) VIII
    c) XI
    d) VI

23. The large lymphocyte is considered as:
    a) Mature cell
    b) Immature cell
    c) Granulocyte

24. Which is the prominent feature in megaloblastic anaemia:
    a) Sickle cell
    b) Microcytes
    c) Macrocytes

d) Spherocytes

25. A normal red cell has a life span of:
    a) 20 days
    b) 120 days
    c) 110 days
    d) 30 days

26. The Hb concentration of a patient is 13gm/100ml. Calculate the MCHC
    a) 33.3%
    b) 15%
    c) 333%
    d) 42%

27. Sickle cell trait has:
    a) HbSS
    b) HbF
    c) HbAS
    d) HbAD

28. Shillings test:
    a) Demonstrates alkaline resistance haematobin
    b) Diagnoses vitamin B12 deficiency
    c) Does not utilize intrinsic factor at all
    d) Uses radio cobalt labeled cynobalamin

29. The following features are present in a stained film from patient with haemolytic anaemia:
    a) Vacuoles
    b) Schistocytes
    c) Normoblast
    d) Decrease platelet numbers

30. Familial a plastic anaemia whose onset is usually in the first decade of life is termed as:
    a) Fanconis anaemia
    b) Preleukaemia
    c) Pure red cell anaemia
    d) Black fan diamond syndrome

31. Hyper segmentation is associated with:
    a) Shift to the right
    b) Shift to the left
    c) Neutrophils
    d) Lymphocytes

32. Syharocytosis is a condition where by:
    a) Rbcs show a marked hypochromasia
    b) Rbcs show a marked increase in volume

c) Indicate iron deficiency
   d) Rbcs assume a rounded shape

33. Which of the following is a feature of a plastic anaemia:
   a) Increase in Rbcs
   b) Increase in Platelets
   c) Decrease in all blood cells
   d) Increase of all blood cells

34. Which of the following is an inclusion body found in WBC:
   a) Howell jolly bodies
   b) Heinz bodies
   c) Dohle bodies
   d) Sperocytes

35. The following coagulation factors are prothrombin functional group:
   a) Factor VII
   b) Factor II
   c) Factor X
   d) Factor I

SECTION B (Answer ALL questions)

1. Discuss anticoagulation to include (definition, types, mode of action and their use)   **(20 marks)**

2. (a) Discuss the extrinsic pathway of coagulation   **(10 marks)**

    (b) Outline Leishman staining procedure   **(10 marks)**

3. Write short notes on: **(20 marks)**
   i)   Drabkin solution
   ii) Factors causing excessive demand in iron deficiency anaemia
   iii) Anticoagulant heparin