SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY
(An Institute of National Importance under Govt.of India)
Thiruvananthapuram - 695 011,Kerala,India
Phone-(91)0471-2443152 Fax-(91)0471-2446433,2550728
Email-sct@sctimst.ac.in Web site - www.sctimst.ac.in

ROLL NUMBER:.....

WRITTEN TEST FOR MFCP

TECHNICAL ASSISTANT - A TO B (BIOCHEMISTRY)

DATE: 03.05.2016 **DURATION: 60 MINUTES**

TIME: 09:30 Hrs. **TOTAL MARKS: 50**

INSTRUCTIONS TO THE CANDIDATES

1. Write your Roll Number on the top of the Question Booklet and in the answer sheet.
2. Write legibly the alphabet of the most appropriate answer in the separate answer sheet provided.
3. There will not be any Negative Marking.
4. Over-writing is not permitted.
5. Candidate should sign in the question paper and answer sheet.
6. No clarifications will be given.
7. Candidate should hand over the answer sheet and question paper to the invigilator before leaving the examination hall.

3.5.2016

Signature of the Candidate

WRITTEN TEST ON 03/05/2016 MFCP – TECHNICAL ASSISTANT – A TO B (BIOCHEMISTRY)

1. Accuracy is defined as:
   A. A measure of how often an experimental value can be repeated.
   B. The closeness of a measured value to the real value.
   C. The number of significant figures used in a measurement.
   D. The extent ot which the response in a test is proportional to the amount of analyte present.
2. Clot retraction can be employed as an indicator of
   A. Factor VII deficiency
   B. Factor X deficiency
   C. Hemophilia
   D. Platelet function
3. The following are the most commonly reported types of pre-analytical errors, except
   A. Missing sample and/or test request
   B. Inappropriate blood to anticoagulant ratio
   C. Clotted, and insufficient samples
   D. A test result that gets reported on the wrong patient.
4. The most commonly used biochemical marker for the diagnosis of acute pancreatitis:
   A. Amylase
   B. Aspartate aminotransferase
   C. Alanine aminotransferase
   D. Lipase
5. Albumin, alpha1-, alpha2-, beta-, and gamma globulins are electrophoretic fractions of-
   A. Hemoglobin
   B. Aminoacids
   C. Serum proteins
   D. Serum lipoproteins
6. Most methods for the determination of blood creatinine are based on the reaction of creatinine and –
   A. Sulfuric acid
   B. Alkaline picrate
   C. Acetic anhydride
   D. Ammonium hydroxide
7. The ketone test area on a dip stick is impregnated with-
   A. Alkalin copper
   B. Nitroprusside
   C. Ferric chloride
   D. 2,4,dichloraniline
8. Which size particles are counted as WBC in the WBC bath of the Coulter?
   A. particles 2-20 Fl
   B. particles 22-30 fL
   C. particles 35 fL and larger
   D. particles less than 30 fL
9. In the Cyanmethaemoglobin method, haemoglobin combines with ------ to form cyanmethaemoglobin and brown colour is produced.
   A. potassium chloride
   B. potassium cyanide
   C. ferrous iron
   D. sodium bicarbonate
10. During long-term starvation which of the following would be expected to be elevated in blood?
   A. Acetoacetic acid
   B. Alanine
   C. Bicarbonate
   D. Glucose
11. Which of the following colors is caused by light of longest wavelength?
   A. Green
   B. Blue
   C. Yellow
   D. Red

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12. Other than water, the most common component of plasma is-
    A. Chloride
    B. Urea
    C. Protein
    D. Sodium
13. The antibodies that circulate in the plasma are made by-
    A. the liver
    B. the kidney
    C. B lymphocytes
    D. the spleen
14. The term "hematopoiesis" refers to:
    A. the mechanism that prevent blood loss
    B. a disease in which there is insufficient blood cell production
    C. the rupture of red blood cells
    D. the process of blood cell formation
15. Without the RBC-bound enzyme carbonic anhydrase,-
    A. blood is unable to carry oxygen
    B. blood is unable to coagulate
    C. blood is unable to convert carbon dioxide into bicarbonate
    D. heme cannot be broken down
16. Once released from the bone marrow into the circulation, the average life span of a red blood cell is about-
    A. 72 hours
    B. one week
    C. four months
    D. one year
17. Vitamin required for blood coagulation
    A. A
    B. E
    C. K
    D. B2
18. Factor II of blood clotting is-
    A. Christmas factor
    B. Fibrinogen
    C. Prothrombin
    D. Thrombloplastin
19. Uremia is a disease associated with
    A. Kidney disease
    B. Liver disease
    C. Heart disease
    D. Lung disease
20. Normal pH of blood:
    A. 7.00-7.10
    B. 7.20 – 7.30
    C. 7.35 – 7.45
    D. 7.50 -7.70
21. Physiological saline is-
    A. 0.085% sodium chloride
    B. 0.85% sodium chloride
    C. 8.5% sodium chloride
    D. 85% sodium chloride
22. Which of the following cations is required for the conversion of prothrombin into active thrombin by thromboplastin?
    A. Ca^{2+}
    B. Fe^{2+}
    C. Mg^{2+}
    D. Mn^{2+}

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23. The matrix of blood is known as
    A. Plasma
    B. Serum
    C. red blood cells and white blood cells
    D. white blood cells and platelets
24. Folin-Wu method and Nelson-Somogyi method of blood sugar estimation are based on the ---- property of glucose
    A. Oxidation
    B. condensation
    C. reducing
    D. dehydration
25. A natural anticoagulant
    A. Fluorides
    B. Oxalates
    C. EDTA
    D. Heparin
26. What is the relationship between absorbance and transmittance of light through a sample in a spectrophotometer?
    A. An increase in transmittance usually results in an increase in absorbance
    B. A decrease in transmittance usually results in a decrease in absorbance
    C. A decrease in transmittance usually results in an increase in absorbance
    D. Transmittance and absorbance should remain equal
27. Enzyme are –
    A. Carbohydrates
    B. RNA
    C. Proteins
    D. Fats
28. The most commonly used stain to examine white blood cells:
    A. Leishman stain
    B. Ziehl-Neelsen stain
    C. crystal violet stain
    D. Haematoxylin stain
29. Five ml of a colored solution has an absorbance of 0.3500. The absorbance of 10 ml of the same colored solution will be:
    A. 0.7000
    B. 0.3500
    C. 0.1750
    D. 0.0700
30. The difference between plasma and serum is that plasma:
    A. Contains fibrinogen
    B. Doesn't contain fibrinogen.
    C. Has more water
    D. Has less water
31. Best way to separate the serum is to
    A. leave the blood to clot at room temperature (RT)
    B. leave the blood to clot at RT for I hr, then centrifuge
    C. add citrate.
    D. add EDTA
32. What is the normal fasting blood sugar level range ?
    A. 50-70 mg/ dl
    B. 70-110 mg/ dl
    C. 120-140 mg/ dl
    D. 140-180 mg/ dl

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33. Normal urine primarily consist of—
    A. water, protein, and fat
    B. water, urea, and protein
    C. water, urea, and sodium chloride
    D. water, urea, and bilirubin
34. The term haematuria is used to describe:
    A. Blood cancer
    B. Presence of red blood cells in urine
    C. Internal bleeding
    D. Blood poisoning
35. Citrate is a useful anticoagulant because of its ability to—
    A. buffer basic groups of coagulation factors
    B. bind factor XII
    C. bind vitamin K
    D. chelate calcium
36. The principal buffer system of blood plasma is—
    A. Haemoglobin
    B. Bicarbonate
    C. Phosphate
    D. Protein
37. pO2 (or gases) is measured in which unit?
    A. mMol
    B. mMol
    C. mm Hg
    D. mEq
38. 1 microliter (ml) is
    A. 0.1 ml
    B. 0.01 ml
    C. 0.001 ml
    D. 0.0001 ml
39. Which lipoprotein floats at the density of normal serum?
    A. Chylomicron
    B. a-lipoprotein
    C. b-lipoprotein
    D. pre-b lipoprotein
40. In the GPO - POD method of triglyceride estimation, triglycerides are hydrolyzed to glycerol and free fatty acids by-
    A. Lipase
    B. Kinase
    C. Oxidase
    D. Peroxidase
41. -------is due to the presence of of an abnormal haemoglobin
    A. Sickle cell anaemia
    B. Systemic Lupus eerythematosus
    C. Platelet aggregation
    D. Erythropoiesis
42. Colour of urine is black in ---
    A. Haematuria
    B. Chyluria
    C. Haemoglobinuria
    D. Alkaptonuria
43. pH is defined as the ----------.
    A. Negative logarithm of hydrogen ion concentration
    B. Positive logarithm of hydrogen ion concentration
    C. Logarithm of hydrogen ion concentration
    D. Hydrogen ion concentration

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44. Poikilocytosis is:
    A. Variation in size of RBC
    B. Variation in shape of RBC
    C. Variation in color of RBC
    D. Presence of inclusion bodies in RBC
45. The buffy coat, a layer that appears when blood is centrifuged for determining the hematocrit, is made of-
    A. plasma only
    B. plasma proteins only
    C. plasma proteins and red blood cells
    D. white blood cells and platelets
46. Which of the following lipoproteins are the major carriers of triacyl glycerol?
    A. IDL and LDL
    B. VLDL and LDL
    C. Chylomicrons and VLDL
    D. HDL and VLDL
47. The ratio of diameter of lenses to its focal length is referred as----
    A. Magnification
    B. Resolution
    C. Numerical aperture
    D. Refractive index
48. The visible portion of the electromagnetic spectrum occurs between ___ nm and ___ nm.
    A. 1, 10
    B. 10, 300
    C. 400, 740
    D. 800, 1200
49. When the production of hydrogen ions in the body is the same as their loss, you are in –
    A. Water balance
    B. Electrolyte balance
    C. Acid-base balance
    D. Osmotic balance
50. Acidosis:
    A. may reflect metabolic production of acids
    B. results when blood pH exceeds 7.45
    C. is always corrected by chemical buffer system
    D. is only caused by abnormal respiratory condition

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