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ROLL NUMBER:

WRITTEN TEST FOR MFCP OF TECHNICAL ASSISTANT (LAB)
BIOCHEMISTRY – A TO B

DATE : 26/11/2019

DURATION : 60 MINUTES

TIME : 9.30 AM

TOTAL MARKS : 50

INSTRUCTIONS TO THE CANDIDATE

1. Write your Roll Number on the top of the Question Booklet and in the Answer Sheet.
2. Each question carries 1 mark.
3. There will not be any Negative Marking.
4. Write legibly the alphabet of the most appropriate answer in the separate answer sheet provided.
5. Over-writing is not permitted.
6. Marking more than one answer will invalidate the answer.
7. Candidate should sign on the Answer Sheet.
8. Candidate should hand over Answer Sheet to the invigilator before leaving the examination hall.

(Signature)

**WRITTEN TEST FOR I MFCP –TECHNICAL ASSISTANT (LAB)
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1. In the indirect ELISA test the enzyme linked antibody will attach to
 - A) The constant region of the patient antibody
 - B) The variable region of the patient antibody
 - C) The patient antigen
 - D) The wall of the ELISA plate
2. Following statements are true regarding Quality Manual *except*:
 - A) The quality manual is never finished- it is always being improved
 - B) It should be read, understood and accepted by everyone
 - C) Every employee should have an official copy of it
 - D) It should be written in clear and easily understood language
3. The speed of migration of proteins in an electrophoresis depends on
 - A) Magnitude of charge, shape and mass
 - B) Shape and size
 - C) Magnitude of charge and shape
 - D) Magnitude of charge and mass
4. Percentage of Hemoglobin A2 found in adults' blood
 - A) 95-98%
 - B) 2-3%
 - C) 1-2%
 - D) Zero
5. Lower hematocrit level seen in
 - A) Dehydration
 - B) Dengue fever
 - C) Iron deficiency anemia
 - D) High altitude
6. Propionic and methylmalonic acidemias are commonly differentiated by which of the following tests:
 - A) Organic acids by GC/MS
 - B) Acylcarnitines by tandem mass spectrometry
 - C) Amino acids by MS/MS
 - D) PCR for specific genetic defects
7. Which of the following does NOT describe advantages of ELISA tests?
 - A) They can detect either antigens or antibodies
 - B) They can quantify the amounts of antigen or antibody in a sample
 - C) They can be easily automated
 - D) They can demonstrate the presence of multiple antigens
8. You have left the tourniquet on for more than the recommended time period. Which of the following analytes will be falsely increased in the blood?
 - A) Sodium
 - B) Potassium
 - C) Urea
 - D) LDH
9. In respiratory alkalosis:
 - A) Increased PCO_2 , decreased HCO_3
 - B) Increased PCO_2 , increased HCO_3
 - C) Decreased PCO_2 , decreased HCO_3
 - D) Decreases PCO_2 , increased HCO_3
10. The best combination of tests to screen for monoclonal proteins (M-proteins):
 - A) Serum immunoglobulin concentrations (IgG, IgA, IgM)
 - B) Serum protein electrophoresis and immunofixation electrophoresis
 - C) Serum and urine protein electrophoresis
 - D) Urine protein electrophoresis and immunofixation electrophoresis
11. Production of biologically active Vitamin D (Calcitriol) is mediated by 1α -hydroxylase in which organ?
 - A) Kidney
 - B) Skin
 - C) Liver
 - D) Liver and Kidney
12. What is the main advantage of Point of care testing?
 - A) Cost
 - B) Speed
 - C) Lack of limitations
 - D) Ease of training

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13. Which of the following protein level increase after myocardial infarction, infection, trauma and decline after treatment?
- A) Bilirubin
B) Alpha-1-antitrypsin
C) Globulin
D) C-reactive protein
14. In protein gel electrophoresis, the band of LDL is found in which region?
- A) Alpha-1 zone
B) Alpha-2 zone
C) Beta zone
D) Gamma zone
15. A patient with elevated enzyme level and not having the disease means the result is?
- A) False negative
B) False positive
C) True positive
D) True negative
16. The "Westgard" rule violation "when one control measurement in a group exceeds the mean +2s control limit and another one exceeds a -2s control limit":
- A) 2_{2s}
B) 1_{2s}
C) 1_{3s}
D) R_{4s}
17. Amount of TRIS required to make 1M buffer (pH-8) in 500 ml water [mw of TRIS:121.14 g/mol]
- A) 121.14 mg
B) 121.14 gm
C) 30.285 gm
D) 60.57 gm
18. Normal pH of blood
- A) 7.2
B) 7.3
C) 7.4
D) 7.0
19. The direct ELISA test requires
- A) Known antigen
B) Known antibody
C) Complement
D) Patient antibody
20. In hepatolenticular degeneration (Wilson's disease)
- A) Amino aciduria and increased plasma copper
B) Decrease in plasma ceruloplasmin and increased excretion of copper in the urine
C) An increased plasma ceruloplasmin and decreased excretion of copper in the urine
D) Decrease in plasma copper and increased plasma ceruloplasmin.
21. An anti-antibody is an antibody directed against which of the following?
- A) Another antibody molecule
B) Two or more different antigens
C) A large, complex antigen
D) An antigen found on normal body cells
22. Serum α -Amylase level is a diagnostic test for?
- A) Hepatitis
B) Diabetes
C) Acute Pancreatitis
D) Stroke
23. Presence of porphyrins in urine can be detected by
- A) Absorption at 565 nm
B) Fouchet's test
C) Schlesinger's test
D) UV fluorescence
24. Following reagents are used except, in the enzymatic glucose estimation method
- A) Glucose oxidase
B) NAD⁺
C) Peroxidase
D) H₂O₂
25. Buffers are mixtures of
- A) Strong acid and strong base
B) Weak base and their conjugate acid
C) Weak acid and their conjugate base
D) Strong acid and weak base
26. Which of the following parameters is not affected even if the assay is carried out after 6 hours of blood collection?
- A) Glucose
B) Potassium
C) Carbondioxide
D) Albumin



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42. In myocardial infarction, which is the last enzyme to be raised and last long
A) CK B) CK-MB C) AST
D) LDH
43. If a dried smear cannot be stained immediately, it should be preserved by immersing in
A) Methanol C) Eosin
B) Ethanol D) Methylene blue
44. Fibrinogen abnormalities are detected using which of the following test
A) Thrombin time C) Hemoglobin
B) APTT/PTT D) Bleeding time
45. Albumin level in blood is estimated by:
A) Jaffe's picric acid reaction C) Diacetyl monoxime method
B) Bromocresol green reaction D) Chromatography
46. Which of the following test could not be performed on serum sample
A) Iron C) Clotting factors
B) Total Lipids D) Vitamin B12
47. Sodium is important for the maintenance of
A) Blood Coagulation C) Cardiac muscle contraction
B) Osmotic pressure of Body fluids D) Salt intake
48. The normal renal threshold for glucose in adults is approximately
A) 50mg/dl C) 160mg/dl
B) 100mg/dl D) 320mg/dl
49. Osmolarity is a measure of
A) Dissolved particles, including ions
B) Undissociated molecules only
C) Total salt concentration
D) Molecular size
50. What is the closeness of agreement between the result of a measurement and the true value of a measurand.
A) Accuracy C) Originality
B) Precision D) Trueness

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**Answer key-I MFCP-Technical Assistant
(lab) Biochemistry A to B**

Question Number	Answer	Question Number	Answer	Question Number	Answer
1	A	23	D	45	B
2	C	24	B	46	C
3	C	25	C	47	B
4	B	26	D	48	C
5	C	27	D	49	A
6	A	28	A	50	A
7	D	29	A		
8	B	30	B		
9	C	31	C		
10	C	32	B		
11	A	33	C		
12	B	34	A		
13	D	35	B		
14	C	36	B		
15	B	37	C		
16	D	38	A		
17	D	39	B		
18	C	40	C		
19	B	41	C		
20	B	42	D		
21	A	43	A		
22	C	44	A		

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