

MFCP held on: 5/2/14

MFCP OF TECHNICAL ASSISTANT (LAB) (BIOCHEMISTRY)

1. When Mean Corpuscular Volume (MCV) is high, erythrocytes are called:
 - A. Normocytic
 - B. Hyperchromic
 - C. Macrocytic
 - D. Hypochromic
2. In chronic infections ----- peak is elevated when a serum protein electrophoresis is performed?
 - A. Beta globulin
 - B. Gamma globulin
 - C. Albumin
 - D. Alpha globulin
3. Serum α -Amylase level is a diagnostic test for?
 - A. Hepatitis
 - B. Diabetes
 - C. Acute Pancreatitis
 - D. Stroke
4. 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
5. The mobility of HbA and HbS during electrophoresis will be
 - A. Both have same mobility
 - B. HbS moves faster than HbA
 - C. HbS moves slower than HbA
 - D. HbS doesn't move at all
6. The 6th amino acid in HbA is Glutamic acid, which is replaced byin HbS
 - A. Aspartic acid
 - B. Glycine
 - C. Valine
 - D. Tryptophan
7. Serum enzymes helpful in the diagnosis of myocardial infarction, except
 - A. CK-MB
 - B. Troponin
 - C. LDH
 - D. Glucose-6-phosphate dehydrogenase
8. Following reagents are used exceptin the enzymatic glucose estimation method
 - A. Glucose oxidase
 - B. NAD⁺
 - C. Peroxidase
 - D. H₂O₂

9. All the following biochemical parameters are indices of liver function, except
- A. Bilirubin
 - B. Cholesterol
 - C. Albumin
 - D. Creatinine
10. Urine will have abnormal color in all the following conditions, except
- A. Melanuria
 - B. Porphyria
 - C. Creatinuria
 - D. Alkaptonuria
11. Which of the following has maximum absorbance at 340 nm?
- A. Heme
 - B. Proteins
 - C. NADH
 - D. DNA
12. When pH falls by 1 unit, the hydrogen ion concentration:
- A. Decrease 10 times
 - B. Increase 2 times
 - C. Decrease 2 times
 - D. Increase 10 times
13. A 1/8 dilution of urine is
- A. 1-part water and 8 parts urine
 - B. 1-part urine and 8 parts water
 - C. 1-part urine and 7 parts water
 - D. 1-part water and 7 parts urine
14. Which of the following will be falsely elevated due to hemolysis?
- A. Glucose
 - B. LDH
 - C. Calcium
 - D. LDL
15. The Coefficient of variation (CV) is expressed as (σ is standard deviation and μ is mean)
- A. σ/μ
 - B. σ^2/μ^2
 - C. σ^2/μ
 - D. σ/μ^2
16. Internal Quality Control (IQC) primarily checks
- A. Precision
 - B. Accuracy
 - C. Systematic errors
 - D. All the above

17. Following protocols are followed when needles and sharps are disposed *except*
- A. In puncture-resistant and leak-proof container
 - B. Recap needle and dispose
 - C. Decontaminate and dispose in labelled and sealed container
 - D. Can be disposed along with broken glass containers
18. 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
19. In the 2_{2s} rule violation in LJ chart, the run is rejected when:
- A. A single control measurement exceeds the mean plus 3s or the mean minus 3s control limit.
 - B. 2 consecutive control measurements exceed the same mean plus 2s or the same mean minus 2s control limit.
 - C. 1 control measurement in a group exceeds the mean plus 2s and another exceeds the mean minus 2s.
 - D. 4 consecutive control measurements exceed the same mean plus 1s or the same mean minus 1s control limit.
20. The standard that specify the quality management system in a clinical laboratory is:
- A. ISO 15189
 - B. ISO 9000
 - C. ISO 2001
 - D. ISO 9022
21. Analytical error includes
- A. Wrong specimen-anticoagulant ratio
 - B. Expired reagents or calibrators
 - C. Improper sample storage method
 - D. Delay in delivering the results to the doctors
22. Albumin, alpha1, alpha2, beta and gamma globulin are electrophoretic fractions of
- A. Hemoglobin
 - B. Amino acid
 - C. Serum Protein
 - D. Serum Lipoprotein
23. Which of the following technical Factors will cause a decreased ESR
- A. Gross hemolysis
 - B. Tilting of the tube
 - C. Small fibrin clots in the sample
 - D. Increased room temperature
24. The total iron binding capacity measures the serum iron transporting capacity of
- A. Hemoglobin
 - B. Transferrin
 - C. Ferritin
 - D. Ceruloplasmin

25. If a dried smear cannot be stained immediately, it should be preserved by immersing in
- A. Methanol
 - B. Ethanol
 - C. Eosin
 - D. Methylene blue
26. In a blood smear Eosinophil nucleus appears as
- A. Violet
 - B. Blue
 - C. Red-orange
 - D. Black
27. ESR may increase in
- A. Increased level of fibrinogen
 - B. Sickle cell anaemia
 - C. Delay in test performance
 - D. Clotted blood sample
28. Prothrombin time in a patient receiving anticoagulation therapy (warfarin) will be:
- A. Increased
 - B. Decreased
 - C. Not affected
 - D. None of the above
29. Which of the following is not an emergency investigation?
- A. Potassium
 - B. Creatinine
 - C. Trop T
 - D. Fasting glucose
30. Bilirubin in the serum can be measured by
- A. Van den Bergh reaction
 - B. Ehrlich's reaction
 - C. Schlesinger's reaction
 - D. Fouchet's reaction
31. All are methods to measure proteins, except?
- A. Flame photometry
 - B. Nephelometry
 - C. ELISA
 - D. RIA
32. Which of the following laboratory results indicate poor glycemic control?
- A. Serum cholesterol of 240 mg/dL
 - B. PPBS of 180 mg/dL
 - C. HbA1c of 10%
 - D. Blood urea level of 35 mg/dL

33. Normal specific gravity of urine
- A. 1.003 to 1.010
 - B. 1.010 to 1.015
 - C. 1.015 to 1.025
 - D. 1.025 to 1.035
34. Albumin level in blood is estimated by:
- A. Jaffe's picric acid reaction
 - B. Bromocresol green reaction
 - C. Diacetyl monoxime method
 - D. Chromatography
35. Which of the following is not a point of care test?
- A. ABG analysis
 - B. Plasma electrolytes
 - C. Plasma glucose
 - D. Plasma proteins
36. 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
37. Fasting samples gives lower values than post-prandial samples for all the parameters except:
- A. Glucose
 - B. Phosphate
 - C. Tryglycerides
 - D. Cholesterol
38. Which of the following test could not be performed on serum sample
- A. Iron
 - B. Total Lipids
 - C. Clotting factors
 - D. Vitamin B12
39. Sodium is important for the maintenance of
- A. Blood Coagulation
 - B. Osmotic pressure of Body fluids
 - C. Cardiac muscle contraction
 - D. Salt intake
40. True statement regarding laboratory/non operative "errors"
- A. Due to Mixing up samples
 - B. Non-conforming results with no statistical meaning
 - C. Occurs due to non-human action
 - D. All the above

41. All the following are essential elements of the quality management system *except*:
- A. Equipment management
 - B. Personnel management
 - C. Patient population
 - D. Process control
42. Random errors (RE) are always
- A. Zero
 - B. Greater than zero
 - C. Less than zero
 - D. Highly variable
43. Most important competency assessment method for a laboratory personal include
- A. Check background and training
 - B. Check current job description
 - C. Check work schedules
 - D. Direct observation of employee's techniques to assess whether SOP is followed
44. Which hormone is not related to calcium metabolism?
- A. Calcitonin
 - B. Parathyroid hormone
 - C. Vitamin D
 - D. Vitamin E
45. The blood pH is maintained near 7.4 by buffer systems. The sequence from fastest-acting compensation to the slowest-acting compensation is:
- A. Lungs, kidneys, blood buffers
 - B. Blood buffers, lungs, kidneys
 - C. Blood buffers, kidneys, lungs
 - D. Lungs, blood buffers, kidneys
46. When ketone bodies are present in the blood and in the urine in large amounts, it indicates increased metabolism of:
- A. amino acids
 - B. glycogen
 - C. fatty acids
 - D. lactic acid
47. Red cell enzyme deficiencies associated with hemolytic anemia
- A. glucose-6 phosphate dehydrogenase
 - B. glyceraldehyde 3 -phosphate dehydrogenase
 - C. glutathione peroxidase
 - D. glutathionereductase

48. Tissue thromboplastin converts prothrombin to thrombin in presence of

- A. Factor VII
- B. Factor IV
- C. Factor VIII
- D. Factor X

49. For a given rpm, the RCF will depend on

- A. Length of the centrifuge tube
- B. Volume of the centrifuge tube
- C. Distance between axis of rotation and the centre of the centrifuge tube
- D. Radius of the centrifuge tube

50. Among the following, which has the highest protein content

- A. Chylomicron
- B. VLDL
- C. LDL
- D. HDL

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MFCP OF TECH ASST (LAB)-BIOCHEMISTRY

ANSWER KEY(05/02/2019)

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

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