يتكون هذا الاختبار من (100) سؤال موضوعي من نوع الاختيار من متعدد، الإجابة عنها إجبارية. ظلل بقلم الرصاص بشكل غامق الدائرة التي تشير إلى الإجابة الصحيحة في المكان المخصص لذلك في نموذج الإجابة المرفق.

Clinical Chemistry

1. **Which of the following statements <u>is correct</u> about anterior pituitary gland?**
   - a- Secrete Antidiuretic hormone ADH
   - b- Release trophic hormones that control the endocrine glands
   - c- Secrete Oxytocine hormone
   - d- Primary hyperpituitrasim caused by disorders in hypothalamus.

2. **The disease results from primary hypothyroidism is:**
   - a- Grave's disease
   - b- Acromegaly
   - c- Hashimoto's disease
   - d- Hyperparathyriodism

3. **Which of the following laboratory results <u>are correct</u> about Secondary hypercortisolism (Cushing's syndrome):**
   - a- Increased cortisol and increased ACTH.
   - b- Increased cortisol and decreased ACTH.
   - c- Decreased cortisol and decreased ACTH.
   - d- Decreased free cortisol in urine.

4. **The <u>correct</u> statement about Adrenal Medulla is:**
   - a- Secrete Cortisol, Aldosterone and adrenal androgens
   - b- Secrete both epinephrine and norepinephrine
   - c- Constitute 90% of adrenal gland
   - d- All of the above

5. **From the clinical manifestations of liver disease is deterioration of brain function due to buildup of toxic substances that are normally removed by the liver, this is called:**
   - a- Jaundice
   - b- Cholestasis
   - c- Portal hypertension
   - d- Hepatic encephalopathy

6. **Which of the following enzymes is the most specific to the liver?**
   - a- Alanine transaminase (ALT)
   - b- Aspartate transaminase (AST)
   - c- Alkaline Phosphatase (ALP)
   - d- Lactate dehydrogenase(LD)

7. **Which type of jaundice that shows the following results: serum unconjugated bilirubin is very high, urine urobilinogen is markedly increased and urine bilirubin is negative?**
   - a- Pre-hepatic jaundice
   - b- Hepatic jaundice
   - c- Physiological jaundice
   - d- Post-hepatic jaundice

8. **Which of the following statements <u>is correct</u> about bilirubin?**
   - a- Conjugation process carried in Kidney.
   - b- Unconjugated bilirubin is water soluble.
   - c- Bilirubin is a breakdown product of hemoglobin.
   - d- Unconjugated bilirubin could be measured directly in laboratory.

9. Which of the following analytes (in its deficiency state) can be diagnosed by Schiling test?

a- Calcium b- Vitamin B12

c- Albumin d- Vitamin

10. Which of the following <u>is correct</u> about Steatorrhea?

a- Bloody stool

b- Characterized by decreased fat stool.

c- Caused by malabsorption of fat in diet.

d- Caused by malabsorption of carbohydrate in diet.

11. What is the screening test that is used to detect colon and gastrointestinal cancers?

a- Lactose tolerance test b- xylose absorption test

c- Serum carotene d- Occult blood in stool

12. Which of the following analytes is the most useful in diagnosing acute pancreatitis?

a- Albumin b- Serum amylase

c- Glucose concentration d- serum iron

13. The functional unit of the kidney is:

a- Nephrone b- Hepatocyte

c- Myocyte d- Pneumocyte

14. What is <u>the correct</u> statement about Creatinine?

a- Synthesized in the Kidney.

b- Useful in diagnosing filtration function of the kidney.

c- Derived from the breakdown of amino acids.

d- High levels in blood are called azotemia.

15. The most common type of renal calculi (Kidney stones) is:

a- Calcium oxalate b- Uric acid

c- Cystine d- Cholesterol

16. What is <u>the correct</u> laboratory result about Nephrotic syndrome?

a- Increased albumin b- Decreased α2- globulin

c- Massive proteinurea d- Increased γ- globulin

17. Most of body calcium are found in:

a- Blood b- Bone

c- Liver d- Heart

18. Which of the following hormone increases calcium concentration in blood?

a- Thyroid hormone

b- Thyroid stimulating hormone (TSH)

c- Calcitonine

d- Parathyroid hormone (PTH)

19. <u>The correct</u> statement about Phosphate is:

a- Vitamin D decrease phosphate concentration in blood

b- Increased dietary intake of phosphate lead to hypophosphatemia

c- Normal range of serum phosphate concentrations is higher in children than in adult

d- Most of body phosphates are found in blood

20. What is <u>the correct</u> statement about Hypocalcemia?

a- Decrease in Vitamin D leads to decrease serum level of calcium

b- Hypocalcemia are seen in malignancies

c- Hypocalcemia are caused by hyperparathyroidism

d- Increased dietary intake of calcium may cause Hypocalcemia

Microbiology 1& 2

21. All of the following could be used as disinfectants <u>except</u>:

a- Halogens b- Aldehydes

c- Phenols d- Normal saline

22. An epidemic disease which spreads to several countries and affect large numbers of people is:

a- Pandemic b- Epidemic

c- Sporadic d- Zoonotic

23. A localized region on the surface of an antigen that is recognized by the antibody is:

a- Epitope (antigenic determinant)

b- Heavy chain

c- Light chain

d- Constant region

24. One of the following disease dose <u>not</u> acquired by respiration:

a- Tuberculosis b- Measles

c- Typhoid d- Pneumonia

25. Which of the following <u>is not</u> a characteristic of prokaryotic cells?

a- Ribosome's b- Cytoplasm

c- DNA d- Nuclear membrane

26. Which of the following is a known characteristic of the virus:

a- Reproduce outside the living cells

b- Contains ribosome

c- Contains mitochondria

d- Contains either RNA or DNA

27. Pharmaceutical products can be sterilized by:

a- Filtration b- Autoclave

c- Boiling d- Hot air oven

28. If the cells in a bacterial culture are dying at the same rate as they are reproducing, the population is in the:

a- Exponential (logarithmic) phase

b- Lag phase

c- Stationary phase

d- Death phase

29. Mechanisms of phagocytosis occur according to the following order:

a- Attraction, adhesion, engulf, and kill the foreign cell

b- Engulf, attraction, adhesion, and kill the foreign cell

c- Attraction , kill the foreign cell, engulf, and adhesion

d- Engulf, adhesion, attraction, and kill the foreign cell

30. The wave length of ultraviolet radiation which cause cell damage by inhibition DNA replication is:

a- 240-280 nm b- 100-120 nm

c- 200-300 nm d- 400-480 nm

31. Shigellosis is a common disease in travelers to developing countries. Infection is commonly acquired through the :

a- Gastrointestinal tract b- Genital tract

c- Skin d- Respiratory tract

32. Which virulence factor results in the symptoms of Staphylococcal food poisoning?

a- Exfoliative exotoxin b- Coagulase

c- Endotoxin d- Enterotoxin

33. Following infection with *Streptococcus pyogenes*, antibody titers may be raised to:

a- Streptolysin- O b- Hyaluronic acid

c- DNAse d- Catalase

34. *Escherichia coli* is characterized by the following <u>except</u>:

a- The most commensal organism in the gut.

b- The most frequent etiological agent of urinary tract infection.

c- Produces bright pink colonies on MacConkey agar.

d- Gram positive rod.

35. The causative agent of Enteric fever is:

a- *Enterococcus faecalis*. b- *Salmonella typhi.*

c- *Giardia lamblia*. d- *Salmonella typhimurium*

36. Mortality rate is defined as:

a- Number of peoples affected in relation to total population in a given time period

b- Number of deaths from a disease in relation to the population in a given time period

c- The rate of bacterial movement in a given media

d- The percentage of motile bacteria

37. Toxigenic strains of *Corynebacterium diphtheria* may be distinguish from non-toxigenic by:

a- Coagulase test b- Swelling test

c- Elek test d- Rose- Bengal test

38. Zoonotic disease is:

a- A disease that is transmitted from animal to human

b- A disease that is transmitted from animal to animal

c- A disease that is transmitted from human to animal

d- A disease that is transmitted to animals by vector

39. Most biological waste produced in the hospital is terminally decontaminated before disposal by:

a- Chemical disinfection b- Washing with soaps

c- Autoclave d- Ethylene oxide

40. The best urine sample to be collected for culturing is:

a- Timed collection urine specimens

b- Supra-pubic aspiration

c- Randomly collected specimens

d- Clean-catch-mid stream urine

Histology & Microtechniques

41. The four principal types of tissues are

a- Muscle, nervous, skeletal, connective

b- Epithelial, skeletal, connective, reticular

c- Connective, skeletal, epithelial, nervous

d- Epithelial, connective, muscle, nervous

42. Which type of epithelium is adapted to protect underlying tissues from abrasion and friction:

a- Simple squamous b- Stratified squamous

c- Transitional d- Simple cuboidall

43. Non- ciliated simple columnar epithelium often contains _____, which increase the surface area for secretion and absorption.

a- Flagella b- Collagen fibers

c- Microvilli d- Hairs

44. What are the three basic components of connective tissue?

a- Ground substance, cells, and basement membrane

b- Cartilage, intercellular matrix, and serum

c- Cells, protein fibers, and ground substance

d- Collagen, elastin, and reticular fibers

45. Examples of apocrine glands include which of the following?

a- Mammary and some sweat glands

b- Thyroid and adrenal glands

c- Salivary and sebaceous glands

d- Pancreas and ovary

46. Which term describes a band of dense regular connective tissue that attaches two bones?

a- Aponeurosis b- Tendon

c- Ligament d- Capsule

47. Which type of tissue facilitates movement of the skeleton or organ walls?

a- Epithelial b- Muscular

c- Connective d- Nervous

48. The two types of cells in nervous tissue are:

a- Dendrites and axons b- Nerve processes and nerve fibers

c- Satellite cells and neurons d- Neurons and glial cells

49. All of the following are types of serous membranes <u>except:</u>

a- Pleurae b- Perichondrium

c- Peritoneum d- Pericardium

50. Nervous tissue cells that play several supporting roles but do not transmit impulses are called:

a- Glial cells b- Dendrites

c- Nerve cells d- Neurons

51. The minute passage ways in the bony matrix that allow osteocytes to communicate with each other are called:

a- Lamellae b- Lacunae

c- Osteons d- Canaliculi

52. After dehydration, it is necessary to further treat tissue blocks with a reagent that is miscible with both alcohol and paraffin wax. For this purpose we used:

a- Xylene b- Formalin

c- Paraffin d- Acetic acid

53. Positive reaction, in the PAS relies on the presence of which groups?

a- Aldehyde b- Anionic

c- Cationic d- β-pleated proteins

54. The aim of dehydration is to:

a- Add water to the tissue b- Add paraffin to the tissue

c- Remove water from the tissue d- Remove paraffin from the tissue

55. In microtechnique the one technical fault(mistake) which cannot be modified or corrected is:

a- Improper mounting
b- Over staining
c- Inadequate fixation
d- Inadequate clearing

56. All of the following are functions of Preservation of the cells and tissue <u>except:</u>

a- Prevent desiccation
b- Prevent osmotic swelling and shrinkage
c- Induce autolysis
d- Inhibit putrefaction (bacterial decomposition)

57. Which fixative is widely used to transport tissue to another laboratory?

a- 80% alcohol
b- Glacial acetic acid
c- 10% formalin
d- Mercuric chloride

58. The most commonly used acidic dye is:

a- Eosin
b- Methylene blue
c- PAS
d- Hematoxylin

59. Following fixation, the first step in tissue processing is:

a- Dehydration
b- Impregnation
c- Embedding
d- Clearing

60. Clearing is done by placing the tissues in:

a- Hydrochloric acid
b- Acetic acid
c- Zinker
d- Xylol or benzol

Diagnostic Hematology

61. Which of the following is a microcytic hypochromic disease:

a- Megaloblastic anemia
b- Iron deficiency anemia
c- Pernicious anemia
d- Hemolytic disease of the new born

62. Hereditary spherocytosis is caused by:

a- Decrease in the surface area of rbcs
b- Delay in DNA synthesis
c- Deficiency in rbcs enzymes
d- Defect in bone marrow

63. Iron is stored in the form of:

a- Ferric
b- Ferrous
c- Transferrin
d- Ferritin

64. The iron stain is called:

a- Perl’s stain
b- methylene blue
c- Eosin
d- Wright’s stain

65. High MCV is a feature of RBCs in the case of:

a- Thalassemia b- Folic acid deficiency

c- G6PD deficiency d- Sickle cell anemia

66. Hemoglobin electrophoresis for a patient with Beta thalassemia major results in:

a- HbA = 0 – 20% b- HbA = 20 – 30%

c- HbA = 30 – 50 % d- HbA = 80 – 95%

67. Which of the following features belongs to sickle cell anemia?

a- Oxidation of hemoglobin

b- Low amount of Beta chains

c- Formation of Heinz bodies

d- Crystallization of hemoglobin

68. Which of the following tests used to diagnose autoimmune hemolytic anemia?

a- Solubility test b- Hb electrophoresis

c- Coombs test d- Blood film

69. One of the following is true about iron deficiency anemia:

a- Serum iron high b- Transferrin low

c- Transferrin saturation low d- TIBC low

70. HbH disease results from a defect in the following globins chain:

a- alpha chain b- beta chain

c- gamma chain d- delta chain

71. The acquired disease in the following is:

a- Hemophilia

b- DIC (disseminated intravascular coagulation)

c- Thalassemia

d- G6PD deficiency

72. The name of acute megakaryocytic leukemia is:

a- MI b- M3

c- M5 d- M7

73. The most frequent cause of severe HDN is:

a- Anti A b- Anti D

c- Anti K d- Anti H

74. Pernicious anemia is one type of megaloblastic anemia which caused by:

a- Pregnancy

b- Bacterial overgrowth in small intestine

c- Nutritional deficiency of B12

d- Decreased intrinsic factor secretion

75. The need for exchange transfusion for a new born child with HDN depends on:

a- Hb concentration

b- Coombs test result

c- Serum bilirubin concentration

d- Reticulocyte count

76. Leukemia's are classified into severe and chronic according to:

a- Percentage of blast cells in peripheral blood

b- Type of proliferative cell

c- Severity of clinical features

d- Age and sex of patient

77. Von Willebrand factor is part of:

a- V factor b- VII factor

c- VIII factor d- IX factor

78. Which of the following findings belongs to hemophilia A:

a- High PT b- High APTT

c- Increase FDPs d- Increase factor VIII

79. In which diseases you will find the following results: RBCs count decreased, platelets count decreased and fibrinogen decreased?

a- DIC b- Von Willebrand's disease

c- Myelofibrosis d- Hemophilia B

80. Severe burns causes one of the followings:

a- Primary polycythemia b- secondary polycythemia

c- Polycythemia vera d- relative polycythemia

Blood Bank

81. The anticoagulant CPDA can preserve the blood for:

a- 21 days b- 35 days

c- 39 days d- 42 days

82. One of the following changes occur in stored whole blood:

a- pH decrease

b- Potassium in plasma decrease

c- ATP increase

d- Levels of factor VIII increase

83. The main blood bag contain approximately:

a- 200 ml b- 300 ml

c- 400 ml d- 500 ml

84. Transfusion of incompatible blood causes:

a- Lymphopenia b- Circulatory overload

c- Allergic reaction d- Hemolytic reaction

85. A person that can donate blood is:

a- A male with hemoglobin 12 g/dl

b- A female who is 55 kg weight

c- 17 years old male

d- A pregnant woman

86. Which of the following antibodies can cross the placenta?

a- Anti A b- Anti M

c- Anti D d- Anti B

87. Which disease requires frequent transfusion?

a- Malaria b- Thalassemia

c- B12 deficiency d- Iron deficiency anemia

88. The blood component which is preserved for 10 years is:

a- Fresh whole blood b- Fresh frozen plasma

c- Glycerolized blood d- Cryoprecipitate

89. Which blood component is preserved in a frozen phase?

a- Cryoprecipitate b- Platelets

c- Packed RBCs d- WBCs

90. If the father genotype is (DD) and the mother genotype is (dd), then the percentage of having Rh negative child is:

a- 0 % b- 50 %

c- 25 % d- 100%

91. Which group of the following has subgroups?

a- O b- B

c- D d- A

92. Which feature of the following belongs to IgG?

a- Complete b- Warm

c- Natural d- High molecular weight

93. Indirect antiglobulin test is used for the detection of:

a- HLA antigens

b- Weak antigens on RBCs

c- Incomplete antibody in the serum

d- Antibodies on RBCs

94. HLA antigens are found:

a- On WBCs only b- On platelets and WBCs

c- In all body secretion d- On all nucleated cells

95. Platelets are prepared from:

a- Fresh plasma b- Fresh whole blood

c- Fresh frozen plasma d- Fresh buffy coat

96. (10) panel cells are used in which of the following tests:

a- Direct antiglobulin test b- Ab identification

c- Ab screening d- Compatibility test

97. The true statement about Rh antigens is:

a- Not developed at birth

b- Have subgroups

c- Found only on RBCs

d- Their genes are found on chromosome 11

98. Which of the following is true about sensitization:

a- Invisible reaction

b- Occur in vivo only

c- Irreversible

d- One antibody sensitize every RBC

99. Anti human globulin reagent is necessary for:

a- Direct ABO grouping b- Indirect ABO grouping

c- Rh test d- Du test

100. Group- B patients can take whole blood from:

a- Group B only b- Group B & O

c- Group B & AB d- Group B & O &AB

انتهت الأسئلة