

# BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

## **MEDICAL LAB TECHNICIAN (Under PILBS, Mohali)**

QUESTION BOOKLET:

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OMR ANSWER SHEET NO:

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ROLL NO:

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THUMB IMPRESSION OF THE CANDIDATE

FULL SIGNATURE OF THE CANDIDATE

FULL SIGNATURE OF INVIGILATOR

FULL SIGNATURE OBSERVER

**Time Allowed: 2.00 Hours (12.00 noon to 2.00 PM)**

**Maximum Marks: 100**

1. Use BLACK FINE TIP BALL PEN only. Use of pencil is not allowed.
2. Write your Roll number on the OMR answer-sheet and also on the question-booklet only in the space provided for the purpose and at no other place in the question booklets and Answer-sheet
3. Enter the Question Booklet Set and Number on the OMR Answer-sheet and also darken the corresponding bubbles with BLACK FINE TIP BALL PEN.
4. Do not put any marks anywhere in the Question booklet /on the OMR Answer-sheet.
5. **There are 100 objective type questions in all of 1 Mark each.** Before attempting the questions, check that the Question-booklet is complete. In case any question/part of question or page is missing, inform the Centre Superintendent within 5 minutes of the start of the examination. After that no claim will be entertained.
6. **Each question is followed by four alternative responses listed as A), B), C) and D) out of which only one is correct / most correct. In case, all the ovals are left blank, there will be deduction of marks @ 0.25 marks for each such unattempted question. Fifth oval 'E' (introduced for security purpose) is to be darkened in case you do not want to attempt the question to avoid negative marking.**
7. To open the question booklet, remove the seal gently when asked to do so. Handover the OMR Answer-sheet to the officer on duty on the completion of the time before you leave the examination hall.
8. **The candidates are permitted to carry his/her question booklet after completion of the examination but OMR Sheets are compulsory required to be deposited with the invigilator.**
9. A candidate who create disturbance of any kind or changes his/her seat or is found in possession of any paper possibility of any assistance to him/her or unfair means will be expelled from the examination by the Centre superintendent/Observer, whose decision shall be final. ("Expulsion" for this purpose would mean cancellation of the entire examination of the candidate).
10. **THE CANDIDATES ARE NOT PERMITTED TO CARRY ANY TELECOMMUNICATION EQUIPMENT SUCH AS WATCH, CELLULAR PHONE, WIRELESS SET, SCANNER ETC. INSIDE THE EXAMINATION HALL.**
11. For rough work, use only the blank space of the Question booklet.
12. The candidates will not be allowed to leave the examination hall during the examination.
13. Borrowing any material is not allowed.
14. The answer-sheet is designed for Computer evaluation. If the instructions are not followed properly, the candidate alone shall be responsible for the resultant loss.
15. Smoking/Refreshment shall not be allowed in the Entrance Test Centre/Hall.
16. Male candidates shall affix their Left Thumb Impression (LTI) while Female candidates shall affix Right Thumb Impression (RTI) at the prescribed place on the OMR answer sheet, Question Booklet and attendance sheet. The Centre superintendent shall also obtain and retain it for record.
17. The candidate must fill both the question booklet number and OMR answer sheet number on the attendance sheet.
18. No candidate shall be allowed to leave the centre before **2.00 PM.**

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1. Principals of Histologic techniques for distinction of tissue component are based on
  - A. Alteration of contrast
  - B. Alteration of color
  - C. Both
  - D. None
2. Hematoxylin stain
  - A. Nucleus
  - B. Cytoplasm
  - C. Both
  - D. None
3. Supravital stains are
  - A. Brilliant cresyl blue
  - B. Methylene blue
  - C. Hematoxylin
  - D. A& B
4. Paraffin embedded sections are cut by
  - A. Electron beams
  - B. Knife
  - C. Laser
  - D. Microtome
5. Best lipid stain
  - A. Sudan Black III/IV
  - B. Hematoxylin and eosin
  - C. Methylene Blue
  - D. PAS
6. PAS stain gives which color
  - A. Magenta
  - B. Blue
  - C. Yellow
  - D. Brown
7. Choose correct sequence of tissue processing
  - A. Fixation — dehydration— microtome —stain
  - B. Microtome—fixation— dehydration—stain
  - C. Fixation —microtome— embedding—stain
  - D. Microtome—embedding— fixation—stain
8. Honing is process of
  - A. Sharpening of knife
  - B. Staining of tissue
  - C. Fixing
  - D. Decalcification
9. Mordant of Hematoxylin and eosin
  - A. Alcohol
  - B. Alum
  - C. Iodine
  - D. Xylene
10. Choose correct dehydration
  - A. 70%—80%—95%—100%
  - B. 40%—60%—80%—100%
  - C. 100%—80%—60%—40%
  - D. None
11. To avoid autolysis and putrefaction which should be done
  - A. Embedding
  - B. Dehydration
  - C. Fixation
  - D. None
12. Heidenhansusa contains all except
  - A. Mercuric chloride
  - B. Sodium chloride
  - C. Trichloroethane acetic acid
  - D. Formalin
13. Diamond marking pencil is used for labelling of
  - A. Slide
  - B. Tissue
  - C. Cell
  - D. None
14. Picric acid is
  - A. Simple fixative
  - B. Compound fixative
  - C. A&B
  - D. None
15. Formal saline as fixative
  - A. 20%
  - B. 10%
  - C. 40%
  - D. 80%
16. Ratio between tissue and fixation
  - A. 1:10
  - B. 1:20
  - C. 1:50
  - D. 1:100

17. Zenker fluid is
- Compound fixative
  - Simple fixative
  - None of above
  - All of the above
18. Removal of tissue from dead body is called
- Biopsy
  - Autolysis
  - Autopsy
  - Putrefaction
19. DPX is
- Fixative
  - Mount ant
  - Clearing
  - Dehydrating agent
20. Removal of calcium from tissue
- Embedding
  - Dehydration
  - Fixative
  - Decalcification
21. Carbon dioxide is cooling agent
- Freezing microtome
  - Sliding microtome
  - Rotary microtome
  - None
22. Power house of cell
- Cytoplasm
  - Mitochondria
  - Cell wall
  - Ribosome
23. Full from of MGG
- May Granuwald Giemsa
  - May Giemsa Giemsa
  - May Giemsa Granuwald
  - None
24. L mould is known as
- Leukhartmould
  - Liver mould
  - None of above
  - All of above
25. Bluing is done
- H&E staining
  - MGG
  - PAS
  - Mythelene blue
26. Histokinette
- Automatic tissue processor
  - Microtome
  - Cryostat
  - None
27. End – stage of Chronic Liver Disease is called
- Cirrhosis
  - Alcoholic Liver Disease
  - Steatosis
  - None
28. IBD ( Inflammatory Bowel Disease) includes
- Crohn’s Disease
  - Ulcerative colitis
  - Both
  - None
29. The best source of active bone marrow in 20 year old would be
- Iliac crest
  - Femur
  - Tibia
  - Humerus
30. RBC indices 82-94 pg is
- MCH
  - MCHC
  - MCV
  - Hb
31. Prediabetes is the term used for individuals that do not meet the criteria for diabetes but are too high to be considered normal. Which of the following statement accurately characterize prediabetes?
- Fasting blood glucose from 120-180 mg/dL
  - Fasting blood glucose from 126-140 mg/dL
  - Fasting blood glucose from 110-125 mg/dL
  - All of the above

32. Glucose and mannose are examples of:
- anomers
  - Epimers
  - Isomers
  - None
33. A Holoenzyme is
- Functional unit
  - Apo enzyme
  - Coenzyme
  - All of these
34. HDL cholesterol is said to be good cholesterol, because:
- HDL contains enzymes to break down cholesterol
  - HDL carries cholesterol from liver to tissues where it is further metabolized
  - HDL carries cholesterol from tissues to liver from where cholesterol is excreted
  - HDL inhibits cholesterol synthesis
35. Glycolysis operates in:
- endoplasmic reticulum
  - cytoplasm
  - Mitochondrion
  - Golgi apparatus
36. Administration of aspirin in low dosage shown to be of value in preventing myocardial infarction by:-
- Inhibiting platelets aggregation
  - Preventing platelets adhesion
  - Initiating platelets activation
  - Retracting the blood clot
37. Glucose level in plasma is increased by
- Gluconeogenesis
  - Glycolysis
  - Glycogen synthesis
  - Glycosuria
38. Vitamin D is necessary for :
- bones
  - Teeth
  - Ca reabsorption
  - All
39. Transplacental transfer of maternal IgG antibody induces:
- Active natural immunity
  - Active artificial immunity
  - Passive natural immunity
  - Passive artificial immunity
40. Acetyl Co A is produced for the production of all the following except:
- Oxidation of TCA cycle
  - De Novo synthesis of fatty acid
  - Glucose
  - Cholesterol
41. Hyaluronic acid is seen in:
- Synovial fluid
  - Cornea of eye
  - Outer shell of insects
  - cartilage
42. The serum lipoprotein with the highest cholesterol content is:
- Alpha lipoprotein (HDL)
  - beta lipoprotein (LDL)
  - Prebeta lipoprotein (VLDL)
  - Chylomicron
43. A positive nitrogen balance occurs in all except:
- In growing infant
  - Following surgery
  - In advanced cancer
  - In kwashiorkor
44. Control of urea cycle involves the enzyme:
- Carbamoyl phosphate synthetase
  - Ornithine transcarbamoylase
  - Argininosuccinase
  - Arginase
45. The functions of plasma albumin are
- Osmosis
  - Transport
  - Immunity
  - both (a)and (b)
46. Which enzyme protects DNA from damaging?
- DNA polymerase
  - Topoisomerase
  - Deoxyribonuclease
  - Telomerase

47. Worldwide, the most common vitamin deficiency is that of
- Ascorbic acid
  - Folic acid
  - Vitamin A
  - Vitamin D
48. The water soluble vitamins are:
- A and C
  - A and D
  - C and B
  - All
49. Allopurinol is competitive inhibitor for
- Purine synthase
  - Xanthine oxidase
  - Cyclooxygenase
  - All
50. Vitamin A is soluble vitamin:
- Water
  - Fat
  - Acid
  - None
51. Oligosaccharides contain sugar units :
- 2-10
  - 1-2
  - 2-100
  - None
52. SGOT is important in diagnosis of diseases of
- kidney
  - heart
  - brain
  - none
53. Which of the following is a structural protein
- Collagen
  - Hemoglobin
  - Zein
  - Phaseolin
54. At the Isoelectric pH an amino acid exists as
- monopolar ions
  - dipolar ions
  - zwitter ions
  - both 'b' and 'c'
55. Hypogonadism develops due to deficiency of
- Sulphur
  - Cobalt
  - Zinc
  - Manganese
56. "Respiratory distress syndrome" in the premature infant is due to the deficiency of:
- Cephalin
  - Plasmalogen
  - Lecithin
  - Cardiolipin
57. The acceptor arm in the tRNA molecule has
- 5 Base pairs
  - 7 Base pairs
  - 10 Base pairs
  - 20 Base pairs
58. Bence-Jones protein precipitates at
- 20°-40° C
  - 40--60°
  - 60°-80° C
  - 80°-100° C
59. Rancidity of fat is due to:
- Hydrogenation of unsaturated bond
  - Hydrolysis of ester links
  - Substitution reaction
  - Addition of halogens
60. Urinary water loss is increased in
- Diabetes mellitus
  - Diabetes Insipidus
  - Chronic glomerulonephritis
  - All of these
61. Urethral discharge is present in
- syphilis
  - herpes genitalis
  - gonorrhoea
  - chancroid
62. Eijkman test is a test used for the identification of
- Coliform bacteria from warm-blooded animals
  - Coliform bacteria from cold-blooded animals
  - Both a and b
  - Bacteria

63. Important factors influencing the nosocomial infection are

- a. Patient susceptibility
- b. Microbial agents
- c. Environmental factors
- d. All the above

64. What are portals of entry for microorganisms in intravenous catheter system

- a. Insertion site
- b. Stop cock
- c. Medication port
- d. All of the above

65. Antimicrobial susceptibility tests measure the ability of an antibiotic or other antimicrobial agent to inhibit bacterial growth by

- a. the dilution method or the diffusion method.
- b. the Concentration method
- c. Both of the above
- d. None of the above

66. Which of the following is considered one of the most important pathogens responsible for nosocomial infections

- a. Salmonella typhi
- b. S.aureus
- c. Pseudomonas aeruginosa
- d. E coli

67. Settle plate method is used to check the quality of

- a. Water
- b. Milk
- c. Air
- d. All of the above

68. Which medium is most ideal for antibiotic sensitivity testing of bacterial isolates

- a. Blood agar
- b. Nutrient agar
- c. Mueller-hinton agar
- d. MacConky agar

69. The area of lysis on the bacterial growth caused by phage is known as

- a. Plaque
- b. Pock
- c. Prophage
- d. none of the above

70. Which of the following refers to the type of interaction between two prokaryotic populations in which one population benefits and the other is not affected?

- a. mutualism
- b. commensalism
- c. parasitism
- d. neutralism

71. Each of the following organisms is an important cause of urinary tract infections except:

- a. Klebsiella pneumoniae
- b. Escherichia coli
- c. Bacteriodes fragilis
- d. Proteus mirabilis

72. The portion of the growth curve where rapid growth of bacteria is observed is known as

- a. Lag phase
- b. Logarithmic phase
- c. Stationary phase
- d. Decline phase

73. Which of the following is used to grow bacterial culture continuously?

- a. Chemostat
- b. Hemostat
- c. Coulter-Counter
- d. Turbidostat

74. What is the approximate size of the bacterial cell?

- a. 2mm in diameter
- b. 1mm in diameter
- c. 2 micrometer in diameter
- d. 0.5 to 1.0 micrometer in diameter

75. What is the correct order of staining reagents in Gram-Staining?

- a. Crystal violet, alcohol, iodine solution, safranin
- b. Crystal violet, iodine solution, alcohol, safranin
- c. Crystal violet, safranin, alcohol, iodine solution
- d. Iodine solution, crystal violet, alcohol, safranin

76. Indole test helps to identify enteric bacteria based on

- a. The ability of the microbes to produce gas
- b. The ability of the microbes to produce acids
- c. The ability of the microbes to breakdown amino acid tryptophan
- d. The ability of the microbes to produce neutral products

77. Ziehl-Neelsen staining consists of

- a. 2 stages
- b. 4 stages
- c. 3 stages
- d. 5 stages

78. MacConkey's agar is both Selective and Differential media used primarily for the isolation of gram-negative bacteria. It consists of .....which inhibits the growth of gram-positive bacteria.

- a. Blood
- b. Peptone
- c. Bile salts
- d. Tryptophan

79. The organ of locomotion of bacteria is

- a. capsule
- b. flagella
- c. slime
- d. fimbriae

80. Endotoxin (LPS) is an important constituent of

- a. Gram positive bacteria
- b. Gram negative bacteria
- c. Some protozoa
- d. Fungi

81. Which immunoglobulin can placenta?

- a. Ig G
- b. Ig M
- c. Ig A
- d. Ig E

82. Which is the first immunoglobulin to appear in response to an antigen?

- a. Ig G
- b. Ig M
- c. Ig A
- d. Ig E

83. VDRL test is an example of:

- a. Agglutination
- b. Flocculation
- c. Immunofluorescence
- d. All of the above

84. Tube agglutination test is used for serological diagnosis of :

- a. Typhus fever
- b. Enteric fever
- c. Infectious mononucleosis
- d. All of the above

85. Which of the following is not the function of a complement

- a. Phagocytosis
- b. Inflammatory response
- c. Antigen presentation
- d. Immune clearance

86. All of the following are dermatophytes except

- a. Trichophyton
- b. Epidermophyton
- c. Microsporum
- d. Candida

87. KOH preparation is used to demonstrate

- a. Bacteria
- b. Mycobacteria
- c. Fungi
- d. Viruses

88. Which of the following dermatophytes can infect hair, skin and nail?

- a. Trichophyton
- b. Microsporum
- c. Epidermophyton
- d. All of the above

89. The viruses that infect bacteria are

- a. Bacterial viruses
- b. Bacterial pathogens
- c. Bacteriophages
- d. Various

90. Infective stage of Entamoeba histolytica is

- a. Trophozoite
- b. Binucleate cyst
- c. Quadri-nucleate cyst
- d. None of the above



91) Which blood group is universal blood donor?

- a) O positive
- b) A positive
- c) O negative
- d) A negative

92) Which disease is NOT tested before blood is issued to a patient?

- a) Malaria
- b) Syphilis
- c) Hepatitis C
- d) Hepatitis E

93) What is shelf life of PRBC stored in SAGM?

- a) 28 days
- b) 32 days
- c) 35 days
- d) 42 days

94) Which blood component has shortest shelf life?

- a) Cryoprecipitate
- b) Fresh Frozen Plasma
- c) Platelets
- d) PRBC

95) What should be the temperature of refrigerated centrifuge if you have to prepare platelets?

- a) 2°C
- b) 6°C
- c) 22°C
- d) 26°C

96) What is the minimum acceptable Hemoglobin level of a blood donor for donation?

- a) 11g/dl
- b) 11.5g/dl
- c) 12g/dl
- d) 12.5g/dl

97) What is the blood group of the donor whose results of blood grouping by tube technique is as given below

Anti A	Anti B	Anti D	Anti AB	A cells	B cells	O cells
+4	+4	+4	+4	0	0	0

- a) A Positive
- b) B positive
- c) AB positive
- d) O positive

98) What among the below given is a reason for permanent deferral of a blood donor?

- a) Cancer
- b) Diabetes
- c) Fever
- d) Migrain

99) What is the lowest allowable pH for a platelet component at outdate?

- a) 5.6
- b) 6
- c) 6.6
- d) 7

100) What is the minimum interval between two blood donations for a female blood donor in India?

- a) 3 months
- b) 4 months
- c) 5 months
- d) 6 months

