Test Booklet Series

A

TEST BOOKLET FOR THE POST OF ASSISTANT PROFESSOR (MEDICAL LAB TECHNOLOGY) PART–B

Test Booklet No.

Name of Applicant ..... Answer Sheet No. .....

Application No. : ..... Signature of Applicant : .....

Date of Examination: .....

Time of Examination : .....

Signature of the Invigilator(s)

1. .....

2. .....

Duration : 1.15 Hours] **[Maximum Marks : 50**

IMPORTANT INSTRUCTIONS

(i) The question paper is in the form of Test-Booklet containing **50 (Fifty)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct.

(ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **50** questions (Part–B). Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.

(iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **50** rows (Part-B) containing four circles each. One row pertains to one question.

(iv) The candidate should write his/her Application number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and NOWHERE ELSE.

(v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.

(vi) For every correct answer of the question **One (1) mark will be awarded.** For every unattempted question, Zero (0) mark shall be awarded. **There is no Negative Marking.**

(vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.

(viii) To mark the answer on the Answer-Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.

(ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.

(x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.

(xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.

(xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*

(xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.

PART–B
MEDICAL LAB TECHNOLOGY

51. Klumpke's paralysis involves?
    (A) C5,C6
    (B) C6,C7
    (C) C7,C8
    (D) C8,T1

52. Allen's test is done for which arteries?
    (A) Radial & Ulnar
    (B) Radial and Axillary
    (C) Ulnar & Axillary
    (D) Subclavian and Brachial

53. The..... utilize fructose but not glucose?
    (A) Ovum
    (B) Spermatozoa
    (C) Adipose tissue
    (D) Mammary gland

54. The secondary structure of many globular proteins is determined by the arrangements of polypeptide chain into .....
    (A) Alpha helix
    (B) Beta pleated sheets
    (C) Both
    (D) None of the above

55. Glucose tolerance factor (GTF), which has a role as cofactor of insulin, contains the mineral?
    (A) Copper
    (B) Chromium
    (C) Selenium
    (D) Silicon

56. Rose-waller test is used for diagnosis of
    (A) Leprosy
    (B) Rhumatoid arthritis
    (C) Rheumatic fever
    (D) Brucellosis

57. Blood culture is the main lab method for diagnosis of
    (A) TB
    (B) Botulism
    (C) Infective endocarditis
    (D) Rheumatic fever

58. The yellow color of egg yolk is due to the presence of
    (A) Riboflavin
    (B) Carotenes
    (C) Ribofladin
    (D) Protein

59. All the following cause hemolytic uremic syndrome except

(A) Shigella

(B) Campylobacter

(C) EHEC

(D) Vibrio cholerae

60. Most common cause of UTI in neonate

(A) E. coli

(B) S. aureus

(C) Enterococcus

(D) All of the above

61. Rhabditiform larvae is seen in

(A) Tenia solium

(B) Strongyloides

(C) D. Latum

(D) Trichenella

62. Which of the following enzyme persists longest in the blood after a heart attack?

(A) GOT

(B) CPK

(C) LDH

(D) GPT

63. Respiratory quotient (R.Q.) falls in all the following conditions except

(A) Acidosis

(B) Febrile conditions

(C) Diabetes mellitus

(D) Starvation

64. The Cockgroft Gault formula is

(A) k[(140-Age) × weight (kg)] / serum Creatinine (μ mol/L) k = 1.224 for Males & 1.04 for Females.

(B) k[(150-Age) × weight (kg)] / serum Creatinine (μ mol/L) k = 1.224 for Males & 1.04 for Females.

(C) k[(140-Age) × weight (kg)] / serum Creatinine (mg/100 ml) k = 1.224 for Male & 1.04 for Female.

(D) k[(120-Age) × weight (kg)] / serum Creatinine (μ mol/L) k = 1.224 for Male & 1.04 for Female.

65. In Vitamin K cycle, the conversion of Vitamin K quinone to hydroxyquinone is achieved by the following enzyme

(A) Quinone reductase

(B) Epioxide reductase

(C) Carboxylase

(D) Epioxide oxidase

66. Mean and standard deviation can be worked out only if data is on:

(A) Nominal scale

(B) Ordinal scale

(C) Ratio Scale

(D) Dichotomus scale

67. The probability of a value falling outside 95% confidence limit is

(A) 1 in 5

(B) 1 in 15

(C) 1 in 20

(D) 1 in 30

68. A special type of autoclave that has a very short sterilizaton cycle of about 3-5 minutes because of its ability to raise the temperature to 132°?

(A) PPE

(B) flesh sterilizer

(C) gravity prevacum

(D) latex hypersensitivity

69. Which of the following results on an automated differential suggests that a peripheral smear should be reviewed mannually?

(A) Segs = 70%

(B) Band = 6%

(C) Mono = 15%

(D) Eos = 2%

70. Which of the following is not associated with herediatry spherocytosis?

(A) Increase osmotic fragility

(B) An MCHC grater then 36%

(C) intravascular hemolysis

(D) extra vascular hemolysis

71. Which is the major Hgb found in the RBC's of patients with sickle cell trait?

(A) HgbS

(B) Hgb F

(C) Hbg A2

(D) Hgb A

72. Which of the following statements is true?

(A) An individual with the BO genotype is homozygous for B antigen.

(B) An individual with the BB genotype is homozygous for B antigen.

(C) An individual with the OO genotype is heterozygous for O antigen.

(D) An individual with the AB phenotype is homozygous for A & B antigens.

73. An advisory panel of experts has suggested that anyone who received transfusions before March 1992 be screened for which of these diseases?
(A) HIV
(B) Hepatitis C
(C) Mononucleosis
(D) Leukemia

74. Which immunoglobulin cross link mast cell's to release histamine?
(A) IgG
(B) IgM
(C) IgA
(D) IgD

75. Toll-like receptor's are found on which cell's?
(A) T-cell's
(B) Dendritic cell's
(C) B-cell's
(D) Large granular lymphocytes

76. What criteria constitute the classification system for HIV infection?
(A) CD4-positive T-cell count and clinical symptoms.
(B) Clinical symptoms, conditions duration, and number of positive bands on western blot.
(C) Presence or absence of Lympha-denopathy.
(D) Positive bands on western blot and CD8-positive T-cell count.

77. If only anti-HBs is positive, which of the following can be ruled out?
(A) Hepatitis B virus vaccination.
(B) Distant past infection with hepatitis B virus.
(C) Hepatitis B immune globulin (HBIG) injection.
(D) Chronic hepatitis B virus infection.

78. Which component is required in a spectro-photometer in order to produce a spectral absorbance curve?
(A) Multiple monochromators
(B) A reference optical beam
(C) Photodiode array
(D) Laser light source

79. Which substance is used to generate the light signal in Electrochemiluminescence?
(A) Acridinium
(B) Luminol
(C) Rioxetane phosphate
(D) Ruthenium

80. In real time PCR, what value is needed in order to determine the threshold?
(A) Background signal
(B) Melt temperature
(C) Maximum fluorescence
(D) Threshold cycle

81 Given the following data, calculate the cofficient of variation for glucose?

Analyte	Mean	Standard Deviation
Glucose	76 mg/dL	2.3

(A) 3.0%

(B) 4.6%

(C) 7.6%

(D) 33.0%

82. Referring to the levy-Jennings charts, what is the first day in the month when the run should be rejected and patient results should be repeated?

(A) Day 6

(B) Day 7

(C) Day 8

(D) Day 9

83. Which of the following assays has the poorest precision?

	Analyte	Mean (mmol/L)	Standard Deviation
(A)	Ca	2.5	0.3
(B)	K	4	0.4
(C)	Na	140	4
(D)	Cl	100	2.5

84. Which enzyme deficiency is responsible for (PKU) Phenylketonuria?

(A) Phenylalanine hydroxylase

(B) Tyrosine transaminase

(C) p-Hydroxyphenylpyruvic acid oxidase

(D) Homogentisic acid oxidase

85. Which serum protein should be measured in a patient suspected of having Wilson's disease?

(A) hemopexin

(B) Alpha-1 antitrypsin

(C) Haptoglobin

(D) Ceruloplasmin

86. In which liver disease is the DeRitis ratio (ALT : AST) usually greater than 1.0?

(A) Acute hepatitis

(B) Chronic hepatitis

(C) Hepatic cirrhosis

(D) Hepatic carcinoma

87. Three consecutive stool cultures from a 25-years-old male patient produced scant normal fecal flora on MacConkey and Hektoen agars. However, colonies on CIN agar(cefsulodin-irgasan-novobiocine) displayed "bulls-eye" colonies after 48 hours incubation. The patient had been suffering from enterocolitis with fever, diarrhea, and abdominal pain for 2 days. What is the most likely identification of this gram-negative rod?

(A) E. coli

(B) Proteus Mirabilis

(C) Yersinia enterocolitica

(D) Klebsiella pneumoniae

88. In the Kauffmann-White schema, the combined antigens used for serological identification of the Salmonella spp. are?

(A) O antigens

(B) H antigens

(C) Vi and H antigens

(D) O, Vi, and H antigens.

89. Which one is the most commonly employed techniques in the clinical and biochemical field for the Quantitative analysis of hormones, steroids and drugs?

(A) Radio immuno assay

(B) Enzyme immuno assay

(C) Both (A) and (B)

(D) None of the above

90. Which haemophilus species is generally associated with endocarditis?

(A) H. influenzae

(B) H. ducreyi

(C) H. aphrophilus

(D) H. haemolyticus

91. Which of the following is a characteristic of strains of Haemophilus influenzae that are resistant to ampicillin?

(A) Production of β-lactamase enzymes

(B) Hydrolysis of chloramphenicol

(C) Hydrolysis of Urea

(D) All of these options

92. Which test is used to differentiate the viridans streptococci from the group D streptococci and enterococci?

(A) Bacitracin disk test

(B) CAMP test

(C) Hippurate hydrolysis test

(D) bile esculin test

93. Which one of the following specimens for immunological investigation of a possible myeloma is Not appropriate?

(A) Heparinized blood

(B) Clotted blood

(C) Sputum

(D) Early morning sample of urine

94. Which of the following monosaccharide is a pentose?

(A) Galactose

(B) Fructose

(C) Glucose

(D) Arabinose

95. The reason for double helical structure of DNA is operation of

(A) Vander Waal's forces

(B) Dipole-dipole interaction

(C) Hydrogen bonding

(D) Electrostatic attractions

96. Which of the following lipid is mostly present in mitochondrial membranes?

(A) Lecithin

(B) Cephalin

(C) Cardiolipin

(D) Ceramide

97. Cori's disease can be as a result of defect in enzyme, named as?

(A) Amylo alpha-1,6 glucosidase

(B) Phosphofructokinase

(C) Glucose-6-phosphate

(D) Protein kinase

98. Which of the following is the most common type of polymorphism?

(A) Single nucleotide polymorphism (SNP)

(B) Variable number tandem repeat (VNTR)

(C) Short tendom repeat (STR)

(D) Short interspersed nuclear element (SINE)

99. Which method is most useful for confirmation that a culture isolate is Group B streptococcus?

(A) Southern blotting

(B) Polymerase chain reaction

(C) Direct hybridization

(D) Probe capture assay

100. Which of the following genetic diseases is caused by an expanded trinucleotide repeat?

(A) Prader-Willi syndrome

(B) Angelman's syndrome

(C) Fragile X syndrome

(D) William's syndrome

ROUGH WORK

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