



SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY

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ROLL NUMBER

WRITTEN TEST FOR THE POST OF TECHNICAL ASSISTANT (LAB) -A

DATE: 23/08/2023

TIME: 11 To 12.30 pm

DURATION: 90 MINUTES

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. Write your Roll Number on the top of the Question Booklet and in the OMR sheet.
2. Each question carries **one (1)** mark.
3. There will be no Negative Marking.
4. Each question carries 4 options i.e., **A, B, C & D**. Darken completely, the bubble corresponding to the most appropriate answer using **blue or black ball point pen**.
5. Marking more than one option will invalidate the answer.
6. Candidate should sign in the **question paper** and OMR sheet.
7. No clarifications will be given.
8. Candidate should hand over the OMR sheet and **question paper** to the invigilator before leaving the examination hall.

Signature of the Candidate

Purna Sreedhar
23/8/2023

Technical Assistant (Lab) MCQ 23/8/2023

1. Colour of the IHC positivity with DAB as chromogen is
 - A) Brown
 - B) Red
 - C) Blue Green
 - D) Brown
2. Temperature of tissue floatation bath is
 - A) 80° C
 - B) 2° C more than the melting point of wax
 - C) 10° C less than the melting point of wax
 - D) 10° C more than the melting point of wax
3. The following are clearing agents in tissue processing EXCEPT
 - A) Xylene
 - B) Chloroform
 - C) Toluene
 - D) Ethanol
4. Which staining results in Cytoplasmic Transparency?
 - A) Giemsa Stain
 - B) Toluidine Blue Stain
 - C) Papanicolaou Stain
 - D) Crystal violet
5. Reason for scoring in section cutting is
 - A) Nick in the blade
 - B) Screws not tightened properly
 - C) Improper Fixation
 - D) Unprocessed Tissue
6. In Papanicolaou stain, keratin in cytoplasm is stained by
 - A) Methylene blue
 - B) Light Green
 - C) Orange G.6
 - D) Hematoxylin
7. Increasing strength of alcohol is used for tissue
 - A) Impregnation
 - B) Rehydration
 - C) Dehydration
 - D) Clearing
- 8) Frozen sectioning is done with
 - A) Rotary Microtome
 - B) Freezing Box
 - C) Cryostat
 - D) Sledge Microtome

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- 9) What should be the ratio of volume of tissue to fixative?
- A) 1:2
 - B) 1:10
 - C) 1:4
 - D) 1:100
- 10) All of the following are picric acid containing fixatives except?
- A) Bouin's fixative
 - B) Zenker's solution
 - C) Hollande's solution
 - D) Gendre's solution
- 11) Process of laying coverslip on slide is
- A) Mounting
 - B) Embedding
 - C) Impregnation
 - D) Drying
- 12) Which oxidizing agent is used in Harris Haematoxylin?
- A) Mercuric Oxide
 - B) Aluminum Potassium Sulphate
 - C) Potassium Metabisulphite
 - D) Sodium Chloride
- 13) Air dried smears are used for
- A) PAP Stain
 - B) Rapid PAP Stain
 - C) May-Grunewald Giemsa Stain
 - D) Haematoxylin & Eosin stain
- 14) Which one is NOT a constituent of Carnoy's fixative?
- A) Ethanol
 - B) Methanol
 - C) Acetic Acid
 - D) Chloroform
- 15) Urea clot solubility test is done for detection of:
- A) Hemophilia A
 - B) Factor VII deficiency
 - C) Factor XIII deficiency
 - D) Afibrinogenemia
- 16) Romanowsky stains are all EXCEPT
- A) Leishman stain
 - B) Wright stain
 - C) Brilliant cresyl blue

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- D) Giemsa stain
- 17) Stain which is used to demonstrate iron is
- A) Sudan Black B
 - B) Non-specific Esterase
 - C) Perls
 - D) Periodic acid -Schiff
- 18) Cryoprecipitate is a rich source of all EXCEPT
- A) Factor VIII
 - B) Factor IX
 - C) Fibrinogen
 - D) von Willebrand factor
- 19) What is the correct sequence of thin prep preparation?
- A) Dispersion- cell collection- transfer
 - B) Cell collection- dispersion- transfer
 - C) Vortex- disintegration- sedimentation- cell deposition
 - D) Disintegration-sedimentation- vortex- cell deposition
- 20) One of the following is NOT used as a bluing agent in pap staining after acid alcohol dip
- A) Running tap water
 - B) 0.1% ammoniated water
 - C) Weak aqueous solution of lithium carbonate
 - D) 5% alcoholic spray
- 21) Which statement about pap staining method is INCORRECT?
- A) It is monochrome staining reaction
 - B) It is polychrome staining reaction
 - C) Use of this stain results in well stained nuclear chromatin
 - D) Use of this stain results in differential cytoplasmic counterstaining
- 22) A peripheral smear stained with supravital stain is used to identify:
- A) Reticulocytes
 - B) Leukocytes
 - C) Platelets
 - D) Sickle cells
- 23) Warthin-Starry stain is used to demonstrate:
- A) Spirochetes
 - B) Fungi
 - C) Amoeba
 - D) Helminths

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24) The stain used to demonstrate amyloid is:

- A) Sudan black
- B) Congo red
- C) Alizarin red
- D) Nile red

25) The color of Mycobacterium tuberculosis in Ziehl-Neelsen stain is:

- A) Red
- B) Blue
- C) Green
- D) Black

26) The color of collagen in Masson trichrome stain is:

- A) Red
- B) Yellow
- C) Blue
- D) Brown

27) The color of glycogen in PAS stain is:

- A. Salmon pink
- B. Mauve
- C. Violet
- D. Magenta

28) The agent used to bleach melanin pigment from tissue sections is:

- A) Copper sulphate
- B) Hydrogen peroxide
- C) Iron oxide
- D) Silver nitrate

29) The principle of Masson-Fontana method to demonstrate melanin pigment is:

- A) Reduction of ammoniacal silver solution to form metallic silver without an extraneous reducer
- B) Oxidation of ammoniacal silver solution to form metallic silver with an extraneous oxidizer
- C) Reduction of ammoniacal silver solution to form metallic silver with an extraneous reducer
- D) Oxidation of ammoniacal silver solution to form metallic silver without an extraneous oxidizer

30) The color of red blood cells in Martius Scarlet Blue stain is:

- A) Yellow
- B) Red
- C) Blue
- D) Green

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- 31) Hematoxylins are classified based on their:
- A) Source
 - B) Mordant
 - C) Charge
 - D) pH
- 32) . Factors contributing to tissue and dye/stain interaction during staining include all, EXCEPT:
- A) Coulombic attractions
 - B) van der Waals' forces
 - C) Non-covalent bonding
 - D) Hydrogen bonding
- 33) All of the following are reasons for detachment of sections from glass slide during staining, except:
- A) Decalcified tissue
 - B) Tissue with blood and mucus
 - C) Exposure to strong alkali solutions during staining
 - D) Non-decalcified tissue
- 34) The correct sequence of tissue processing stages in histopathology is:
- A) Dehydration-Fixation-Infiltration-Clearing-Embedding
 - B) Fixation-Dehydration-Clearing-Infiltration-Embedding
 - C) Infiltration-Embedding-Clearing-Fixation-Dehydration
 - D) Fixation-Embedding-Dehydration-Clearing-Infiltration
- 35) Blood sample for obtaining serum should be collected in a –
- A) EDTA Vial
 - B) Fluoride vial
 - C) Plain vial
 - D) Heparin vial
- 36) Which of the following culture medium is most suitable for antimicrobial susceptibility testing?
- A) Mac Conkey agar
 - B) Blood agar
 - C) Mueller-Hinton agar
 - D) Thayer- Martin Medium
- 37) Used latex gloves should be discarded in the following biohazard bag-
- A) Blue
 - B) Red
 - C) Black
 - D) Yellow

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38) The following is used for skin disinfection: -

- A) Glutaraldehyde
- B) Formaldehyde
- C) Isopropyl alcohol
- D) Phenol

39) A polymerase chain reaction (PCR) test detects which component of a pathogen?

- A) DNA
- B) Protein
- C) carbohydrate
- D) Lipid

40) Which of the following is an example of gram-positive bacilli?

- A) *Bacillus anthracis*
- B) *Trichophyton rubrum*
- C) *Enterococcus faecalis*
- D) *Proteus mirabilis*

41) Which of the following reagents are used for testing indole production of bacteria?

- A) Methyl red
- B) Ferric chloride
- C) Sulfanilic acid
- D) Kovac's reagent

42) Weil-Felix test is performed for diagnosis of -

- A) Malaria
- B) Filaria
- C) Typhoid fever
- D) Rickettsial fever

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43) Serologic testing during the early phase of a primary infection detects which type of antibody –

- A) IgD
- B) IgG
- C) IgE
- D) IgM

44) Black water fever is a complication with the following infective agent -

- A) Neisseria meningitidis
- B) Escherichia coli
- C) Plasmodium falciparum
- D) Entamoeba histolytica

45) The following is a dimorphic fungi -

- A) Histoplasma
- B) Candida
- C) Trichophyton
- D) Malassezia

46) Anaemia typically occurs in infection due to: -

- A) Ancylostoma
- B) Ascaris
- C) Wuchereria
- D) Trichinella

47) The following is commonly used during DNA extraction procedure :-

- A) Potassium hydroxide
- B) Vitamin K
- C) Proteinase K
- D) Ethidium bromide

48) Blood stained cotton should be discarded in:-

- A) Black bag
- B) Blue bag
- C) Red bag

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D) Yellow bag

49) Glassware should ideally be sterilized by-

- A) Filtration
- B) Autoclaving
- C) Boiling
- D) Hot air oven

50) Japanese encephalitis virus is transmitted by the following vector-

- A) Aedes mosquito
- B) Culex mosquito
- C) Hard tick
- D) Mite

51) An important causative agent of community-acquired meningitis is -

- A) *Trichophyton rubrum*
- B) *Haemophilus influenzae*
- C) *Trichinella spiralis*
- D) Hepatitis C virus

52) Stool sample for ova-parasite examination should be preserved in -

- A) Hypochlorite
- B) Water
- C) Xylene
- D) Formalin

53) A Scotch tape technique is used for the demonstration of -

- A) *Ascaris lumbricoides*
- B) *Enterobius vermicularis*
- C) *Trichuris trichiura*
- D) *Taenia saginata*

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54) Silver impregnation method is used for visualization of -

- A) Mycoplasma
- B) DNA viruses
- C) Spirochaetes
- D) Candida

55) The following is an antiviral agent-

- A) Voriconazole
- B) Oseltamivir
- C) Albendazole
- D) Doxycycline

56) All the following parasites can be commonly observed in a peripheral blood smear EXCEPT:-

- A) Filaria
- B) Malaria
- C) Trypanosoma
- D) Ancylostoma

57) Brain heart infusion broth is most commonly used for culture of -

- A) Sputum
- B) Stool
- C) Urine
- D) Blood

58) The following is an antiviral agent-

- A) Voriconazole
- B) Oseltamivir
- C) Albendazole
- D) Doxycycline

This question is deleted.

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59) All the following parasites can be commonly observed in a peripheral blood smear EXCEPT:-

This question is deleted

- A) Filaria
- B) Malaria
- C) Trypanosoma
- D) Ancylostoma

60) Which among the following amino acids is both ketogenic and glucogenic?

- A) Tryptophan
- B) Leucine
- C) Alanine
- D) Arginine

61) Intrinsic resistance to colistin is observed in-

- A) Escherichia coli
- B) Pseudomonas aeruginosa
- C) Proteus mirabilis
- D) Klebsiella pneumoniae

62) Cervical cancer is linked to –

- A) Cytomegalovirus
- B) Parvovirus B-19
- C) Adenovirus
- D) Human Papilloma Virus

63) Gastrointestinal pathogens include all the following except:

- A) Staphylococcus aureus
- B) Clostridium welchii
- C) Yersinia enterocolitica
- D) Enterococcus faecium

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64) Who was the first to discover that bacteria also have genetic recombination?

- A) Louis Pasteur
- B) Frederick Griffith
- C) Joshua Lederberg
- D) Oswald Avery

65) The drug of choice for *Stenotrophomonas maltophilia* is:

- A) Vancomycin
- B) Colistin
- C) Co-trimoxazole
- D) Ertapenem

66) Viridans group of streptococci include all, EXCEPT:

- A) *Streptococcus pneumoniae*
- B) *Streptococcus milleri*
- C) *Streptococcus salivarius*
- D) *Streptococcus mitis*

67) The most specific and sensitive test for COVID-19:

- A) GenXpert
- B) RAT
- C) RTPCR
- D) Anti-SARS CoV2 IgM

68) The principal source of amylase enzyme in blood is

- A) Liver
- B) Kidney
- C) Pancreas
- D) Heart

69) All of the following are liver enzymes except

- A) Creatine Kinase (CK)
- B) Aspartate Aminotransferase (AST)

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C) Alanine Transaminase (ALT)

D) Gamma-glutamyl Transferase (GGT)

70) Drabkin reagent is used for the estimation of

A) Urea

B) Haemoglobin (Hb)

C) Creatinine

D) Urine

71) Electrolytes can be estimated by all except

A) Direct Ion Elective Electrode (ISE)

B) Indirect Ion Elective Electrode (ISE)

C) Flame Photometry

D) Atomic absorption spectrophotometry

72) Which of the following is a preanalytical error

A) Mismatch in the requisition form

B) Calibration error

C) Faulty standard

D) Report Printing error

73) Which Anticoagulant is used for estimating parameters of acid-base balance?

A) Oxalate

B) Heparin Lithium

C) K₂-EDTA

D) K₃- EDTA

74) The amount of a substance in moles dissolved in one liter of a solution is known as its

A) Molarity

B) Mole fraction

C) Molality

D) Mass fraction

75) For the estimation of which among the following biochemical parameters collection of fasting blood sample is mandatory?

A) Total protein

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B) Cholesterol

C) Triacylglycerols

D) Bilirubin

76) Which among the following statements is true?

A) I131 is preferred for the assay of thyroid hormones by RIA

B) Half-life of I125 is 60 days

C) I125 is used in the thyroid uptake studies in patients

D) Half-life of I131 is 12 days

77) In which type of jaundice, urinary urobilinogens are absent?

A) Obstructive

B) Hepatocellular

C) Pre-hepatic

D) Hemolytic

78) Time taken in seconds for the patient's citrated blood to clot after the addition of calcium and tissue thromboplastin is known as _____

A) Partial thromboplastin time

B) Prothrombin time

C) Thrombin time

D) Activated clotting time

79) Which among the following protein contains the derived amino acid, gamma-carboxyglutamate?

A) Glutathione peroxidase

B) Myosin

C) Prothrombin

D) Elastin

80) Which among the following is a non-protein derived amino acid?

A) Homocysteine

B) 4-hydroxyproline

C) 6-N methyllysine

D) Desmosine

81) Which among the following amino acids possess the maximum

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absorbance at 280 nm?

- A) Histidine
- B) Tryptophan
- C) Tyrosine
- D) Phenylalanine

82) The folding of short segments of a polypeptide into ordered units is known as _____ structure of proteins.

- A) Primary
- B) Secondary
- C) Tertiary
- D) Quaternary

83) Which among the following chemical is known as the Edman's reagent?

- A) 1-fluoro-2,4-dinitrobenzene
- B) Phenylisothiocyanate
- C) Dansyl chloride
- D) Dabsyl chloride

84) Which among the following employs the scattering of light for the estimation of proteins?

- A) ELISA
- B) Nephelometry
- C) Turbidimetry
- D) Kjeldahl's method

85) Cheilosis is the deficiency manifestation of which vitamin?

- A) Thiamin
- B) Riboflavin
- C) Niacin
- D) Ascorbic acid

86) Normal anion gap in mmol/liter is

- A) 40
- B) 12

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C) 20

D) 24

87) What is the approximate normal range for an aPTT result?

A) 2-3 seconds

B) 30-40 seconds

C) 1.5-2.5 minutes

D) 10-12 seconds

88) A solution contains 300 g/L of NaCl (MW = 58.5). What is the molarity of the solution?

A) 0.51M

B) 0.19M

C) 1.75M

D) 5.1M

89) Smaller RBC in mean corpuscular volume (MCV) measurements indicate

A) Vitamin B12 deficiency

B) Folic acid deficiency

C) Hypothyroidism

D) Iron-deficiency anaemia

90) A terminology used in the context of External Quality Assurance (EQAS) only

A) Youden plot

B) Levy Jennings plot

C) Westgard chart

D) Cusum chart

91) 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

92) 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

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- B) Blood buffers, lungs, kidneys
C) Blood buffers, kidneys, lungs
D) Lungs, blood buffers, kidneys
- 93) Levels of copper and ceruloplasmin are used as markers for
- A) Gaucher's disease
B) Niemann-Pick disease
C) Wilson's disease
D) Tay-Sachs disease
- 94) Water fluoridation prevents dental caries because
- A) it increases lactate production and destroys bacteria
B) fluoride inhibits glycolysis
C) it cleanses the accumulating food materials in oral cavity
D) it activates enolase
- 95) Which among the following forms of chromatography is useful for the determination of molecular weight of a protein?
- A) Affinity chromatography
B) Ion exchange chromatography
C) Gel filtration chromatography
D) Paper chromatography
- 96) For which among the following biochemical parameters the plasma values are higher than in serum?
- A) Calcium
B) Albumin
C) Glucose
D) Potassium
- 97) Which of the following is analysed for confirmation of pregnancy
- A) α Feto Protein
B) HCG
C) Estrogen
D) Progesterone

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98) Which among the following is abnormal Hb?

- A) Hb-A
- B) Hb-A₂
- C) Hb-C
- D) Hb-F

99) Bence Jones proteins are associated with which disease?

- A) Multiple myeloma
- B) Wilson's disease
- C) Inflammation
- D) Down's syndrome

100) The normal protein content in CSF is

- A) 15-45 mg/dl
- B) 1-2 g/dl
- C) 110-130 mg/dl
- D) 1-5 mg/dl

Keerthi Sreedhar

23/8/2023

Technical Assistant (Lab) Answer Key 23/8/2023

1. A/D	35. C	69. A
2. C	36. C	70. B
3. D	37. B	71. D
4. C	38. C	72. A
5. A	39.A	73. B
6. C	40.A	74.A
7. C	41. D	75. C
8. C	42. D	76. B
9. B	43.D	77.A
10. B	44. C	78. B
11. A	45. A	79. C
12. A	46. A	80. A
13. C	47. C	81. B
14. B	48. D	82. B
15. C	49. D	83. B
16. C	50. B	84. B
17. C	51. B	85. B
18. B	52. D	86.B
19. A	53. B	87. B
20. D	54. C	88. D
21. A	55. B	89. D
22. A	56. D	90. A
23. A	57. D	91. C
24. B	58.deleted	92. B
25. A	59.deleted	93. C
26. C	60.A	94. B
27. D	61.C	95. C
28. B	62.D	96. A
29. A	63.D	97. B
30. A	64. B	98. C
31. B	65. C	99. A
32. C	66. A	100.A
33. D	67. C	
34. B	68.C	

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