

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

002553

Test Booklet Series

Booklet Serial No.

TEST BOOKLET - 2022

NON ENGINEERING MEDICAL LAB TECHNOLOGY

LECTURER II

(16)

A

**Time Allowed: Two Hours**

**Maximum Marks: 100**

### INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
4. This Test booklet contains 100 items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Response sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Response Sheet provided. See directions in the Response Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Response sheet the response to various items in the Test Booklet you have to fill in some particulars in the Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Response Sheet**. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers:**  
**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE.**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, 0.25 of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
  - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no **penalty** for that question.

SEAL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

16(A)/2022

[P.T.O.]

00223

1. Total WBC and neutrophil count of  $3 \times 10^4/\text{mm}^3$  are normal in
  - A) a 3 days-old healthy baby
  - B) a 13 years-old healthy teenager
  - C) a 30 years-old healthy adult
  - D) an individual with a high Cr level in blood
  
2. Which of the following is true regarding the blood cell population?
  - A) It changes only at a frequency lesser than  $1.157 \times 10^{-5}$ s, in general
  - B) It differs only due to physiological abnormalities
  - C) It is oscillating with a rhythm
  - D) Sleep deprivation does not affect the granulocyte population conspicuously
  
3. Healthy neonates do not have
  - A) a lower platelet count
  - B) a lower Hct value in capillary blood
  - C) a lower Hb and WBC count
  - D) a lower MCV value
  
4. Which of the following types of hemoglobin is not found in healthy adults?
  - A) F
  - B)  $A_1$
  - C) M
  - D)  $A_2$
  
5. In  $\beta$  thalassemia patients, there is an eventual development of elevated body iron load. Which of the following is not true regarding thalassemia?
  - A) There is an ineffective erythropoiesis
  - B) There is an increased absorption of dietary iron
  - C) Hypoxia-dependent hepcidin down-regulation may take place
  - D) Patients are prescribed to take iron supplements
  
6. Due to RBC lysis, which of the following occurs
  - A) Iron cation gets reduced and heme is released
  - B) Redox-active irons are down-regulated
  - C) Heme remains bound to RBC
  - D) Redox-active iron promotes foam cell formation

7. WBC cannot be produced by
- Primitive hematopoiesis
  - Liver and spleen
  - Both (A) and (B)
  - Bone marrow and lymph nodes
8. Which of the following pathways occur in general?
- $HSC \rightarrow Myeloblast \rightarrow \rightarrow \rightarrow \rightarrow RBC$
  - $HSC \rightarrow Myeloblast \rightarrow \rightarrow \rightarrow Macrophage$
  - $HSC \rightarrow Myeloblast \rightarrow \rightarrow \rightarrow Platelets$
  - $HSC \rightarrow CMP \rightarrow \rightarrow \rightarrow Neutrophils$
9. Which of the following is found to occur generally for maximum  $O_2$ -carrying capacity?
- Hb is kept in an oxidizing environment
  - Hb is kept in reducing environment
  - Catalase and glutathione create an oxidizing environment
  - Both (A) and (C)
10. Which of the following blood cells are bone marrow-derived leukocytes and one of the first immune cells to respond to bacteria/viruses, are phagocytic, release cytotoxic substances from their intracellular granules, and may contribute to more than 35% total WBC count in a general absence of physiological abnormality?
- Neutrophils
  - Monocytes
  - Basophils
  - B cells
11. Hexose monophosphate shunt is a pathway that produces energy-rich molecules. Which of the following is false?
- RBC uses HMP shunt Monocytes
  - In general, RBCs cannot use HMP shunt
  - In patients with glucose-6-phosphate-dehydrogenase deficiency, Heinz bodies are produced eventually
  - Degmacytes are seen in a peripheral smear of patients deficient in a certain metabolic enzyme, where the disorder is sex-linked

12. **Assertion (X):** The deficiency of glucose-6-phosphate-dehydrogenase enzyme (G6PD) is an X-linked recessive disorder, common in Africans. This disorder evokes some resistance to malaria.

**Reason (Y):** Patients with G6PD deficiency have only a reduced form of glutathione in RBCs.

- A) Statement X is correct and statement Y rightly explains statement X
- B) Statement X is correct but not Y
- C) Statements X and Y are incorrect
- D) Statement X is incorrect but not Y

13. Which of the following is best true?

- A) Antibodies are secreted for cell-mediated immunity by lymphocytes
- B) Plasmacytes produce all lymphocytes present in the blood.
- C) Antibodies are secreted by plasmacytes that are further made from activated B-cells
- D) Certain antibodies are readily available in blood as they are produced as precautionary machinery.

14. Which of the following couple has components that are thrombogenic and anti-thrombogenic, respectively? [VWF – Von Willebrand Factor]

- A) Platelets, VWF
- B) Collagen, Tissue Factor
- C) Collagen, Tissue plasminogen activator
- D) Tissue plasminogen activator, Thrombomodulin

15. The staining technique used to stain the metachromatic granules of *Corynebacterium* is

- A) Giemsa stain
- B) Alberts stain
- C) Acid-fast staining
- D) Both A and B

16. In a fluorescent microscope, the objective lens is made of

- A) Glass
- B) Plastic
- C) Polythene
- D) Quartz

17. The phagocytic theory was proposed by
- A) Rudolf Virchow
  - B) Elie Metchnikoff
  - C) Behring
  - D) Louis Pasteur
18. Which one of the following is about herpes viruses?
- A) Icosahedral, with envelope, ds DNA
  - B) Polyhedral with envelope, ds DNA
  - C) RNA, helical with envelope
  - D) ds DNA, brick shape
19. Alginic acids and their salts are obtained from the wall of
- A) Red algae
  - B) Brown algae
  - C) Green algae
  - D) Red and brown algae
20. Toxic products in phagolysosomes are
- A)  $H_2SO_4$
  - B) Singlet  $O_2$
  - C) Superoxide radicals
  - D) All of these
21. Opsonin is the
- A) Cell wall component
  - B) Plasma component
  - C) Serum component
  - D) Cytoplasm component
22. During AIDS, HIV infects
- A)  $CD_3$  lymphocytes
  - B)  $CD_4$  lymphocytes
  - C)  $CD_2$  lymphocytes
  - D) B lymphocytes

23. Teichoic acid is
- A) Found in the walls of Gram-positive bacteria
  - B) Provide receptors for phages
  - C) Make up the outer wall of Gram-negative bacteria
  - D) Influence the permeability of the membrane
24. Elek's gel diffusion test is used for the detection of
- A) Tetani toxin
  - B) Cholera toxin
  - C) Diphtheria toxin
  - D) Toxoid
25. Spores are killed by
- A) 70% alcohol
  - B) Glutaraldehyde
  - C) Autoclaving
  - D) Both B and C
26. Cultures are prepared by penetrating the inoculation loop with suspension into the medium, they are
- A) Stock culture
  - B) Stab culture
  - C) Both A and B
  - D) Sub-culture
27. Shigella was first isolated by
- A) Shiga
  - B) Schmitz
  - C) Sonnie
  - D) Robert Koch
28. Salt agar is used for
- A) Streptococcus
  - B) Staphylococcus
  - C) Vibrio
  - D) Shigella

29. The following organisms lack a definite cell wall
- A) Mycoplasma
  - B) L-forms
  - C) Both A and B
  - D) Polypeptides
30. The major constituents in agar are
- A) Fats
  - B) Amino acids
  - C) Polysaccharides
  - D) Polypeptides
31. The most important vitamin for the growth of bacteria is
- A) B-complex
  - B) Vitamin A
  - C) Vitamin D
  - D) Vitamin C
32. Pasteur effect is
- A) Change from aerobic to anaerobic
  - B) Providing oxygen to aerobically respiring structures
  - C) Rapid utilization of ATP
  - D) Non-synthesis of ATP
33. Agglutination reaction is strongest with the immunoglobulin
- A) IgM
  - B) IgG
  - C) IgA
  - D) IgD
34. In the ELISA technique, the antibodies are labeled by
- A) Acridine orange
  - B) Alkaline phosphate
  - C) Neutral red
  - D) Bromothymol blue



35. The best medium for the production of Penicillin is
- A) Corn steep liquor
  - B) Nutrient agar
  - C) Sulphite waste liquor
  - D) Whey
36. What is the minimum temperature to which ground beef should be cooked to make sure it is free from harmful bacteria?
- A) 220° F
  - B) 140° F
  - C) 165° F
  - D) 160° F
37. In the electron microscope, which material is used as an objective lens?
- A) Magnetic coils
  - B) Superfine glass
  - C) Aluminium foils
  - D) Electrons
38. Freeze-etch particles (used in preparing the cell for electron microscopy) can be located in the
- A) Cytoplasm
  - B) Cell wall
  - C) Cell membrane
  - D) Nucleus
39. The release of nutrients, oxidants, or electron donors into the environment to stimulate naturally occurring microorganisms to degrade or contaminated, is referred to as
- A) Biostimulation
  - B) Phytoremediation
  - C) Bioaugmentation
  - D) Bioremediation
40. The glycocalyx is a surface coat on cells that
- A) Aids the movement of red blood cells through the blood vessel
  - B) Consist of carbohydrate-protein of membrane glycolipids and glycoproteins
  - C) Facilitate the adherence of cells to each other in some tissue
  - D) All of the above

41. Which statement best describes connective tissue?
- A) Usually contains a large amount of extracellular matrix
  - B) Primarily concerned with secretion
  - C) Always arranged in a single layer of cells
  - D) Is an avascular
42. Cytokinesis is
- A) The passive form of transmembrane transport
  - B) How macrophages engulf bacteria
  - C) Separation of chromatid pairs during metaphase
  - D) Division of cytoplasm during somatic cell division
43. The net movement of water molecules through a selectively permeable membrane from an area of higher water concentration to an area of a lower water concentration
- A) Reverse osmosis
  - B) Diffusion
  - C) Osmosis
  - D) Active transport
44. Secretions of the merocrine gland are synthesized on
- A) Ribosomes
  - B) Golgi complex
  - C) Rough endoplasmic reticulum
  - D) Smooth endoplasmic reticulum
45. Which of the following is an avascular tissue?
- A) Bone
  - B) Fibrocartilage
  - C) Stratified squamous epithelium
  - D) B and C
46. Approximately how long after fertilization does implantation of an embryo usually occur
- A) 3 weeks
  - B) 1 day
  - C) About 6 days
  - D) About 3 days

47. Dizygotic (fraternal) twins result from
- A) Two secondary oocytes and two sperms
  - B) Two secondary oocytes and one sperm
  - C) One secondary oocyte and one sperm
  - D) One secondary oocyte and two sperms
48. A series of functional changes that cause a sperm's tail to beat more vigorously and prepare its plasma membrane to fuse with the oocyte's plasma membrane is called
- A) Fertilization
  - B) Implantation
  - C) Capacitation
  - D) Syngamy
49. Oxygen and nutrient from the maternal blood must pass through which of the following structure before entering the fetal blood?
- A) Umbilical vein
  - B) Umbilical artery
  - C) Decidua capsularis
  - D) Allantois
50. If a newborn baby has a low blood sugar level or a small penis, what will be the cause?
- A) Deficiency of thyroid hormone
  - B) Deficiency of growth hormone
  - C) Increase in thyroid hormone
  - D) Increase in growth hormone
51. Extracellular fluid in joint is termed as
- A) Blood plasma
  - B) Lymph
  - C) Synovial fluid
  - D) Aqueous humor
52. Single photon emission computed tomography (SPECT) scanning is a specified type of radioactive scan is specifically used for studying
- A) Brain, heart, liver, and lungs
  - B) Brain, heart, liver, and kidney
  - C) Brain, heart, liver, and appendix
  - D) Brain, heart, colon, and bones

53. Digitalis often is given to patients with heart failure, a condition of weakened pumping action by the heart. Digitalis exerts its effect by
- A) Decrease  $\text{Ca}^{2+}$
  - B) Increase  $\text{Ca}^{2+}$
  - C) Decrease  $\text{Na}^{+}$
  - D) Increase  $\text{Na}^{+}$
54. Which of the following is a pyrimidine nucleotide?
- A) Uracil
  - B) Cytosine
  - C) Thymine
  - D) All of the above
55. The number of hydrogen bonds between adenine and thymine is
- A) 1
  - B) 2
  - C) 3
  - D) 4
56. Which ratio is constant for DNA?
- A)  $\text{A}+\text{G}/\text{T}+\text{C}$
  - B)  $\text{A}+\text{T}/\text{G}+\text{C}$
  - C)  $\text{A}+\text{C}/\text{U}+\text{G}$
  - D)  $\text{A}+\text{U}/\text{G}+\text{C}$
57. The disruption of nucleosomal structure is due to
- A) Acetylation
  - B) Carboxylation
  - C) Phosphorylation
  - D) Methylation
58. The number of nucleotides found in a DNA segment if it contains 100 adenine and 100 cytosines are
- A) 100
  - B) 200
  - C) 400
  - D) 50

59. The peptide bond formed by the enzymes is known as
- A) Carbonic anhydrase
  - B) Peptides
  - C) Carbohydrate
  - D) Peptidyl transferase
60. The proteins are synthesized at
- A) Centrosomes
  - B) Ribosomes
  - C) Golgi bodies
  - D) Mitochondria
61. Which proteins are called messenger proteins?
- A) Enzymes
  - B) Hormones
  - C) Storage
  - D) Antibodies
62. The laboratory process to provide a high degree of assurance that the process will work as intended in the live environment is known as
- A) Document control
  - B) Proficiency testing
  - C) Process control
  - D) Validation
63. The gradual decrease in X-ray beam intensity as it progresses through a material is called
- A) Attenuation
  - B) Decay
  - C) Radioactivity
  - D) Imaging
64. Which is the most common form of medical imaging that uses high-energy radiation to penetrate skin and tissues but not bone?
- A) Positron emission tomography (PET)
  - B) X-ray
  - C) Magnetic resonance imaging (MRI)
  - D) Ultrasound

65. Which diagnostic image is the result of ultrasound technology?
- A) Echocardiogram
  - B) Positron emission tomography (PET)
  - C) Angiogram
  - D) Radiogram
66. Recommended transport medium for stool specimen suspected of *Vibrio cholerae* is
- A) Buffered glycerol saline medium
  - B) Venkatraman Ramakrishnan medium
  - C) Nutrient agar
  - D) Blood agar
67. The best way of sterilizing disposable plastic syringes is
- A) UV rays
  - B) Gamma rays
  - C) Autoclave
  - D) Hot air oven
68. Who is the father of transfusion medicine?
- A) Karl Landsteiner
  - B) William Harvey
  - C) Liliansa Marcus
  - D) Richard Lower
69. When typing blood a positive reaction?
- A) Shows which antigen is present
  - B) Shows clumping
  - C) Helps deduce which blood type the sample is
  - D) All of the above
70. Which is the strongest blood type?
- A) A
  - B) O
  - C) AB
  - D) A+ve

71. How many defined blood group antigens are in the Rh blood group system consists?
- A) 15
  - B) 65
  - C) 46
  - D) 49
72. Choose the one citrate anticoagulant solution
- A) Dihydrate
  - B) Citric acid
  - C) Phosphate
  - D) Ethanol
73. Which is the minimum haemoglobin value of the blood donor? .
- A) 28.5 g/dl
  - B) 11.3 g/dl
  - C) 52.7 g/dl
  - D) 12.5 g/dl
74. Pick out the right side effect of the anticoagulant
- A) Body pain
  - B) Vision deficiency
  - C) Dysentery
  - D) Severe bruising
75. Blood plasma as well as cryo are frozen and stored in freezers for up to
- A) 10 Months
  - B) 13 Months
  - C) 12 Months
  - D) 9 Months
76. Which is the site of blood collection?
- A) Cephalic vein
  - B) Deep vein
  - C) Basal vein
  - D) Femoral vein

77. Which of the following statement is true about cross-matching?
- Ensure RBC
  - Blood compatibility testing
  - Determine serum
  - Finding infection
78. What blood types cause coombs?
- Rh-ve
  - Rh+ve
  - AB-ve
  - A-ve
79. How long can you have packed red blood cells?
- 22-47 Days
  - 22-35 Days
  - 20-42 Days
  - 21-49 Days
80. Fresh frozen plasma contains
- Serum
  - Glucose
  - RBC
  - Fibrinogen
81. Match column I with column II and select the correct answer using answer codes
- | <b>Column I</b>  | <b>Column II</b>                         |
|------------------|--|
| a. Hemolysis     | 1. Destroyed RBC                         |
| b. Agglutination | 2. Clot within the damaged blood vessel  |
| c. Hemostasis    | 3. A blood clot within veins or arteries |
| d. Thrombosis    | 4. Clumping of RBC                       |
- a b c d
- 1, 4, 2, 3
  - 2, 3, 4, 1
  - 3, 4, 1, 2
  - 4, 1, 2, 3



82. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column - I</b>   | <b>Column - II</b>   |
|---------------------|--|
| a. Introns          | 1. A locus in the second chromosomes of <i>D. melanogaster</i> . |
| b. Homeotic genes   | 2. Non-coding part of the gene                                   |
| c. Exons            | 3. The coding part of the gene                                   |
| d. Gene within gene | 4. Determine body plans  |
- a b c d
- A) 3, 1, 2, 1  
B) 4, 1, 3, 2  
C) 2, 4, 3, 1  
D) 4, 2, 1, 3

83. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column - I</b> | <b>Column - II</b>                          |
|-------------------|---|
| a. Histamine      | 1. Biological rhythms and Sleep wake cycles |
| b. Serotonin      | 2. Nicotinic acid                           |
| c. Melatonin      | 3. Neurotransmitter                         |
| d. Tryptophan     | 4. Stimulate gastric secretion              |
- a b c d
- A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 4, 1, 2  
D) 4, 3, 1, 2

84. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column - I</b> | <b>Column - II</b>   |
|-------------------|--|
| a. Zein           | 1. Lack lysine   |
| b. Protamines     | 2. Rich in proline   |
| c. Prolamines     | 3. Contains a large number of arginine and lysine residues |
| d. Cereals        | 4. Lacks tryptophan and lysine                             |
- a b c d
- A) 1, 4, 2, 3  
B) 4, 3, 2, 1  
C) 3, 4, 1, 2  
D) 4, 1, 2, 3

85. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column - I</b>      | <b>Column - II</b>                          |
|------------------------|---|
| a. Cardiac arrhythmias | 1. Heart rate slower than normal            |
| b. Tachycardia         | 2. Heart rate faster than normal            |
| c. Bradycardia         | 3. Gurgling sound                           |
| d. Heart murmur        | 4. Abnormal patterns of cardiac contraction |
- a b c d
- A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 4, 1, 2  
D) 4, 2, 1, 3

86. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column-I</b>       | <b>Column-II</b>        |
|-----------------------|-------------------------|
| a. Cortical reaction  | 1. Female genital tract |
| b. Lysosomal activity | 2. Progesterone         |
| c. Secretary phase    | 3. Acrosome             |
| d. Capacitation       | 4. Fertilization        |
- a b c d
- A) 1, 4, 2, 3  
B) 4, 3, 2, 1  
C) 3, 4, 1, 2  
D) 4, 1, 2, 3

87. Match column-I with column-II and select the correct answer using answer codes

- | <b>Column - I</b>  | <b>Column - II</b> |
|--------------------|--------------------|
| a. Neotony         | 1. Armadillos      |
| b. Polyembryony    | 2. Rock lizard     |
| c. Metagenesis     | 3. Axolotl larvae  |
| d. Parthenogenesis | 4. Obelia          |
- a b c d
- A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 1, 4, 2  
D) 4, 1, 2, 3

88. Match column-I with column-II and select the correct answer using answer codes

Column - I	Column - II
a. Aldosterone	1. Decreases plasma calcium concentration
b. Adrenal medulla	2. Increased secretion of sebaceous glands
c. Calcitonin	3. Na <sup>+</sup> and K <sup>+</sup> balance and blood pressure regulation
d. Testosterone	4. Pheochromocytoma

a b c d

A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 4, 1, 2  
D) 4, 1, 2, 3

89. Match column - I with column - II and select the correct answer using answer codes

Column - I	Column - II
a. Nucleosome	1. Photorespiration
b. Lysosome	2. Microtubules
c. Tubulin	3. Chromatin
d. Peroxisome	4. Autolysis

a b c d

A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 4, 2, 1  
D) 4, 1, 2, 3

90. Match column-I with column-II and select the correct answer using answer codes

Column - I	Column - II
a. Mitochondria	1. Monoamine oxidase
b. Chloroplast	2. High concentration of cardiolipin
c. Outer membrane	3. Tend to pump H <sup>+</sup> and retain OH <sup>-</sup>
d. Inner membrane of the mitochondrion	4. Tend to pump OH <sup>-</sup> and retain H <sup>+</sup>

a b c d

A) 1, 4, 2, 3  
B) 2, 3, 4, 1  
C) 3, 4, 1, 2  
D) 4, 1, 2, 3

91. Consider the following statements:

**Assertion:** Extracellular materials help in the separation of cells

**Reason:** Cell junctions are formed by extracellular materials

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

92. Consider the following statements:

**Assertion:** Eduard A Strasburger is a famous cytologist

**Reason:** He related it to the discovery of cell division and used the term nucleoplasm and cytoplasm

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

93. Consider the following statements:

**Assertion:** Vacuoles are osmoregulatory components of cell

**Reason:** Ions and other materials are stored in the vacuole

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

94. Consider the following statements:

**Assertion:** Histones are basic proteins

**Reason:** Because they have a high content of arginine and glycine which are basic amino acids

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

95. Consider the following statements:

**Assertion:** Thymosin is a protein

**Reason:** Does not prevent actin polymerization

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

96. Consider the following statements:

**Assertion:** Lysosomal enzymes are N-linked glycosylated in the endoplasmic reticulum. Following this step, lysosomal hydrolases are then transported through the biosynthetic secretory pathway to the late endosome

**Reason:** The N-linked oligosaccharide is further modified in the Golgi stacks by the addition or removal of sugars.

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

97. Consider the following statements:

**Assertion:** Acetyl Co A is the center of lipid metabolism

**Reason:** It can be converted to fatty acids which in turn give rise to prostaglandins

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

98. Consider the following statements:

**Assertion:** Membrane lipid molecules assemble spontaneously and form a closed spherical structure

**Reason:** When placed in water

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

99. Consider the following statements:

**Assertion:** PCR is best method for checking mycoplasma contamination in a mammalian cell line

**Reason:** PCR test is highly specific, It is based on the detection of 16S rRNA molecule most common species of mycoplasma contaminating cell culture

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
- B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
- C) The assertion is true but the reason is false
- D) Both the assertion and reason are false

100. Consider the following statements :

**Assertion:** All digestible monosaccharides, disaccharides, and polysaccharides must be converted into glucose by the various liver enzymes

**Reason:** Because glucose is the only sugar used by the various body tissues for the requirement of energy

- A) Both the assertion and reason are true and the reason is a correct explanation of the assertion
  - B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion
  - C) The assertion is true but the reason is false
  - D) Both the assertion and reason are false
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# ROUGH WORK

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**SEAL**