

पुस्तिका में पृष्ठों की संख्या : 16

No. of Pages in Booklet : 16

पुस्तिका में प्रश्नों की संख्या : 150

No. of Questions in Booklet : 150

Paper Code : 91

Subject: Concerned Subject

समय : 02:30 घण्टे + 10 मिनट अतिरिक्त*

Time : 02:30 Hours + 10 Minutes Extra*

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प्रश्न पुस्तिका संख्या व
बारकोड/
Question Booklet No.
& Barcode

अधिकतम अंक : 150

Maximum Marks: 150

प्रश्न पुस्तिका के पेपर की सील/पॉलिथिन बैग को खोलने पर प्रश्न पत्र हल करने से पूर्व परीक्षार्थी यह सुनिश्चित कर लें कि :-

- प्रश्न पुस्तिका संख्या तथा ओ.एम.आर. उत्तर-पत्रक पर अंकित बारकोड संख्या समान है।
- प्रश्न पुस्तिका एवं ओ.एम.आर. उत्तर-पत्रक के सभी पृष्ठ व सभी प्रश्न सही मुद्रित हैं। समस्त प्रश्न जैसा कि ऊपर वर्णित है, उपलब्ध हैं तथा कोई भी पृष्ठ कम नहीं है/मुद्रण त्रुटि नहीं है।

किसी भी प्रकार की विसंगति या दोषपूर्ण होने पर परीक्षार्थी वीक्षक से दूसरी प्रश्न पुस्तिका प्राप्त कर लें। यह सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी। परीक्षा प्रारम्भ होने के 5 मिनट पश्चात् ऐसे किसी दावे/आपत्ति पर कोई विचार नहीं किया जायेगा।

On opening the paper seal/polythene bag of the Question Booklet before attempting the question paper the candidate should ensure that:-

- Question Booklet Number and Barcode Number of OMR Answer Sheet are same.
- All pages & Questions of Question Booklet and OMR Answer Sheet are properly printed. All questions as mentioned above are available and no page is missing/misprinted.

If there is any discrepancy/defect, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this. No claim/objection in this regard will be entertained after five minutes of start of examination.

परीक्षार्थियों के लिए निर्देश

1. प्रत्येक प्रश्न के लिये एक विकल्प भरना अनिवार्य है।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का मात्र एक ही उत्तर दीजिये। एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
4. OMR उत्तर-पत्रक इस प्रश्न पुस्तिका के अन्दर रखा है। जब आपको प्रश्न पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल प्वाइंट पेन से विवरण भरें।
5. कृपया अपना रोल नम्बर ओ.एम.आर. उत्तर-पत्रक पर सावधानीपूर्वक सही भरें। गलत रोल नम्बर भरने पर परीक्षार्थी स्वयं उत्तरदायी होगा।
6. ओ.एम.आर. उत्तर-पत्रक में करेक्शन पेन/व्हाइटनर/सफेदा का उपयोग निषिद्ध है।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है।
8. प्रत्येक प्रश्न के पांच विकल्प दिये गये हैं, जिनमें क्रमशः 1, 2, 3, 4, 5 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले (बबल) को उत्तर-पत्रक पर नीले बॉल प्वाइंट पेन से गहरा करना है।
9. यदि आप प्रश्न का उत्तर नहीं देना चाहते हैं, तो उत्तर-पत्रक में पांचवे (5) विकल्प को गहरा करें। यदि पांच में से कोई भी गोला गहरा नहीं किया जाता है, तो ऐसे प्रश्न के लिये प्रश्न अंक का 1/3 भाग काटा जायेगा।
10. *प्रश्न पत्र हल करने के उपरांत अभ्यर्थी अनिवार्य रूप से ओ.एम.आर. आंसर शीट जांच लें कि समस्त प्रश्नों के लिये एक विकल्प (गोला) भर दिया गया है। इसके लिये ही निर्धारित समय से 10 मिनट का अतिरिक्त समय दिया गया है।
11. यदि अभ्यर्थी 10% से अधिक प्रश्नों में पांच विकल्पों में से कोई भी विकल्प अंकित नहीं करता है, तो उसको अयोग्य माना जायेगा।
12. मोबाइल फोन अथवा इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है, तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए और राजस्थान सार्वजनिक परीक्षा (भर्ती में अनुचित साधनों की रोकथाम अध्याय) अधिनियम, 2022 तथा अन्य प्रभावी कानून एवं आयोग के नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही आयोग ऐसे अभ्यर्थी को भविष्य में होने वाली आयोग की समस्त परीक्षाओं से विवर्जित कर सकता है।

INSTRUCTIONS FOR CANDIDATES

1. It is mandatory to fill one option for each question.
2. All questions carry equal marks.
3. Only one answer is to be given for each question. If more than one answers are marked, it would be treated as wrong answer.
4. The OMR Answer Sheet is inside this Question Booklet. When you are directed to open the Question Booklet, take out the Answer Sheet and fill in the particulars carefully with BLUE BALL POINT PEN only.
5. Please correctly fill your Roll Number in OMR Answer Sheet. Candidate will himself/herself be responsible for filling wrong Roll Number.
6. Use of Correction Pen/Whitener in the OMR Answer Sheet is strictly forbidden.
7. 1/3 part of the mark(s) of each question will be deducted for each wrong answer. A wrong answer means an incorrect answer or more than one answers for any question.
8. Each question has five options marked as 1, 2, 3, 4, 5. You have to darken only one circle (bubble) indicating the correct answer on the Answer Sheet using BLUE BALL POINT PEN.
9. If you are not attempting a question, then you have to darken the circle '5'. If none of the five circles is darkened, one third (1/3) part of the marks of question shall be deducted.
10. * After solving the question paper, candidate must ascertain that he/she has darkened one of the circles (bubbles) for each of the questions. Extra time of 10 minutes beyond scheduled time is provided for this.
11. A candidate who has not darkened any of the five circles in more than 10% questions shall be disqualified.
12. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt by the Commission as per rules.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would liable to be prosecuted under Rajasthan Public Examination (Measures for Prevention of Unfair Means in Recruitment) Act, 2022, other laws applicable and Commission's Regulations. Commission may also debar him/her permanently from all future examinations.

उत्तर-पत्रक में दो प्रतियां हैं - मूल प्रति और कार्बन प्रति। परीक्षा समाप्ति पर परीक्षा कक्ष छोड़ने से पूर्व परीक्षार्थी उत्तर-पत्रक की दोनों प्रतियां वीक्षक को सौंपेंगे, परीक्षार्थी स्वयं कार्बन प्रति अलग नहीं करें। वीक्षक उत्तर-पत्रक की मूल प्रति को अपने पास जमा कर, कार्बन प्रति को मूल प्रति से कट लाईन से मोड़कर सावधानीपूर्वक अलग कर परीक्षार्थी को सौंपेंगे, जिसे परीक्षार्थी अपने साथ ले जायेंगे। परीक्षार्थी को उत्तर-पत्रक की कार्बन प्रति चयन प्रक्रिया पूर्ण होने तक सुरक्षित रखनी होगी एवं आयोग द्वारा मांगे जाने पर प्रस्तुत करनी होगी।



1. Ligand for LDL particle is -
 - (1) Apo A
 - (2) Apo E
 - (3) Apo B-100
 - (4) Apo B-48
 - (5) Question not attempted
2. Nitric oxide functions as a smooth muscle relaxant. Its primary intracellular target is -
 - (1) Adenylyl cyclase
 - (2) Phospholipase C
 - (3) Tyrosine kinase
 - (4) Guanylyl cyclase
 - (5) Question not attempted
3. Lathyrism, resulting from the long-term consumption of Lathyrus Sativus, clinically manifests as -
 - (1) Paralysis and muscle weakness
 - (2) Skin rash and irritation
 - (3) Kidney damage
 - (4) Respiratory failure
 - (5) Question not attempted
4. In colorimetry, the tungsten lamp is primarily used to emit light in which part of the spectrum?
 - (1) Ultraviolet range (200-400 nm)
 - (2) Visible range (400-700 nm)
 - (3) Infrared range (700-1500 nm)
 - (4) Both ultraviolet and visible ranges
 - (5) Question not attempted
5. Nephrotic syndrome is characterized by all the following **EXCEPT** -
 - (1) Haematuria
 - (2) Proteinuria
 - (3) Oedema
 - (4) Hypoalbuminemia
 - (5) Question not attempted
6. In Acute Intermittent Porphyria, neurologic symptoms are primarily due to the accumulation of -
 - (1) Delta-aminolevulinic acid
 - (2) Uroporphyrin
 - (3) Heme
 - (4) Bilirubin
 - (5) Question not attempted
7. Investigation technique used for Metabolic disorder is -
 - (1) Tandem mass spectrometry
 - (2) ELISA
 - (3) Western blotting
 - (4) Immunoturbidimetry
 - (5) Question not attempted
8. What is the primary use of ^{99m}Tc -Methylene diphosphonate in nuclear medicine?
 - (1) Liver function test
 - (2) Cardiac imaging
 - (3) Brain imaging
 - (4) Bone scanning
 - (5) Question not attempted
9. Which HIV gene is detected by Nucleic Acid Testing (NAT)?
 - (1) env
 - (2) tat
 - (3) vpu
 - (4) vif
 - (5) Question not attempted
10. In sickle cell anemia, glutamic acid is replaced by which amino acid at position 6 of the beta-globin chain?
 - (1) Valine
 - (2) Glycine
 - (3) Lysine
 - (4) Alanine
 - (5) Question not attempted
11. Which process is typically used to produce Type I reagent grade water which could be used in high performance liquid chromatography?
 - (1) Distillation and deionization
 - (2) Filtration and distillation
 - (3) Ultraviolet treatment and deionization
 - (4) Activated carbon filtration and ultraviolet treatment
 - (5) Question not attempted




12. What is the primary function of small interfering RNAs (siRNAs) in cells?
 - (1) Gene silencing
 - (2) Protein folding
 - (3) RNA splicing
 - (4) DNA replication
 - (5) Question not attempted
13. Selenocysteine is formed by which of the following process?
 - (1) Co-translational modification
 - (2) Oxidative deamination
 - (3) Post-translational modification
 - (4) Transamination
 - (5) Question not attempted
14. Which enzyme requires chloride ion as activator?
 - (1) Amylase
 - (2) Elastin
 - (3) Lipase
 - (4) Trypsin
 - (5) Question not attempted
15. Hypouricemia occurs in the following condition -
 - (1) Adenosine deaminase deficiency
 - (2) Lesch-Nyhan syndrome
 - (3) Gout
 - (4) Chronic kidney disease
 - (5) Question not attempted
16. Which of the following is considered a biomarker for Morquio B Disease?
 - (1) Elevated levels of Heparan sulfate
 - (2) Elevated levels of Dermatan sulfate
 - (3) Decreased levels of glucosamine
 - (4) Elevated levels of keratan sulfate
 - (5) Question not attempted
17. Excess production of growth hormone in adults leads to which of the following conditions?
 - (1) Hypothyroidism
 - (2) Gigantism
 - (3) Dwarfism
 - (4) Acromegaly
 - (5) Question not attempted
18. What is the action of Insulin on lipid metabolism?
 - (1) It decreases lipolysis and decreases triglyceride synthesis
 - (2) It increases synthesis of triglyceride and ketone bodies
 - (3) It increases lipolysis and increases triglyceride synthesis
 - (4) It decreases lipolysis and increases triglyceride synthesis
 - (5) Question not attempted
19. Non-Nucleoside analogue that inhibits reverse transcriptase used in art.
 - (1) Abacavir
 - (2) Nevirapine
 - (3) Azidothymidine
 - (4) Zidovudine
 - (5) Question not attempted
20. In wine, homovanillic acid is excretory product derived from -
 - (1) Dopamine
 - (2) Serotonin
 - (3) Epinephrine
 - (4) Norepinephrine
 - (5) Question not attempted
21. Inducer of lactose operon is -
 - (1) Glucose
 - (2) Galactose
 - (3) Allolactose
 - (4) Mannose
 - (5) Question not attempted
22. The mitochondria does not contain enzymes of -
 - (1) Glycogenolysis
 - (2) Ketogenesis
 - (3) β -oxidation of fatty acids
 - (4) TCA cycle
 - (5) Question not attempted

23. The urinary marker for diagnosing carcinoid syndrome is -
 (1) Vanillylmandelic Acid (VMA) (2) Homovanillic Acid (HVA)
 (3) 5-Hydroxyindoleacetic Acid (5-HIAA) (4) Metanephrine
 (5) Question not attempted
24. Which form of mercury is commonly used as a preservative in some vaccines?
 (1) Methylmercury (2) Mercury chloride
 (3) Ethylmercury (4) Dimethylmercury
 (5) Question not attempted
25. DNA synthesis occurs in which cell cycle phase?
 (1) M - Phase (2) G -1 Phase
 (3) G -2 Phase (4) S - Phase
 (5) Question not attempted
26. Anticancer agent methotrexate is inhibitor of enzyme -
 (1) Xanthine oxidase (2) Dihydrofolate reductase
 (3) Phenylalanine hydroxylase (4) Orotidylic acid decarboxylase
 (5) Question not attempted
27. Which DNA polymerase is involved in repair of mammalian DNA?
 (1) Delta (2) Alpha
 (3) Epsilon (4) Beta
 (5) Question not attempted
28. The pathway of metabolic integration is -
 (1) Krebs' Cycle (2) Glycolysis
 (3) Beta-Oxidation (4) HMP shunt (hexose monophosphate shunt)
 (5) Question not attempted
29. Which of the following is also referred as soluble RNA?
 (1) t-RNA (2) m-RNA
 (3) r-RNA (4) mi-RNA
 (5) Question not attempted
30. How many high-energy phosphate bonds are consumed to form a single peptide bond during protein synthesis?
 (1) 4 (2) 6
 (3) 1 (4) 2
 (5) Question not attempted
31. Endorphins are primarily involved in -
 (1) Blood clotting (2) Pain relief and mood elevation
 (3) Muscle contraction (4) Digestion
 (5) Question not attempted
32. Which enzyme is not required for replication?
 (1) Reverse transcriptase (2) Topoisomerase
 (3) Ligase (4) Helicase
 (5) Question not attempted
33. What is the primary function of Slow Reacting Substance of Anaphylaxis (SRS-A) in the body?
 (1) Bronchoconstriction (2) Increase heart rate
 (3) Stimulate insulin secretion (4) Promote vasodilation
 (5) Question not attempted

34. Which of the following is a potential application of ddRNAi?
- (1) Treating genetic diseases via gene silencing
 - (2) Increasing protein folding speed
 - (3) DNA replication enhancement
 - (4) Enhancing gene expression
 - (5) Question not attempted
35. Uptake of Iodine by thyroid gland is inhibited by -
- (1) Bromide
 - (2) Fluoride
 - (3) Perchlorate
 - (4) Chloride
 - (5) Question not attempted
36. Mineral deficiency that leads to impaired glucose tolerance is -
- (1) Phosphorus
 - (2) Iron
 - (3) Chromium
 - (4) Calcium
 - (5) Question not attempted
37. Creatine is synthesized in the body from all the following **EXCEPT** -
- (1) Methionine
 - (2) Glycine
 - (3) Arginine
 - (4) Tyrosine
 - (5) Question not attempted
38. Which one of the following disease is not associated with mitochondrial defects?
- (1) Alzheimer's disease
 - (2) Krabbe disease
 - (3) Huntington's disease
 - (4) Parkinson's disease
 - (5) Question not attempted
39. Which of the following enzyme exhibits reverse transcriptase activity?
- (1) S1 Nuclease
 - (2) DNA Polymerase II
 - (3) Terminal Deoxynucleotidyl Transferase
 - (4) Telomerase
 - (5) Question not attempted
40. All are vectors for gene therapy **EXCEPT** -
- (1) Retroviruses
 - (2) Liposomes
 - (3) Adenoviruses
 - (4) Proteasomes
 - (5) Question not attempted
41. Selenium is Prosthetic group for enzyme -
- (1) Glutathione Reductase
 - (2) Glutathione Synthetase
 - (3) Glutathione Dehydrogenase
 - (4) Glutathione Peroxidase
 - (5) Question not attempted
42. Which of the following correctly represents the definition of normality?
- (1) The number of grams of solute per liter of solution.
 - (2) The number of moles of solute per liter of solution.
 - (3) The number of gram equivalent of solute per liter of solution.
 - (4) The number of gram equivalents of solute per milliliter of solution.
 - (5) Question not attempted
43. Which of the following is a potential life-threatening consequence of severe hyperkalemia?
- (1) Hypoglycemia
 - (2) Cardiac arrhythmias
 - (3) Respiratory alkalosis
 - (4) Dehydration
 - (5) Question not attempted

44. Calculate LDL cholesterol using Friedwald formula if -
 Total Cholesterol : 225 mg/dL
 HDL Cholesterol : 45 mg/dL
 Triglyceride : 125 mg/dL
 (1) 155 mg/dL (2) 180 mg/dL
 (3) 130 mg/dL (4) 100 mg/dL
 (5) Question not attempted
45. Ame's test is used to check -
 (1) Inborn errors of mucopolysaccharides (2) Mutagenicity of compound
 (3) Sickle cell Anemia (4) Viral diseases
 (5) Question not attempted
46. Which of the following is not a component of folic acid structure?
 (1) Glutaric acid (2) Para-Aminobenzoic Acid (PABA)
 (3) Glutamic acid (4) Pteridine ring
 (5) Question not attempted
47. All diseases involve prion proteins **EXCEPT** -
 (1) Mad Cow Disease (2) Alzheimer's Disease
 (3) Creutzfeldt-Jakob Disease (4) McArdle's Disease
 (5) Question not attempted
48. Milk is a good source of all the following **EXCEPT** -
 (1) Potassium (2) Sodium
 (3) Riboflavin (4) Iron
 (5) Question not attempted
49. Sickle cell Anemia is an example of which type of mutation?
 (1) Missense (2) Nonsense
 (3) Silent (4) Frameshift
 (5) Question not attempted
50. 5 millilitre is expressed in microlitre as -
 (1) 500 μ L (2) 50000 μ L
 (3) 50 μ L (4) 5000 μ L
 (5) Question not attempted
51. In a fasting state, which of the following enzymes would show increased activity?
 (1) Glycogen synthase (2) Glycogen phosphorylase
 (3) Acetyl-CoA carboxylase (4) Phosphofructokinase
 (5) Question not attempted
52. Vitamin C is required in all processes **EXCEPT** -
 (1) Synthesis of bile acids (2) Hydroxylation of proline and lysine
 (3) Synthesis of serotonin (4) Transsulfuration of homocysteine
 (5) Question not attempted
53. Which disease was the first to be treated using gene therapy?
 (1) Cystic fibrosis (2) Hemophilia
 (3) Muscular dystrophy (4) Severe Combined Immunodeficiency (SCID)
 (5) Question not attempted
54. DNA Repair pathway for "Pyrimidine dimers" -
 (1) Base Excision Repair (2) Nucleotide Excision Repair
 (3) Mismatch Repair (4) Homologous Recombination
 (5) Question not attempted

55. Systemic error can best be described as consisting of -
 (1) Constant and proportional error (2) Proportional error
 (3) Random error (4) Constant error
 (5) Question not attempted
56. Which enzyme protects DNA from aging? 
 (1) Topoisomerase (2) DNA polymerase
 (3) Deoxyribonuclease (4) Telomerase
 (5) Question not attempted
57. An application of plasmid-liposome complex is -
 (1) Inhibition of DNA replication (2) Gene delivery into cells
 (3) Activation of protein synthesis (4) Production of monoclonal antibodies
 (5) Question not attempted
58. Which of the following enzymes is primarily involved in Phase I of xenobiotic metabolism?
 (1) UDP-glucuronosyltransferase (2) N-acetyltransferase
 (3) Glutathione-S-transferase (4) Cytochrome P450
 (5) Question not attempted
59. Which of the following is a symptom of prolonged Vitamin A deficiency?
 (1) Scurvy (2) Beriberi
 (3) Rickets (4) Xerophthalmia
 (5) Question not attempted
60. Excessive supplementation of menadione (synthetic vitamin K3) in adults can lead to -
 (1) Increased bone density (2) Enhanced muscle growth
 (3) Improved kidney function (4) Hemolytic anemia
 (5) Question not attempted
61. Which of the following kinase catalyses reversible reaction in Glycolysis?
 (1) Hexokinase (2) Phosphofructo Kinase
 (3) Phosphoglycerate Kinase (4) Pyruvate Kinase
 (5) Question not attempted
62. Which of the following is the primary source of energy for skeletal muscles when oxygen supply is insufficient?
 (1) Palmitic acid (2) Fatty acids
 (3) Amino acids (4) Glucose
 (5) Question not attempted
63. Which of the following is a naturally occurring carcinogen?
 (1) Asbestos (2) Aflatoxin
 (3) Formaldehyde (4) Benzene
 (5) Question not attempted
64. Retinitis pigmentosa is related with the deficiency of which of the following?
 (1) Docosahexenoic Acid (DHA) (2) Timnodonic Acid
 (3) Oleic Acid (4) Arachidonic Acid
 (5) Question not attempted
65. Ochronosis is seen in -
 (1) Tyrosinosis (2) Phenylketonuria
 (3) Alkaptonuria (4) Albinism
 (5) Question not attempted

66. For recombinant DNA technology all of the following are cloning vectors, **EXCEPT** -
 (1) Plasmid (2) Prion
 (3) Cosmid (4) Lambda phage
 (5) Question not attempted
67. Which of the following types of waste falls under the yellow category in the Biomedical Waste Management Rules, 2016?
 (1) Vacutainer tubes (2) Needles and syringes
 (3) Human tissues (4) Catheters
 (5) Question not attempted
68. Hemolyzed samples give falsely low values for analyte -
 (1) Phosphate (2) LDH
 (3) Bilirubin (4) Magnesium
 (5) Question not attempted
69. During prolonged starvation, which of the following is most likely to be used by the liver for gluconeogenesis?
 (1) Glycogen (2) Ketone bodies
 (3) Fatty acids (4) Amino acids
 (5) Question not attempted
70. One of the following is an example of repression -
 (1) Glycogen phosphorylase by glucagon (2) ALA Synthase by heme
 (3) Succinate dehydrogenase by malonate (4) Cytochromes by cyanide
 (5) Question not attempted
71. Which of the following is not an anticoagulant used in clinical laboratories?
 (1) Potassium oxalate (2) Ethidium bromide
 (3) EDTA (4) Heparin
 (5) Question not attempted
72. Which coloured bag or container is used for disposal of sharp objects including metals -
 (1) Yellow (2) Black
 (3) Blue (4) White
 (5) Question not attempted
73. Co-enzyme for Transketolation Reaction in HMP-Shunt is -
 (1) PLP (2) TPP
 (3) FAD (4) NAD
 (5) Question not attempted
74. Which of the following is true about antibodies with the suffix "umab"?
 (1) The antibody is fully synthetic with no natural sources.
 (2) The antibody contains exclusively human sequences.
 (3) The antibody has both human and murine regions.
 (4) The antibody is humanized, with some murine components.
 (5) Question not attempted
75. Interferons are secreted by -
 (1) Mast cells (2) Virus infected cells
 (3) Macrophages (4) Leucocytes
 (5) Question not attempted
76. All inhibit Bacterial DNA gyrase **EXCEPT** -
 (1) Nalidixic acid (2) Doxorubicin
 (3) Novobiocin (4) Ciprofloxacin
 (5) Question not attempted

77. Which of the following acid reagents is most commonly used to clean stubborn organic contaminants from glassware?
- | | |
|--|-----------------------|
| (1) Hydrofluoric acid | (2) Acetic acid |
| (3) Chromic acid-sulfuric acid mixture | (4) Hydrochloric acid |
| (5) Question not attempted | |
78. Antineoplastic drug which blocks the synthesis of purine nucleotides -
- | | |
|----------------------------|------------------|
| (1) 6-Thioguanine | (2) Etoposide |
| (3) Vinblastine | (4) Methotrexate |
| (5) Question not attempted | |
79. The graphical shape of Gaussian distribution curve is -
- | | |
|----------------------------|-----------------|
| (1) Rectangular | (2) Skewed |
| (3) Uniform | (4) Bell shaped |
| (5) Question not attempted | |
80. Which of the following is a negative acute-phase protein?
- | | |
|----------------------------|-------------------------|
| (1) Albumin | (2) Alpha-1 antitrypsin |
| (3) C-reactive protein | (4) Haptoglobin |
| (5) Question not attempted | |
81. Which biochemical technique commonly uses the biotin-avidin complex for increasing sensitivity of detection?
- | |
|---|
| (1) Polymerase Chain Reaction (PCR) |
| (2) Enzyme-Linked Immunosorbent Assay (ELISA) |
| (3) Western blotting |
| (4) Gel electrophoresis |
| (5) Question not attempted |
82. Major histocompatibility complex is located on -
- | | |
|----------------------------|-------------------|
| (1) Chromosome 6 | (2) Chromosome 18 |
| (3) Chromosome 21 | (4) Chromosome 8 |
| (5) Question not attempted | |
83. Which monosaccharide is responsible for sequestering of Phosphate?
- | | |
|----------------------------|--------------|
| (1) Mannose | (2) Glucose |
| (3) Allose | (4) Fructose |
| (5) Question not attempted | |
84. Lung maturity in foetus is assessed by -
- | | |
|----------------------------|--|
| (1) Phosphatidyl Serine | (2) Lecithin/Sphingomyelin (L/S) Ratio |
| (3) Cephalin | (4) Cortisol |
| (5) Question not attempted | |
85. Colorimeter is based on -
- | | |
|----------------------------|----------------------|
| (1) Hard-Weinberg Law | (2) Beer-Lambert Law |
| (3) Haber-Weiss Law | (4) Graham's Law |
| (5) Question not attempted | |
86. If an R_{4s} pattern occurs in a 2-level QC run on Levey-Jennings chart, what should be the next step?
- | |
|--|
| (1) Continue with the test run, as this is a normal occurrence. |
| (2) Ignore the pattern if the points are within 2-sigma limits |
| (3) Accept the run and monitor for further patterns. |
| (4) Reject the test run and investigate potential systematic errors. |
| (5) Question not attempted |

87. How does enalapril help lower blood pressure?
- (1) It competitively inhibits angiotensin-converting enzyme, lowering angiotensin II production.
 - (2) It increases nitric oxide release, causing vasoconstriction.
 - (3) It blocks beta-adrenergic receptors, reducing norepinephrine action.
 - (4) It stimulates aldosterone release, increasing sodium retention.
 - (5) Question not attempted
88. The safe limit of fluoride in drinking water is -
- (1) between 2.5-4.0 ppm
 - (2) above 5.0 ppm
 - (3) about 1.0 ppm
 - (4) below 0.3 ppm
 - (5) Question not attempted
89. What color does the aqueous solution of Bromocresol Green (BCG) appears at pH 3.8?
- (1) Blue
 - (2) Red
 - (3) Green
 - (4) Yellow
 - (5) Question not attempted
90. Protease inhibitor antiretroviral drug is -
- (1) Indinavir
 - (2) Nevirapine
 - (3) Abacavir
 - (4) Zidovudine
 - (5) Question not attempted
91. All drugs causes hypokalemia **EXCEPT** -
- (1) Acetazolamide
 - (2) Digoxin
 - (3) Corticosteroids
 - (4) Insulin
 - (5) Question not attempted
92. Which of the following is a major risk factor for developing Non-Alcoholic Fatty Liver Disease (NAFLD)?
- (1) Regular exercise
 - (2) Uncontrolled diabetes mellitus
 - (3) Low-fat diet
 - (4) Low blood sugar levels
 - (5) Question not attempted
93. Mechanism involved in the intestinal synthesis of Apo B-48 -
- (1) DNA rearrangement
 - (2) RNA interference
 - (3) DNA transposition
 - (4) RNA editing
 - (5) Question not attempted
94. Limiting amino acid in gelatin protein is -
- (1) Threonine
 - (2) Lysine
 - (3) Cysteine
 - (4) Tryptophan
 - (5) Question not attempted
95. Which of the following best describes the coordinated role of gp120 and gp41 in HIV infection?
- (1) gp120 degrades host RNA, gp41 promotes viral budding
 - (2) gp120 integrates viral DNA, gp41 activates host transcription
 - (3) gp120 binds host receptors, gp41 mediates membrane fusion
 - (4) gp120 produces viral enzymes, gp41 produces viral RNA
 - (5) Question not attempted
96. CA-125 is primarily used as a tumor marker for which type of cancer?
- (1) Ovarian cancer
 - (2) Colorectal cancer
 - (3) Breast cancer
 - (4) Lung cancer
 - (5) Question not attempted

97. Leigh syndrome is associated with defects in which mitochondrial respiratory chain enzyme complex?
 (1) Succinate dehydrogenase (2) ATP synthase
 (3) NADH: ubiquinone oxidoreductase (4) Cytochrome c oxidase
 (5) Question not attempted
98. De Ritis Ratio is ratio between -
 (1) CPK BB : CPK MB (2) AST : ALT
 (3) ACP : ALP (4) AST : ALP
 (5) Question not attempted
99. What is the approximate glycemic index range of full-fat whole milk?
 (1) 10-15 (2) 90-95
 (3) 55-60 (4) 35-40
 (5) Question not attempted
100. Hyperuricemia occurs in all the following conditions **EXCEPT** -
 (1) Lesch-Nyhan syndrome
 (2) Von Gierke's disease
 (3) Xanthine oxidase deficiency
 (4) Phosphoribosylpyrophosphate synthetase superactivity
 (5) Question not attempted
101. Who is credited with developing the technique of polymerase chain reaction?
 (1) Louis Pasteur (2) Kary Mullis
 (3) Rosalind Franklin (4) Rosalyn Yalow
 (5) Question not attempted
102. Following are positive health benefits of dietary fibres **EXCEPT** -
 (1) Decreases plasma cholesterol (2) Decreases absorption of calcium and iron
 (3) Reduces post prandial glucose concentration (4) Reduces risk of constipation
 (5) Question not attempted
103. Which codon is not chain terminating codon?
 (1) UGA (2) AUG
 (3) UAA (4) UAG
 (5) Question not attempted
104. What is the relation between K_m (Michaelis Constant) and Affinity of Enzyme for the substrate?
 (1) When K_m Decreases, Affinity Decreases.
 (2) When K_m Increases, Affinity Increases.
 (3) When K_m Increases, Affinity Decreases.
 (4) There is no relation between K_m and Affinity of enzyme for the substrate.
 (5) Question not attempted
105. In SDS-PAGE technique, what is the main role of SDS (Sodium dodecyl sulfate)?
 (1) To stain the proteins (2) To increase the pH of the buffer
 (3) To break disulfide bonds in proteins (4) To give proteins a uniform negative charge
 (5) Question not attempted
106. Which of the following act as a strong reducing agent?
 (1) Folic acid (2) Ascorbic acid
 (3) Nicotinic acid (4) Pantothenic acid
 (5) Question not attempted
107. Histone undergo extensive modification by all **EXCEPT** -
 (1) Methylation (2) Glycosylation
 (3) ADP ribosylation (4) Acetylation
 (5) Question not attempted

108. All of the vitamins play key roles in the citric acid cycle **EXCEPT** -
 (1) Biotin (2) Riboflavin
 (3) Niacin (4) Pantothenic acid
 (5) Question not attempted
109. Calmodulin is Homologous to which protein in structure and function?
 (1) Ceruloplasmin (2) Troponin C
 (3) Transferrin (4) Tropomyosin
 (5) Question not attempted
110. Nitrogen donor at position 9 in purine ring biosynthesis is -
 (1) Aspartate (2) Glutamine
 (3) Alanine (4) Serine
 (5) Question not attempted
111. A key laboratory finding in Zollinger-Ellison syndrome is -
 (1) Increased insulin levels (2) Elevated fasting serum gastrin levels
 (3) Low serum gastrin levels (4) Decreased gastric acid secretion
 (5) Question not attempted
112. The name Phenylketonuria is derived from the fact that large quantities of one of the following metabolites excreted in urine is a keto acid. Which is the metabolite?
 (1) Phenyllactate (2) Phenylpyruvate
 (3) Phenylacetate (4) Phenylalanine
 (5) Question not attempted
113. Acid base disturbance associated with diabetic ketosis is -
 (1) Respiratory Alkalosis (2) Metabolic Alkalosis
 (3) Normal anion gap metabolic acidosis (4) High anion gap metabolic acidosis
 (5) Question not attempted
114. Which level of structural organisation is present in insulin?
 (1) Secondary (2) Primary
 (3) Quaternary (4) Tertiary
 (5) Question not attempted
115. In response to cold exposure, thermogenin plays a key role in -
 (1) Stimulating brown adipose tissue to produce heat.
 (2) Generating ATP through oxidative phosphorylation.
 (3) Inhibiting energy expenditure.
 (4) Enhancing fatty acid synthesis.
 (5) Question not attempted
116. Which of the following plasma protein is primarily responsible for maintaining in vivo colloidal osmotic pressure?
 (1) Haemoglobin (2) Albumin
 (3) α_2 Macroglobulin (4) Fibrinogen
 (5) Question not attempted
117. Which enzyme defect is seen in Menkes disease?
 (1) Prolyl hydroxylase (2) Lysyl hydroxylase
 (3) Prolyl oxidase (4) Lysyl oxidase
 (5) Question not attempted
118. Which of the following enzymes is responsible for repairing oxidative damage to DNA?
 (1) DNA glycosylase (2) Superoxide dismutase (SOD)
 (3) DNA polymerase (4) DNA ligase
 (5) Question not attempted

119. Which complex is not a proton pump in respiratory chain?
 (1) Complex - II (2) Complex - IV
 (3) Complex - III (4) Complex - I
 (5) Question not attempted
120. Which of the following clotting factors does not require Vitamin K for activation?
 (1) Factor VII (2) Factor II
 (3) Factor IX (4) Factor VIII
 (5) Question not attempted
121. DNA which has left handed Helix?
 (1) Z - DNA (2) A - DNA
 (3) C - DNA (4) B - DNA
 (5) Question not attempted
122. Small nuclear ribonucleoproteins are key components of which cellular machinery?
 (1) DNA polymerase complex (2) Spliceosome
 (3) Ribosome (4) Telomerase
 (5) Question not attempted
123. Polysaccharide made up of D-galactose and anhydrogalactose units which are used as matrix for electrophoresis is -
 (1) Cellulose (2) Agarose
 (3) Polystyrene (4) Dextran
 (5) Question not attempted
124. Radionuclide compound used as tracer in Positron Emission Tomography (PET) Scan.
 (1) Strontium glucose (2) Fluorodeoxy glucose
 (3) Technetium (4) Iodine diodrast
 (5) Question not attempted
125. Hormones having cell surface receptors and mediated through tyrosine Kinase -
 (1) Thyroxine (2) Insulin
 (3) Calcitonin (4) Oxytocin
 (5) Question not attempted
126. Which enzyme is primarily inhibited by organophosphorus pesticides?
 (1) Acetylcholinesterase (2) Phospholipase A2
 (3) ATP synthase (4) Cytochrome P450
 (5) Question not attempted
127. The amino acid which does not allow formation of alpha helix is -
 (1) Glutamate (2) Proline
 (3) Tyrosine (4) Histidine
 (5) Question not attempted
128. When glycogen phosphorylase is active, what is the state of glycogen synthase?
 (1) Inactive due to phosphorylation (2) Activated by glucagon
 (3) Also active (4) Not affected
 (5) Question not attempted
129. Hyperammonemia Type 1 is caused by deficiency of which enzyme?
 (1) Carbamoyl phosphate synthetase 1 (2) Ornithine transcarbamylase
 (3) Argininosuccinate synthetase (4) Arginase
 (5) Question not attempted

130. Respiratory quotient for proteins is -
 (1) 0.84 (2) 0.71
 (3) 1.0 (4) 0.65
 (5) Question not attempted
131. Lipogenesis is not decreased in -
 (1) Absorptive state (2) High fat diet
 (3) Feeding low calorie diets (4) Deficiency of insulin
 (5) Question not attempted
132. Familial Hyperlipoproteinemia Type-III is primarily caused by a defect in -
 (1) Apolipoprotein B-100 (2) Apolipoprotein E
 (3) Apolipoprotein C-II (4) LDL receptor
 (5) Question not attempted
133. What is an intron?
 (1) A non-coding sequence removed during RNA processing. (2) A segment of DNA that serves as a binding site for ribosomes.
 (3) A promoter region of DNA. (4) A protein-coding region of a gene.
 (5) Question not attempted
134. A rare disorder occurring due to the absence of peroxisomes is -
 (1) Refsum's disease (2) Zellweger's syndrome
 (3) Ketonuria (4) Dicarboxylic aciduria
 (5) Question not attempted
135. Tangier disease is due to defect of -
 (1) LDL Receptor (2) β -Galactosidase
 (3) ATP Binding Cassette Transporter-1 (4) HMG CoA Reductase
 (5) Question not attempted
136. A clinical feature commonly seen in systemic carnitine deficiency is -
 (1) Hypoketotic Hypoglycemia (2) Hyperbilirubinemia
 (3) Hyperglycemia (4) Hyperkalemia
 (5) Question not attempted
137. 60S subunit of peptidyl transferase is inhibited by -
 (1) Puromycin (2) Mitomycin
 (3) Diphtheria toxin (4) Cycloheximide
 (5) Question not attempted
138. Which of the following molecules is the product of the reaction between superoxide anion and Superoxide dismutase?
 (1) Hydrogen peroxide (2) Nitric oxide
 (3) Water (4) Ammonia
 (5) Question not attempted
139. Enzyme deficient in Erythropoietic Protoporphyria (EPP) is -
 (1) Ferrochelatase (2) Protoporphyrinogen oxidase
 (3) Hydroxymethylbilane (HMB) synthase (4) ALA Synthase
 (5) Question not attempted
140. The following complex serves as a physical link between citric acid cycle & Electron Transport Chain (ETC) -
 (1) Complex - I (2) Complex - III
 (3) Complex - II (4) Complex - IV
 (5) Question not attempted

141. Biosynthesis of the purine ring requires following amino acids -
 (1) Glycine, asparagine, and histidine (2) Alanine, glutamine, and serine
 (3) Glutamine, aspartate, and glycine (4) Glutamate, tyrosine, and threonine
 (5) Question not attempted
142. The correct statement about fed and fasting metabolic states is -
 (1) In the fasting state, glucagon acts to increase the synthesis of glycogen from glucose
 (2) The amount of ketone bodies synthesised during fasting state increases as fasting extends into starvation
 (3) In the fasting state glucagon acts to increase the activity of lipoprotein lipase in adipose tissue
 (4) In the fed state insulin acts to increase the breakdown of glycogen to maintain blood glucose
 (5) Question not attempted
143. Valinomycin inhibits oxidative phosphorylation because -
 (1) It inhibits ATP synthase
 (2) It makes mitochondria permeable to Potassium
 (3) It inhibits cytochrome oxidase
 (4) It forms a complex with NADH
 (5) Question not attempted
144. Glutamine analog used as anti-cancer drug is -
 (1) 6-Mercaptopurine (2) Thioguanine
 (3) Azaserine (4) 5 Fluorouracil
 (5) Question not attempted
145. Green coloured cap vacutainer tube contains -
 (1) Heparin (2) EDTA
 (3) Fluoride (4) Sodium citrate
 (5) Question not attempted
146. What causes Creutzfeldt-Jakob disease?
 (1) Prion (2) Protein S deficiency
 (3) Virion (4) Viroids
 (5) Question not attempted
147. All the following minerals are considered to be major elements **EXCEPT** -
 (1) Sodium (2) Calcium
 (3) Magnesium (4) Iron
 (5) Question not attempted
148. Indicate the role of PEX family of genes?
 (1) Enzymes in glycolysis (2) Peroxisome biogenesis
 (3) Proteins involved in DNA repair (4) Components of the ribosome
 (5) Question not attempted
149. Vitamin B12 is required for all **EXCEPT** -
 (1) Protein synthesis (2) Transamination
 (3) Reduction of ribonucleotides to deoxyribonucleotides (4) Methylation of homocysteine to methionine
 (5) Question not attempted
150. BRCA1 is classified as which type of gene?
 (1) Tumor suppressor gene (2) Oncogene
 (3) DNA repair gene (4) Proto-oncogene
 (5) Question not attempted



