

OMR Answer Sheet No.

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Question Booklet Number

8129

M.Sc. (Sem.-VIII) Examination, 2022-23

Booklet Series

A

ZOOLOGY

(Animal Physiology and Biochemistry)

(To be filled in by the Candidate / निम्न पूर्तियाँ परीक्षार्थी स्वयं भरें)

Roll No. (in figures) _____

अनुक्रममांक (अंकों में)

Roll No. (in words) _____

अनुक्रममांक (शब्दों में)

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कॉलेज का नाम

| Time : 1 : 30 Hours

| समय : 1 : 30 घण्टे

| Maximum Marks : 75

| अधिकतम अंक : 75

Signature of Investigator
कक्ष निरीक्षक के हस्ताक्षर

Instructions to the Examinee :

1. Do not open the booklet unless you are asked to do so.

2. The booklet contains 75 questions. Examinee is required to answer any 50 questions in the OMR Answer-Sheet provided and not in the question booklet. In case Examinee attempts more than 50 Questions, **first** 50 attempted questions will be evaluated. All Questions carry equal marks

Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be immediately replaced.

(Remaining Instructions on last page)

परीक्षार्थियों के लिए निर्देश :

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।

2. प्रश्न-पुस्तिका में 75 प्रश्न हैं। परीक्षार्थी को किन्हीं 50 प्रश्नों को दी गई OMR उत्तर-पत्रक पर ही हल करना है। परीक्षार्थी द्वारा 50 से अधिक प्रश्नों को हल करने की स्थिति में **प्रथम** 50 उत्तरों को ही मूल्यांकित किया जाएगा। सभी प्रश्नों के अंक समान हैं।

3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका OMR उत्तर पत्रक को सावधानीपूर्वक देख लें। प्रश्न-पुस्तिका, जिसमें कुछ भाग गपने से छूट गये, प्रश्न एक से अधिक बार छप गये हो या किसी अंक की कमी हो, उसे तुरन्त बदल लें।

(शेष निर्देश अन्तिम)

1. Which of the following hormones plays a role in regulating the flow of bile?
- (A) Cholecystokinin
 - (B) Enterogastrone
 - (C) Secretin
 - (D) Gastrin
2. Zymogen cells of the stomach produce:
- (A) HCl
 - (B) Mucous
 - (C) Enzymes
 - (D) All
3. Which of the following is not present in pancreatic juice?
- (A) Rennin
 - (B) Trypsin
 - (C) Amylopsin
 - (D) Steapsin
4. When partial pressure of CO_2 rises, the oxygen dissociation curve
- (A) Shifts to right
 - (B) Shifts to left
 - (C) Becomes irregular
 - (D) Remains unchanged
5. One gram of haemoglobin in blood is able to carry
- (A) 0.13 mL O_2
 - (B) 1.34 mL O_2
 - (C) 3.4 mL O_2
 - (D) 34 mL O_2
6. Pacemaker of heart is
- (A) SA Node
 - (B) AV Node
 - (C) Bundle of His
 - (D) Purkinje fibres

7. A opening between right and left auricles in the embryonic heart is.
- (A) Fossa Carotica
(B) Fossa Ovalis
(C) Foramen Ovale
(D) Fenestra Ovalis
8. A vitamin essential for RBC formation is
- (A) B-12
(B) Folic acid
(C) Pyridoxine
(D) All the above
9. When more ADH is present in blood
- (A) More urine is formed
(B) Less urine is formed
(C) Normal Volume of urine is formed
(D) Kidneys stop filtration
10. Ornithine cycle producing urea occurs in
- (A) Liver
(B) Kidneys
(C) Muscles
(D) Blood
11. A nerve fibre with positive charge inside and negative charge outside is said to be:
- (A) Resting Nerve
(B) Polarized Nerve
(C) Depolarized Nerve
(D) Repolarized Nerve
12. Saltatory conduction occurs in:
- (A) Non-medullated nerves
(B) Medullated nerves
(C) All nerves
(D) Both vertebrates and invertebrates

13. Oxytocin is a hormone of:
- (A) Pancreas
 - (B) Pineal gland
 - (C) Posterior pituitary
 - (D) None of these
14. Gigantism and acromegaly are due to
- (A) Hypothyroidism
 - (B) Hyperthyroidism
 - (C) Hypopituitarism
 - (D) Hyperpituitarism
15. Melatonin is a hormone of:
- (A) Pancreas
 - (B) Thyroid
 - (C) Pineal
 - (D) Thymus
16. Sarcomere is the area between two:
- (A) A bands
 - (B) I bands
 - (C) Z lines
 - (D) All
17. Intercalated discs are found in:
- (A) Cardiac Muscles
 - (B) Smooth Muscles
 - (C) Striated Muscles
 - (D) All muscles
18. A ligament serves to connect:
- (A) Muscle to bone
 - (B) Muscle to Muscle
 - (C) Bone to bone
 - (D) Muscle to nerve

19. How many carbon atoms are present in one molecule of Pyruvic acid?
- (A) 2
(B) 3
(C) 4
(D) 6
20. Simple lipids are esters of:
- (A) Fatty acids and glycerol
(B) Fatty acids and ether
(C) Glycerol and ether
(D) Fatty acids and phosphate
21. Which of the following is an essential fatty acid?
- (A) Linoleic acid
(B) Linolenic acid
(C) Palmitic acid
(D) Both (A) and (B)
22. How many nitrogen atoms do purines have?
- (A) 2
(B) 4
(C) 6
(D) 8
23. A nucleotide consists of:
- (A) a nitrogenous base a phosphate group and pentose sugar
(B) a nitrogenous base and pentose sugar
(C) a phosphate group and pentose sugar
(D) a nitrogenous base and phosphate group
24. Which of these is left handed?
- (A) A-DNA
(B) B-DNA
(C) C-DNA
(D) Z-DNA

25. The protein part of enzyme is known as:
- (A) Holoenzyme
 - (B) Apoenzyme
 - (C) Coenzyme
 - (D) None of these
26. Which of the following serve as cofactor?
- (A) Prosthetic group
 - (B) Metalloenzyme
 - (C) Coenzyme
 - (D) All of these
27. Which of the following is an example of isoenzyme:
- (A) Urease
 - (B) NAD
 - (C) Lactate Dehydrogenase
 - (D) Esterase
28. Enzymes with different molecular configuration but same functions are called:
- (A) Holoenzyme
 - (B) Apoenzyme
 - (C) Isoenzyme
 - (D) Coenzyme
29. Feedback Inhibition of an enzymatic reaction is brought about by:
- (A) Product of first reaction
 - (B) Product of last reaction
 - (C) Substrate of enzyme
 - (D) All of these
30. An enzyme functions by
- (A) Increasing reaction time
 - (B) Decreasing reaction time
 - (C) Increasing energy of activation
 - (D) Decreasing energy of activation

31. Sugar in ATP is
- (A) Ribose
 - (B) Deoxyribose
 - (C) Hexose
 - (D) Glucose
32. Which of these has the anticodon?
- (A) mRNA
 - (B) tRNA
 - (C) rRNA
 - (D) DNA
33. Digestive enzymes belong to which category of enzymes
- (A) Oxidase
 - (B) Hyrolase
 - (C) Proteases
 - (D) Glycosidases
34. Many enzymes are secreted in inactive form to protect
- (A) Cell protein
 - (B) Mitochondria
 - (C) Cell membrane
 - (D) Cell DNA
35. Phosphorous is constituent of
- (A) Carbohydrate
 - (B) Protein
 - (C) Fat
 - (D) Nucleotide
36. Essential amino acid is
- (A) Serine
 - (B) Phenylalanine
 - (C) Aspartic acid
 - (D) Tyrosine

37. A dominant intracellular cation is
- (A) Na^+
 - (B) K^+
 - (C) Ca^{++}
 - (D) Chlorine
38. Number of oxygen atoms in lipid molecule is always compared to number of carbon atoms
- (A) Less
 - (B) More
 - (C) Equal
 - (D) Double
39. Unsaturated fatty acids have
- (A) Oleic acid
 - (B) High melting protein
 - (C) One or more double bonds
 - (D) Palmitic acid
40. Catalytic efficiency of two different enzymes is compared by their
- (A) Product
 - (B) Molecular size
 - (C) K_m value
 - (D) pH optimum value
41. In ATP, the high energy bond is the one which links
- (A) Adinine with phosphate
 - (B) Adinine with Ribose
 - (C) Ribose with phosphate
 - (D) Phosphats with phosphate
42. The $\text{Na}^+ - \text{K}^+$ pump is-
- (A) Transport Na^+ inside and K^+ outside the membrane
 - (B) Transport Na^+ outside and K^+ inside the membrane
 - (C) Both Na^+ and K^+ outside the membrane
 - (D) Both Na^+ and K^+ inside the membrane

43. Which of these out as a connecting link between respiration and protein synthesis
- (A) Malic acid
 - (B) Citric acid
 - (C) Acetic acid
 - (D) Formation of acetyl CoA
44. At boiling temperature an enzyme gets
- (A) Killed
 - (B) Inactivated
 - (C) Unaffected
 - (D) Denatured
45. Induced fit Model was proposed by-
- (A) Emil fisher
 - (B) Kuhne
 - (C) Buchner
 - (D) Koshland
46. Highest turn over is of the enzyme
- (A) Lysozyme
 - (B) Amylase
 - (C) Carbonic anhydrase
 - (D) Lipase
47. Secretion of pancreatic juice is controlled by
- (A) Secretin
 - (B) Cholecystokinin
 - (C) Enterokinase
 - (D) Enterogasteron
48. Air that is left in the lung after forced expiration is
- (A) Residual volume
 - (B) Total volume
 - (C) Vital capacity
 - (D) Reserve volume
49. Reduction in pH of blood will
- (A) Release bicarbonate ions by the liver
 - (B) Reduce the rate of heart beat
 - (C) Reduce the blood supply to the brain
 - (D) Decrease the affinity of haemoglobin with oxygen

50. First step in digestion of fat is

- (A) Emulsification
- (B) Enzyme action
- (C) Absorption by lacteals
- (D) Storage of adipose tissue

51. The metal essential for haemoglobin formation is

- (A) Mg^{++}
- (B) Na^+
- (C) Fe^{++}
- (D) Cu^{++}

52. Abnormal rise in erythrocyte count is

- (A) Leucopenia
- (B) Polycythemia
- (C) Anaemia
- (D) Pneumonia

53. Murmur occurs due to defect in

- (A) Heart valve
- (B) SA node
- (C) AV node
- (D) Purkinje fibres

54. Which one of the following protein is involved in the coagulation of blood

- (A) Globulin
- (B) Fibrinogen
- (C) Albumin
- (D) Serum amylase

55. Main function of glomerulus is

- (A) Reabsorption of water
- (B) Filtration of blood
- (C) Reabsorption of Na^+
- (D) Concentration of urine

56. Juxta glomerulus cells of kidney produce a peptide hormone

- (A) Gastrin
- (B) Secretin
- (C) Estradiol
- (D) Erythropoietin

57. ATPase needed for muscle contraction is present over
- (A) Actinin
 - (B) Troponin
 - (C) Myosin
 - (D) Actin
58. In resting stage, binding sites for myosin on actin filaments are marked by
- (A) Troponin
 - (B) Light mesomyosin
 - (C) Heavy mesomyosin
 - (D) Calcium ions
59. The nature of nerve impulse is
- (A) Physical
 - (B) Chemical
 - (C) Electrochemical
 - (D) Biophysical
60. Synaptic vesicle occurs in
- (A) Presynaptic neuron
 - (B) Post synaptic neuron
 - (C) Synaptic cleft
 - (D) None of the above
61. Jacobson's organs are connected with
- (A) Touch
 - (B) Smell
 - (C) Sight
 - (D) Hearing
62. Function of Iris is to
- (A) Move lens forward and backward
 - (B) Refract light ray
 - (C) Bring about movement of eyelids
 - (D) Alter the size of pupil
63. Glaucoma is due to
- (A) Blocking of canal of schlemm
 - (B) Drying up of vitreous humour
 - (C) Increased size of eye
 - (D) Opacity of lens

64. Organ of costis occur in

- (A) Middle ear
- (B) Internal ear
- (C) External ear
- (D) In between internal and middle ear

65. Glucagon is produced by

- (A) Peptic cells
- (B) Oxyntic cells
- (C) Alpha cells
- (D) Beta cells

66. Dwarfism is due to

- (A) Absence of insulin
- (B) Hyposecretion of GH during childhood
- (C) Hyposecretion of GH during adult stage
- (D) Excessive secretion of adrenaline

67. Relaxin is produced by

- (A) Testis
- (B) Adrenals
- (C) Pituitary
- (D) Ovary

68. Parathormone induces

- (A) Increase in blood sugar
- (B) Increase in serum calcium
- (C) Decrease in serum calcium
- (D) Decrease in blood sugar

69. Calmodulin is

- (A) Carotene binding protein
- (B) Cadmium binding protein
- (C) Calcium binding protein
- (D) Chlorophyll binding protein

70. High percentage of CO₂ and very low percentage of O₂ may make a person unconscious due to

- (A) Eupnoea
- (B) Emphysema
- (C) Suffocation
- (D) Asphyxia

71. The non-substrate molecule binding to the allosteric site is called:

- (A) Reactant
- (B) Substrate
- (C) Modulator
- (D) Inhibitor

72. The Michaelis Menten plot of velocity versus substrate concentration is:

- (A) Straight line
- (B) Hyperbolic
- (C) Sigmoid
- (D) None of these

73. Essential amino acids

- (A) cannot be synthesized
- (B) should be obtained through diet
- (C) Are obtained from amino sources
- (D) All of these

74. The only enzyme of krebs cycle found in inner mitochondrial membrane is:

- (A) Fumarase
- (B) Succinate dehydrogenase
- (C) Thiokinase
- (D) Aconitase

75. Which hormone is negligible in blood after menopause?

- (A) FSH
- (B) LH
- (C) Estrogen
- (D) All

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