OMR Answer Sheet No.

Question Booklet Number

8128

M.Sc. (II Sem) Examination. 2023-24

Booklet Series
A

ZOOLOGY

(Animal Physiology and Biochemistry)

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

Roll No. (in figures)
अनुक्रमांक (अंकों में) — _____

Roll No. (in words)
अनुक्रमांक (शब्दों में) _____

Name of Examination Centre
परीक्षा केन्द्र का नाम _____

| Time : 2 : 00 Hours
| समय : 2 : 00 घण्टे

| Maximum Marks : 75
| अधिकतम अंक : 75

_____
Signature of Invigilator
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 65 questions in the OMR Answer-Sheet provided and not in the question booklet. In case Examinee attempts more than 65 Questions, first 65 attempted questions will be evaluated. All questions carry equal marks.**

3 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 65 प्रश्नों को दी गई ओ0एम0आर0 आन्सर-शीट पर ही हल करना है। परीक्षार्थी द्वारा 65 से अधिक प्रश्नों को हल करने की स्थिति में, प्रथम 65 उत्तरों को ही मूल्यांकित किया जायेगा। सभी प्रश्नों के अंक समान हैं।**

3 प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR उत्तर-पत्रक को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गये हों या प्रश्न एक से अधिक बार छप गये हों या किसी भी प्रकार की कमी हो उसे तुरन्त बदल लें।

(शेष निर्देश अन्तिम पृष्ठ पर)

1. Name the major storage form of carbohydrates in animals

(A) Cellulose

(B) Chitin

(C) Glycogen

(D) Starch

2. The Chief function of bile juice is to-

(A) Emulsify fats for digestion

(B) Emulsify proteins for digestion

(C) Regulation of digestion of proteins

(D) Digest fats by enzymes

3. Which of the following are incorrectly paired?

(A) B-cells-insulin

(B) D-cells - Somatostatin

(C) A-cells - Glucagon

(D) F-cells - Gastrin

4. In the striated muscles, the functional unit of contractile system is

(A) z band

(B) Sarcomere

(C) Myofibril

(D) A band

5. What is common between acetylcholine, noradrenaline and serotonin?

(A) All are neurotransmitters

(B) All promote appetite

(C) All are antidiuretic

(D) All are diuretic

6. Hydrolysis of lipid produces-

(A) Glycine

(B) Glycerine and glycerol

(C) Fally acids and trihydric alcohol

(D) All of the above

7. Which hormone controls water and mineral metabolism?

(A) Insulin

(B) Glucogon

(C) Progesterone

(D) Deoxycorticosterone

8. The normal diastolic pressure in humans ranges from:

(A) 75-90 mm of Hg

(B) 90-100 mm of Hg

(C) 110-120 mm of Hg

(D) 130-150 mm of Hg

9. The molecules which acts directly on an enzyme to lower its catalytic rate is _____

(A) Regulator

(B) Inhibitor

(C) Modulator

(D) None of the above

10. An apoenzyme along with its co-factor is called

(A) Apoenzyme

(B) Holoenzyme

(C) Co-factor

(D) Prosthetic group

11. The sugar molecule in a nucleotide is

(A) Triose

(B) Tetrose

(C) Pentose

(D) Hexose

12. Which of the following is not a disaccharide?

(A) Maltose

(B) Lactose

(C) Sucrose

(D) Starch

19. Schwann cell and nodes of Ranvier are present in

(A) Neurons

(B) Muscles

(C) Cartilages

(D) Hepatocytes

20. The normal glomerular filtration rate is about

(A) 120 ml/min

(B) 30 ml/min

(C) 50 ml/min

(D) 180 ml/min

21. Actine reabsorption of glucose ocurs in the

(A) DCT

(B) PCT

(C) Collecting duct

(D) Loop of Henle

22. Which of the following compounds are formed in urea cycle?

(A) Arginosuccinate

(B) Ornithine

(C) Fumerate

(D) All of the above

23. Contraction of right ventricle pumps blood into

(A) Aorta

(B) Pulmonary artery

(C) Pulmonary vein

(D) Coronary artery

24. Cardiac impulse originates from

(A) AV node

(B) SA node

(C) SV node

(D) None of the above

25. Human heart is

(A) Myogenic

(B) Neurogenic

(C) Cardiogenic

(D) None of the above

26. The largest amount of CO_2 is transported by blood as

(A) CO_2 in plasma

(B) Bicarbonate ions in plasma

(C) H_2CO_3 in plasma

(D) None of the above

27. The tidal volume of human lung is

(A) 500 ml

(B) 1000 ml

(C) 2000 ml

(D) 2500 ml

28. In which part of the respiratory system gaseous exchange takes place?

(A) Pharynx

(B) Larynx

(C) Trachea

(D) Alveoli

29. Pepsinogen is secreted from

(A) G-Cells

(B) Mucus Cells

(C) Chief cells

(D) parietal cells

30. Prokaryotic DNA is-

(A) Single stranded straight

(B) Single stranded circular

(C) Double stranded straight

(D) Double stranded circular

31. Chymotrypsinogen is activated into chymotrysin by

(A) Pepsin

(B) Trypsin

(C) Bile salt

(D) Ptyalin

32. What is meant by counter-current?

(A) When blood flows in the opposite direction in two limbs of the Henle's loop

(B) When the blood flows in the same direction in two limbs of the Henle's loop

(C) When the blood does not flow through any of the limbs of Henle's loop

(D) When some blood flows in Henle's loop and the other blood flows in the vasa recta

33. The rate determining step of Michaelis - Menten kinetics is-

(A) The complex dissociation step to produce products

(B) The complex formation step

(C) The product formation step

(D) None of the mentioned

34. β-pleated sheets are the examples of-

(A) Primary structure

(B) Secondary structure

(C) Tertiary structure

(D) Quaternary structure

35. The cross-bridges of the sarcomere in skeletal muscle are made of-

(A) Actin

(B) Myosin

(C) Tropopnin

(D) Tropomyosin

36. What happens if sodium pump is blocked in a nerve-

(A) Na and K will increase outside the cell

(B) Na outside the nerves increases

(C) Na inside the nerve will increase

(D) K inside the nerve increases

37. The primary function of the myclin sheaths around a vertebrate axon is to-

(A) Increase the speed of conduction of the impulse

(B) Regulate the sodium potassium pumps

(C) Increase the size of the action potentials

(D) Deactivate used neuro-transmitters

38. Coagulation in vesels is- prevented during normal circulation by-

(A) Heparin

(B) Thromboplastin

(C) Prothrombin

(D) Plasmogen

39. Which of the following caused an increase in sodium reabsorption in the distal convoluted tubule?

(A) Decrease in ADH levels

(B) Increase in aldosterone levels

(C) Increase in ADH levels

(D) Decrease in aldosteronc levels

40. Hamburger's effect is also known as:

(A) Hydrogen shift

(B) Chloride shift

(C) Sodium shift

(D) Potassium shift

41. m-RNA is made up of-

(A) Ribonucleotides

(B) Ribonucleosides

(C) Deoxyribonucleotides

(D) Deoxyribonucleosides

42. In the nervous system, the most abundant cell type is the:

(A) Sensory neuron

(B) Motor neuron

(C) Interneuron

(D) Glial cells

43. Stomach is the site of digestion mainly of

(A) Fat

(B) Carbohydrates

(C) Proteins

(D) Cellulose

44. Largest corpuscles present in mammalian blood are

(A) Lymphocytes

(B) Monocytes

(C) Neutrophils

(D) Basophils

45. Effective filtration pressure (EFP) in the glomerulus of kidney of human is about

(A) 80 mm Hg

(B) 75 mm Hg

(C) 50 mm Hg

(D) 25 mm Hg

46. Alomst all muscles are derived from embryonic

(A) Ectoderm

(B) Mesoderm

(C) Endoderm

(D) None of the above

47. Membrance carbohydrates linked to lipids called-

(A) Sphingolipids

(B) Glycolipids

(C) Phospholipids

(D) Sterols

48. Diversis is a condition characterised by-

(A) Increase in mine volume

(B) Increase glucose extretion

(C) Decrease in wine volume

(D) Increase in electrolyte balance

49. All digestive enzymes are

(A) Oxidases

(B) Hydrolases

(C) Ligases

(D) Transferases

50. Which blood vessel carries least percentage of urea?

(A) Renal vein

(B) Renal artery

(C) Pulmonary vein

(D) Pulmonary artery

51. The toxic effect of CO is due to its higher affinity of haemoglobin in comparison to oxygen which is-

(A) 2.1 times

(B) 21 times

(C) 210 times

(D) 2,100 times

52. Casein is a milk ----------

(A) Bacterium

(B) Sugar

(C) Fat

(D) Protein

53. Enterokinase is responsible for the conversion of

(A) Trypsinogen into trypsin

(B) Pepsinogen into Pepsin

(C) Prorenin into Renin

(D) Caseinogen into casein

54. Body tissues obtain oxygen from oxyhaemoglobin because of its dissociation caused by:

(A) Low oxygen concentration

(B) Low CO_2 concentration

(C) High CO_2 concentration

(D) Low O_2 and high CO_2 concentration

55. The primary structure of protein is made by:

(A) Peptide bonds

(B) Ionic bonds

(C) Hydrogen bonds

(D) None of these

56. The oxygen concentration of expired air is

(A) 5%

(B) 9%

(C) 16%

(D) 19%

57. Cardiac muscle is structurally different from smooth muscle because

(A) It is involuntary

(B) It has single nucleus

(C) It is branched

(D) None of the above

58. Ultrafiltration takes place in-

(A) Glomerulus

(B) Bowman's Capsule

(C) PCT

(D) DCT

59. In which part of mammalian heart Bundle of his are present-

(A) Ventricle

(B) Auricle

(C) Both (A) & (B)

(D) Pace maker

60. Pepsin activates in-

(A) Alkalin medium

(B) Acidic medium

(C) Both alkalin & acidic

(D) Neuter medium

61. Which of the following is a coenzyme-

(A) NAD

(B) Ligase

(C) Endo nuclease

(D) Fe^{++}

62. Oxidative phosphoreglation in a cell takes place in-

(A) Lysosomes

(B) Mitochondria

(C) Ribosomes

(D) Nucleus

63. The number of hydrogen bonds between cytorine and guanine is

(A) 3

(B) 2

(C) 1

(D) 4

64. The vitamin involved in coagulation of blood is-

(A) A

(B) D

(C) K

(D) C

65. The protein part of enzyme is-

(A) Prothestic group

(B) Apoenzyme

(C) Holo enzyme

(D) Zymogen

66. In an enzyme catalysed reaction the energy of activation of reactant is-

(A) Lowered

(B) Increased

(C) Remain unchanged

(D) Equal to free energy

67. Hypothalamic hormones are-

(A) Peptides

(B) Steroids

(C) Iodothyronines

(D) Amino acid derivatives

68. IP_3 is-

(A) a secondary messenger

(B) a membrane receptor

(C) an intracellular receptor

(D) A nuclear receptor

69. Which of the following hormones is a glycoprotein?

(A) Thyrotropin

(B) Cortisone

(C) Oxytocin

(D) Adrevalin

70. Heart is covered by

(A) Peritoneum

(B) Pleural membrane

(C) Pericardium

(D) None of the above

71. Fine connective tissue surrounding individual muscle fibres is

(A) Epimycium

(B) Perimycium

(C) Endomycium

(D) Fascicle

72. The hormone not secreted by adenohypophsis is

(A) ACTH

(B) ADH

(C) TSH

(D) GH

73. Cori cycle is associated with-

(A) Pyrivic acid

(B) Lactic acid

(C) Oxalic acid

(D) Citric acid

74. The chemical nature of hormones may be-

(A) Steroids

(B) Peptides

(C) Amino acid derivatives

(D) All of the above

75. Conversion of Glucose into glycogen is called-

(A) Glycogendysis

(B) Glycogenesis

(C) Gluconeogenesis

(D) Glycolysis

4. Four alternative answers are mentioned for each question as A, B, C & D in the booklet. The candidate has to choose the most appropriate answer and mark the same in the OMR Answer-Sheet as per the direction :

Example :

Question :

Q. 1 (A) ● (C) (D)

Q. 2 (A) (B) ● (D)

Q. 3 (A) ● (C) (D)

Illegible answers with cutting or over-writing or half filled circle will be cancelled.

5. In case the candidate does not fill the appropriate circle in the OMR Answer-Sheet and leave blank, 'Zero' mark will be given.

6. The candidate has to mark answers on the OMR Answer-Sheet with **black or blue ball point pen only** carefully as per directions.

7. **There will be no negative marking.**

8. Examinee must handover the OMR answer-sheet to the invigilator before leaving the examination hall.

9. Rough-work, if any, should be done on the blank page provided for the purpose at the end of booklet.

10. Write your Roll Number and other required details in the space provided on the title page of the booklet and on the OMR Answer-Sheet with ball point pen. **Do not use lead pencil.**

11. **To bring and use log-book, calculator, pager & cellular phone in examination hall is prohibited.**

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर A, B, C तथा D हैं। परीक्षार्थी को उन चारों विकल्पों में से एक सबसे सही अथवा सबसे उपयुक्त उत्तर छाँटना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार अंकित करना है :

उदाहरण :

प्रश्न :

प्रश्न 1 (A) ● (C) (D)

प्रश्न 2 (A) (B) ● (D)

प्रश्न 3 (A) ● (C) (D)

अपठित उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उत्तर निरस्त कर दिया जाएगा।

5. यदि परीक्षार्थी OMR उत्तर-पत्रक में उपयुक्त गोले को नहीं भरता है और उत्तर-पत्रक को खाली छोड़ देता है, तो उसे 'शून्य' अंक प्रदान किया जाएगा।

6. अभ्यर्थी को प्रश्नों के उत्तर OMR उत्तर-पत्रक पर **केवल काले या नीले बाल प्वॉइंट पेन** से सतर्कतापूर्वक निर्देशानुसार अंकित करने होंगे।

7. **निगेटिव मार्किंग नहीं है।**

8. परीक्षार्थी OMR उत्तर-पत्रक परीक्षा भवन छोड़ने से पहले कक्ष निरीक्षक को सौंप दें।

9. कोई भी रफ-कार्य, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।

10. प्रश्न-पुस्तिका के मुख्य पृष्ठ पर तथा OMR उत्तर-पत्रक पर निर्धारित स्थान में अनुक्रमांक तथा अन्य विवरण बॉल प्वॉइंट पेन से ही भरें। **पेन्सिल का उपयोग न करें।**

11. **परीक्षा कक्ष में लॉग-बुक, कैल्कुलेटर, पेजर तथा सैल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।**