

BOARD OF INTERMEDIATE EDUCATION, KARACHI

ZOOLOGY PAPER-I (MODEL PAPER)

Annual Examination - 2023

Max. Marks: 40

SECTION A

Total Time: 2 hours

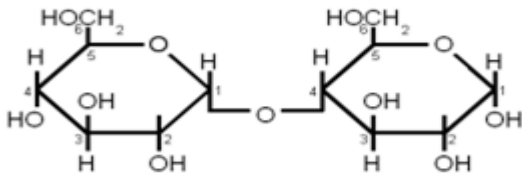
(MULTIPLE CHOICE QUESTIONS) – (MCQs)

Marks: 08

NOTE:

- This section consists of 16-part questions and all are to be answered.
- Each question carry 0.5 mark.
- Total time allowed: 15 minutes.

1. The Linkage between these two monosaccharides is formed by:



- A. Glycosidic bond B. Peptide bond C. Ester bond D. Phosphoester bond

2. This is not the correct matching pair:

- A. Pinacocytes $\rightarrow$ Collar cells B. Euplectella $\rightarrow$ Porifera
C. Amoebocytes $\rightarrow$ Gametes formation D. Parazoa $\rightarrow$ Porifera

3. The specificity of the enzyme is due to:

- A. Surface configuration B. Hydrogen bonding
C. pH sensitivity D. High molecular weight

4. Transport of Carbon dioxide by RBCs requires an enzyme:

- A. Hydrogenase B. Carboxylase C. Carbonic anhydrase D. Dehydrogenase

5. This is not the characteristic of Deuterostome:

- A. Spiral Cleavage B. Blastopore becomes anus
C. Indeterminate development D. Radial cleavage

6. This compound is functionally similar to Keratin protein:

- A. Amylose B. Amylopectin C. Chitin D. Glycogen

7. The chemical substance that inhibits the secretion of acid in the stomach is:

- A. Gastrin B. Lipase C. Protease D. Serotonin

8. These receptors detect the blood pressure:

- A. Nociceptors' B. Chemoreceptors' C. Baroreceptors D. Thigmoreceptors

9. Unsegmented animals having pseudo coelom with sexual dimorphism are:

- A. Arthropods B. Annelids C. Flatworms D. Round Worms

10. Increase in H^+ concentration in the blood causes:

- A. Increase in the breathing rate B. Decrease in the breathing rate
C. No change in the breathing rate D. Transport of more CO_2 to the tissues

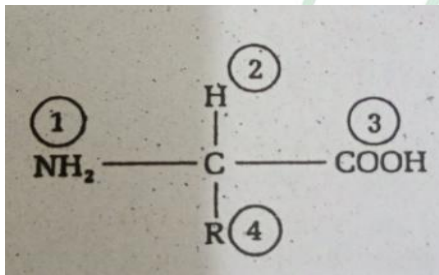
11. Lymph is most closely resembling to the:

- A. Blood B. Urine C. Plasma D. Interstitial fluid

12. The secretion of the hypothalamus that increases the temperature of the body to cause fever during an infection is:

- A. Oxytocin B. Vasopressin C. Prostaglandin D. Somatostatin

13. The two groups in the given amino acid diagram combine to form a peptide links:



- A. 1 and 2 B. 1 and 3 C. 2 and 3 D. 2 and 4

14. The effect of increasing the substrate concentration of an enzyme-controlled reaction is:

- A. Competitive inhibition decreased; Non-competitive inhibition is an increase
B. Competitive inhibition decreased; Non-competitive inhibition shows no change
C. Competitive inhibition increased; Non-competitive inhibition is a decrease
D. Competitive inhibition shows no change; Non-competitive inhibition is an increase

15. Hepatic portal system is formed between:

- A. Oral cavity and Spleen B. Liver and Small intestine
C. Kidney and stomach D. Heart and kidney

16. Vaccine given after dog biting develops this type of immunity:

- A. Active Natural Immunity B. Active Artificial Immunity
C. Passive natural Immunity D. Passive Artificial Immunity

SECTION B

(SHORT-ANSWER QUESTION).

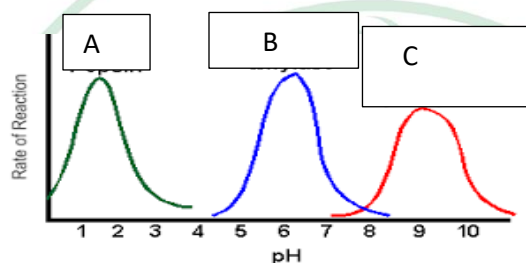
Marks: 20

NOTE: Attempt any FIVE questions from PART A (Reasoning questions) and five from PART B (Non-Reasoning questions).

All questions carry equal marks.

(REASONING QUESTIONS)

- i) Why do a double circuit heart better than a single circuit heart?
- ii) Why are water molecules amphoteric and buffer?



- iii) The above graph represents the effect of pH on the activity of three enzymes 'A', 'B' and C. write the name of these enzymes; why do these enzymes show their optimum activity at specific pH?
- iv) Why does excess use of spicy food; use of aspirin cause peptic ulcers?
- v) How does the precapillary sphincter; regulates the flow of blood in capillaries?
- vi) A person has inflammation in the sinus and failure in the Eustachian tube; what are these diseases? Write symptoms of any one disease.
- vii) Why is artificial sweetener not harmful to diabetic patients?
- viii) Reptiles and birds are vertebrates; why do birds can fly while reptiles can't fly?

(NON-REASONING QUESTIONS).

- ix) Mention the economic importance of Cnidaria OR Mollusca.
- x) Compare the inhibitor and activator with examples.
- xi) Write a note on animal starch and its functions.
- xii) Differentiate between cartilaginous fishes and bony fishes.
- xiii) Mention the LUB-DUB sounds initiated in the heart; Write their significance for monitoring the heartbeat.
- xiv) Write a note on antipyretic therapy and its uses.
- xv) Compare iron-binding proteins that involve in the transport mechanism.
- xvi) Relate hepatitis and jaundice with the functions of the liver.

SECTION C

(DETAILED-ANSWER QUESTIONS)

Marks: 12

NOTE: Attempt any TWO questions. All questions carry equal marks.

1. Define lipids; describe the characters and uses of acylglycerols, phospholipids, and terpenoids. **OR** describe the main structural features and functions of the components of the human respiratory system.
2. Describe the general characters and evolutionary adaptations of Phylum Arthropoda OR Phylum Annelida.
3. Write the cause, effects, and prevention of Atherosclerosis, Myocardial infarction, Angina pectoris, Hypertension, and coronary thrombosis. **OR** What is an autoimmune disorder? Explain the role of T-cells and B-cells in transplant rejection.

