

BOARD OF INTERMEDIATE EDUCATION, KARACHI
H.S.C. Annual Examinations 2021

(MODEL QUESTION PAPER)

ZOOLOGY PAPER-II
(Science Pre-Medical Group)

Total Duration: 01 Hour 30 minutes

Time Allowed: 30 Minutes

SECTION "A" (M.C.Qs)

Marks: 22

NOTE: Attempt all multiple-choice questions. All carry equal marks.

- 1. Which one the following is the functional unit of excretory organ in vertebrates**
* Protonephridia * Metanephridia * Malphigian tubule * Nephron
- 2. Kidney stones or Calculi are 70% composed of**
* Calcium * Calcium phosphate * Magnesium phosphate * Sodium oxalate
- 3. The locomotion in snail takes place with the help of**
* Muscular foot * Muscular arm * Tentacle * Jet propulsion
- 4. Smooth muscle are found in**
* Heart * Skeleton * Hollow structure * Nerve
- 5. Which one of the following is the locomotory organs of Class Mastigophora**
* Flagella * Ciliate * Pseudopodia * Parapodia
- 6. Knee-jerk is an example of**
* Poly synaptic * Monosynaptic * Synaptic * Tetrasynaptic
- 7. The cavities which are present in the brain are called**
* Atrium * Sac * Ventricles * Auricle
- 8. Glucagons, ADH, Oxytocin belongs to which one of the following**
* Enzymes * Peptide hormones * Steroid hormones * Modified hormones
- 9. The part of brain involved in the long term memory is**
* Amygdala * Hippocampus * Hypothalamus * Thalamus
- 10. Somatotropin hormone is responsible for**
* Sperm production * Melanin production * Production of milk * Growth
- 11. The end of the fertility in human female is called**
* Menopause * Lactation * Ovulation * Gestation
- 12. The total number of polar bodies in oogenesis are**
* 4 * 6 * 9 * 3
- 13. Ventral roots of spinal cord contains axons of**
* Motor neuron * Inter neuron * Sensory neuron * Neuroglial cells
- 14. The cells of pancreas which are responsible for the production of Insulin is**
* Beta cells * Gamma cells * Alpha cells * Dry cells
- 15. Which of the following is the correct order**
* morula-cleavage-
blastula * blastula-gastrula-
morula * cleavage-morula-
blastula * neurula-morula-
blastula
- 16. The non-coding sequence of gene are**
* Codon * Exon * Intron * Anti-codon
- 17. Which of the following can serve as a vector in rDNA technology**
* Plasmid * Bacteriophage * Algae * Mosquito
- 18. Unifactorial defects refers to**
* One gene * Many genes * Environmental factors * Genome
- 19. The non-renewable resource is**
* Wildlife * Forests * Water * Coal
- 20. The gas responsible for global warming is**

- | | | | |
|--|----------------------|----------------------|---------------|
| * Oxygen | * Nitrogen | * Carbon dioxide | * Chlorine |
| 21. Which one of the following is used as refrigerants and foaming agents | | | |
| * Oxygen | * Nitrogen | * Chlorofluro-Carbon | * Chlorine |
| 22. Which one of the following is not vestigial organs found in man | | | |
| * Coccyx | * Vermiform appendix | * Eye lids | * Ear muscles |

Time: 01 hour

(14 marks)

SECTION B

NOTE: Attempt any FOUR questions from Reasoning questions and THREE from Non-reasoning questions. All questions carry equal marks.

(a) Reasoning Questions :

- i. Why hypothalamus is called thermostat of the body. **OR** Why do freshwater fishes excrete dilute urine and marine fishes excrete concentrated urine?
- ii. Why moderate form of fever is good for health. **OR** Why the cardiac muscles are striated and involuntary in nature.
- iii. What causes abnormal muscle contraction in sportsman? **OR** How hydrostatic skeleton facilitates locomotion in soft bodied animals?
- iv. What are the causes of eutrophication? **OR** Why nervous coordination is quick as compared to the chemical coordination?
- v. Why parthenogenesis is considered as semi-sexual in nature. **OR** Why identical twins are similar but fraternal twins are not.
- vi. How hermaphroditic condition is advantageous for the parasitic mode of life? **OR** How DNA fingerprinting helps in solving criminal cases?

(b) Non-Reasoning Questions:

- i. Explain the role of brain in regulating fever. **OR** Write any four functions of liver.
- ii. Define Joints. Name different types of joints. **OR** Differentiate between Cortical and Juxta-medullary nephron.
- iii. Explain three types of neuron on the basis of function. **OR** Different between Parasympathetic and Sympathetic nervous system.
- iv. Write four objections on Lamarck's Theory. **OR** Write a short note on principal of competitive exclusion.
- v. Define Regeneration and Aging. **OR** Discuss briefly Artificial selection and its role.
- vi. Differentiate between renewable and non-renewable resources. **OR** Describe Gene sequencing.

SECTION C

DESCRIPTIVE QUESTIONS

NOTE: Attempt any ONE question. All questions carry equal marks. Attempt all parts of a question. Draw labelled diagram where necessary. (9 marks)

- Q3.** (a) Define Thermoregulation and explain thermoregulation in mammals in detail. (5)
 (b) Discuss the homeostatic function of liver. (4)
- Q4.** (a) Define muscles and describe in detail structure of skeletal muscles. (5)
 (b) Describe the mechanism of contraction of skeletal muscles. (4)
- Q5.** (a) Define Ovarian cycle. Describe the phases of menstrual cycle in detail with the help of a labeled diagram. **OR** Describe in detail Central nervous system in man (Diagram is not required). (5)
 (b) Explain the process of Spermatogenesis or Oogenesis. (4)

Q6. (a) What is Biotechnology. Explain the four steps of Recombinant DNA technology.

(5)

(b) Write a note on DNA finger printing.

(4)

