



BOARD OF INTERMEDIATE EDUCATION, KARACHI

Bakhtiari Youth Center, North Nazimabad, Karachi - 74700

<http://www.facebook.com/BIEKarachi/>

Website: www.biek.edu.pk

ZOOLOGY PAPER-II

(MODEL PAPER)

Annual Examination 2021

(Science Pre-Medical Group)

SECTION A (MULTIPLE CHOICE QUESTIONS)

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

(22 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
- * Chloroflouro-Carbon
- * Chlorine

22. Which one of the following is not vestigial organs found in man

* Coccyx

* Vermiform appendix

* Eye lids

* Ear muscles

SECTION B

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

(14

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)