FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2024 FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT

Roll Number

ZOOLOGY

TIME ALLOWED: THREE HOURS	**(PART-I MCQs) MAXIMUM MARKS: 20**
PART-I (MCQs) : MAXIMUM 30 MINUTES	**(PART-II) MAXIMUM MARKS: 80**

NOTE: (i) First attempt **PART-I (MCQs)** on separate **OMR Answer Sheet** which shall be taken back after **30 minutes.**
(ii) Overwriting/cutting of the options/answers will not be given credit.
(iii) There is **no negative** marking. All MCQs must be attempted.

PART-I (MCQs)(COMPULSORY)

Q.1. (i) Select the best option/answer and fill in the appropriate Box ■ on the **OMR Answer Sheet. (20x1=20)**
(ii) Answers given anywhere else, other than OMR Answer Sheet, will not be considered.

1. **The specialized region in protozoa that is analogous to mouth is:**
(A) Vacuole (B) Cytopharynx (C) Food Vacuole (D) None of these
2. **Organisms in this super group move via temporary extensions called lobopodia:**
(A) Chromalveolata (B) Rhizaria (C) Amoebozoa (D) None of these
3. **Evolutionarily, members of this phyla are considered the most primitive animals:**
(A) Porifera (B) Cnidaria (C) Ctenophora (D) None of these
4. **A few turbellarians have a free-swimming larva termed as:**
(A) Miracidium (B) Planula larva (C) Oncomiracidium (D) None of these
5. **This class is the largest and most varied molluscan class:**
(A) Gastropoda (B) Polyplacophora (C) Bivalvia (D) None of these
6. **The specialization of body regions in a segmented animal is called:**
(A) Cephalization (B) Metamerism (C) Tagmatization (D) None of these
7. **The scientific name of the common pork roundworm is:**
(A) Wuchereria bancrofti (B) Ascaris lumbricoides (C) Trichinella spiralis (D) None of these
8. **Harvestmen or daddy longlegs are members of the order:**
(A) Scorpionida (B) Opiliones (C) Acarina (D) None of these
9. **The light collecting area of a compound eye that converts light energy into a nerve impulse is called:**
(A) Rhabdome (B)Pigment cell (C) Retinula cell (D) None of these
10. **A "mouth-up" feeding posture is found in members of the class:**
(A) Ophiuroidea (B) Asteroidea (C) Crinoidea (D) None of these
11. **The development of sexual maturity in a larval body form is called:**
(A) Coevolution (B) Morphogenesis (C) Parthenogenesis (D) None of these
12. **A vascular network that allows gases to move from the blood stream into a fish's swim bladder is called the:**
(A) Glomerulus (B) Rete mirabile (C) Ovale (D) None of these
13. **Regions of the skeleton of an amphibian that is the point of attachment of the hind limbs to the vertebral column is:**
(A) Cervical (B) Caudal (C) Sacral (D) None of these
14. **The class Reptilia is:**
(A) Paraphyletic (B) Polyphylatic (C)Tetraphyletic (D) None of these
15. **The refractory period of a neuron is also known as:**
(A) Polarization (B) Repolarization (C) Both (A) & (B) (D) None of these
16. **The mobile-receptor mechanism for hormone action involves hormones that are:**
(A) Amines (B) Polypeptides (C) Steroids (D) None of these
17. **The pacemaker of a mammalian heart is the:**
(A) AV node (B) SA node (C) Purkinje fibres (D) None of these
18. **Vitamin B9 is also known as:**
(A) Riboflavin (B) Pantothenic acid (C) Niacin (D) None of these
19. **The hormonal triggering of heat production is called:**
(A) Nonshivering thermogenesis (B) shivering thermogenesis (C) Panting (D) None of these
20. **A hermaphrodite that is male during its early life and female later in life is called:**
(A) Protogynous (B) Protandrous (C) Polygynous (D) None of these

PART-II

Q2. How does homology contribute to mapping phylogeny through a nested hierarchy of characters, and how do scientists use it to understand the evolutionary history of organisms?

Q3. Explore the varied lifestyles of unicellular eukaryotes, emphasizing their roles as disease agents, endoparasites, and vital components of the food chain. Assess the impact of these organisms on human health and ecosystems.

Q4. Describe the early evolution of chordates. Also, discuss the functional anatomy of tunicates.

Q5. Describe the key features of the molluscan body plan. Subsequently, explain the biological and economic impact of ocean acidification on molluse growth and harvest.

Q6. Describe the role of the hypothalamus in endocrine function in vertebrates. Furthermore, explain how the pineal gland directly or indirectly regulates circadian and annual rhythms in animals.

Q7. Discuss the key postulates of Darwin's evolutionary theory and analyze the contributions of Mendelian genetics and the chromosomal theory of inheritance in reshaping the evolutionary theory.

Q8. Describe the factors involved in regulating digestive system function. Also, outline the types of motilities in each digestive tract segment and the controlling factors for each.