FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2012

Roll Number

ZOOLOGY, PAPER-I

TIME ALLOWED:	**(PART-I MCQs)**	**30 MINUTES**	**MAXIMUM MARKS: 20**
THREE HOURS	**(PART-II)**	**2 HOURS & 30 MINUTES**	**MAXIMUM MARKS: 80**

NOTE: **(i)** Candidate must write **Q.No.** in the **Answer Book** in accordance with **Q.No.** in the **Q.Paper**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**, selecting **TWO** questions from **EACH SECTION**. All questions carry EQUAL marks.
(iii) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

SECTON-I

Q.2 **(a)** Define parasitism. What are parasitic adaptations in platyhelminthes? **(10)**

(b) Discuss water circulating pathways in (i) an ascon sponge (ii) Sycon Sponge (iii) Lencon sponge. Illustrate answer with diagrams. **(10)**

Q.3. **(a)** Describe parasitism in Protozoa. **(10)**

(b) What are corals and coral reefs? What are different types of coral reefs? Discuss. Give suitable diagrams. **(10)**

Q.4. **(a)** Describe feeding in bivalves and mechanism of food movement in cephalopoda digestive tract. Does it differ (cephalopod) from other molluscs. **(10)**

(b) Give an account of appendages and body divisions in crayfish. Give suitable diagrams. **(10)**

SECTON-II

Q.5. **(a)** What are the variations in vertebrae in fishes, amphibians, reptiles, birds and mammals? Give diagrams. **(10)**

(b) Describe pronephros, mesonephros and metanephros kidneys in vertebrates. Illustrate answer with diagrams. **(10)**

Q.6. **(a)** Discuss with suitable diagrams Amniote aortic arches. **(10)**

(b) Give description of primitive vertebrate heart and its diagram. **(10)**

Q.7. **(a)** Describe Reflex arc and its action in mammalian spinal cord. Give diagrams. **(10)**

(b) Give Brief comparative account of structure of brain in fish, Amphibia, reptiles, birds and mammals. Give suitable diagrams. **(10)**

Q.8. **(a)** Give a brief account of biting mechanism in snake. Give suitable diagram. **(10)**

(b) Illustrate answer with diagrams giving an account of different types of vertebrate eggs. **(10)**

****

FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2012

Roll Number

ZOOLOGY, PAPER-II

TIME ALLOWED:	**(PART-I MCQs)**	**30 MINUTES**	**MAXIMUM MARKS: 20**
THREE HOURS	**(PART-II)**	**2 HOURS & 30 MINUTES**	**MAXIMUM MARKS: 80**

NOTE: **(i)** Candidate must write **Q.No.** in the **Answer Book** in accordance with **Q.No.** in the **Q.Paper**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**, selecting **TWO** questions from **EACH SECTION**. All questions carry EQUAL marks.
(iii) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

SECTON-I

Q.2 **(a)** Describe the structure and function of ribosomes. **(10)**

(b) Describe the structure and function of endoplasmic reticulum. **(10)**

Q.3. **(a)** In the respiratory mechanism explain transport of oxygen in the arterial blood . **(10)**

(b) How transport of carbon dioxide in blood takes place? Explain. **(10)**

Q.4. **(a)** Under what conditions the following phenotypic ratios are obtained. **(10)**
(i) 9:7 **(ii)** 9:3:4 **(iii)** 13:3 **(iv)** 9:3:3:1

(b) Explain the following chromosomal aberrations and their evolutionary significance. **(10)**
(i) Deficiency **(ii)** Duplication **(iii)** Translocation **(iv)** Inversion

Q.5. **(a)** Describe in detail glomerular filtration and glomerular filtrate. Illustrate your answer with suitable diagrams. **(10)**

(b) Discuss absorption in small intestine of different food constituents like carbohydrates, fats, water, lipids. Give suitable diagrams. **(10)**

SECTON-II

Q.6. **(a)** What is the role of Natural Selection in biological process? Explain. **(10)**

(b) How would you compare Lamarck's theory of evolution and Darwin's concept of evolution? Explain. **(10)**

Q.7. **(a)** Explain pond ecosystem with reference to: **(10)**
(i) A biotic substance **(ii)** Producer organisms **(iii)** Consumer organisms **(iv)** Decomposers

(b) Give description of biogeochemical cycles: **(10)**
(i) Nitrogen cycle **(ii)** Phosphorous cycle

Q.8. **(a)** Explain important features of Watson and Crick's model of DNA. **(10)**

(b) Explain transcription and the role of messenger RNA. **(10)**

Q.9 **(a)** White short notes on: **(4 x 5=20)**
(i) Linkage (ii) Habitat **(iii)** Biological Species **(iv)** Gene mutation

****