

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

SECTION-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 (10)
(iii) Lencon sponge. Illustrate answer with diagrams.
- 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)

SECTION-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)

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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

SECTION-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)

SECTION-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) Write short notes on: (4 x 5=20)
(i) Linkage (ii) Habitat (iii) Biological Species (iv) Gene mutation
