

# FEDERAL PUBLIC SERVICE COMMISSION



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

### ZOOLOGY, PAPER-II

<b>TIME ALLOWED:</b>	<b>(PART-I MCQs)</b>	<b>30 MINUTES</b>	<b>MAXIMUM MARKS: 20</b>
<b>THREE HOURS</b>	<b>(PART-II)</b>	<b>2 HOURS &amp; 30 MINUTES</b>	<b>MAXIMUM MARKS: 80</b>
<b>NOTE:</b> (i) Candidate must write <b>Q.No.</b> in the <b>Answer Book</b> in accordance with <b>Q.No.</b> in the <b>Q.Paper</b> . (ii) Attempt <b>ONLY FOUR</b> questions from <b>PART-II</b> , selecting <b>TWO</b> questions from <b>EACH SECTION</b> . All questions carry <b>EQUAL</b> 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

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