



**FEDERAL PUBLIC SERVICE COMMISSION  
COMPETITIVE EXAMINATION-2017  
FOR RECRUITMENT TO POSTS IN BS-17  
UNDER THE FEDERAL GOVERNMENT**

**Roll Number**

**ZOOLOGY**

<b>TIME ALLOWED: THREE HOURS</b>	<b>PART-I (MCQS)</b>	<b>MAXIMUM MARKS = 20</b>
<b>PART-I(MCQS): MAXIMUM 30 MINUTES</b>	<b>PART-II</b>	<b>MAXIMUM MARKS = 80</b>
<b>NOTE: (i) Part-II is to be attempted on the separate Answer Book.</b> <b>(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.</b> <b>(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.</b> <b>(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.</b> <b>(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.</b> <b>(vi) Extra attempt of any question or any part of the attempted question will not be considered.</b>		

**PART-II**

- Q. No. 2.** How has the role of forests been identified in mitigating climate change? What are the various mechanisms designed in this regard? Also describe various controversies attached to these mechanisms? **(20)**
- Q. No. 3.** How the ecology of Arthropod vectors and their breeding habitats may be manipulated at different levels to introduce novel strategies for integrated pest management? **(20)**
- Q. No. 4.** How members of Hemichordata are different from Chordates? Highlight Phylogenetic significance of different classes of Hemichordata. **(20)**
- Q. No. 5.** Explain in detail the digestion of carbohydrates and fats in various segments of the gastrointestinal tract in simple stomach animals. **(20)**
- Q. No. 6.** One of the important functions of the hypothalamus is to link the nervous system to the endocrine system via the pituitary gland (hypophysis). Enlist the releasing factors/hormones of hypothalamus and explain their effects on target cells/tissue/glands. **(20)**
- Q. No. 7.** Describe the synthesis, transport and functions of thyroid hormones. How the secretion of thyroid hormones is regulated in hyper-and-hypo thyroidism? **(20)**
- Q. No. 8.** Write short notes on any **FOUR** of the following: **(5 each) (20)**
- (a)** Control of nematode parasites
  - (b)** Neo-Darwinian theory
  - (c)** Adaptability pattern of mammals
  - (d)** Advantages and disadvantages of allosteric regulation versus covalent modification
  - (e)** Concept of second messenger in hormone action
  - (f)** Adaptation of fishes in cold and hot water

\*\*\*\*\*