



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT, 2015

Roll Number

ZOOLOGY, PAPER-II

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

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**, selecting **TWO** questions from **Each Section**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II
SECTION-A

- Q. No. 2.** (a) What is gene expression? Describe the role of tRNA, mRNA and rRNA in protein synthesis? (10)
(b) Describe the structure & function of Golgi complex? (10) (20)
- Q. No. 3.** (a) How Hypothalamus-Pituitary Gland regulate and control thyroid endocrine functions in mammals? (10)
(b) How oxygen is transported in blood? (10) (20)
- Q. No. 4.** (a) What is the role of nephrons in urine formation? How different types of Leukocytes (white blood cell) are formed in body? (10)
(b) How proteins are digested and absorbed in gastrointestinal tract? (10) (20)
- Q. No. 5.** (a) Compare Mendelian Principle of Segregation with that of Independent Assortment? (10)
(b) How external environment effects gene expression? (10) (20)

SECTION-B

- Q. No. 6.** (a) "Ontogeny repeats phylogeny". Discuss and compare the Theory of Recapitulation (Biogenetic Law) proposed by Ernst Haeckel with Von Baer's Rule of Embryology, postulated by Karl Ernst Ritter von Baer. (10)
(b) How you will reconcile the debate between religion and science on the issue of evolution of human being. (10) (20)
- Q. No. 7.** (a) "Living (biotic) organisms and their nonliving (abiotic) environment are inseparably interrelated and interact upon each other" Discuss (10) (20)
(b) Define & differentiate between: (2½ each) (10)
(i) Food Chain & Food Web
(ii) Stenothermal & Eurythermal
(iii) Lentic & Lotic Communities
(iv) Fisheries & Aquaculture
- Q. No.8.** (a) "Ecosystems are capable of self-maintenance and self-regulation as are their component populations and organisms" Discuss (10) (20)
(b) Write short notes on (2½ each) (10)
(i) Conservation of Biodiversity
(ii) Climate Change & Global Warming
(iii) Liebig's Law of the Minimum
(iv) Positive Interactions (Commensalism, Cooperation & Mutualism)
