

**FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS
IN BPS-17, UNDER THE FEDERAL GOVERNMENT, 2007**

ZOOLOGY, PAPER-I

TIME ALLOWED: THREE HOURS MAXIMUM MARKS: 100

NOTE: (i) Attempt ONLY FIVE questions in all, including QUESTION NO.7, which is COMPULSORY. All questions carry EQUAL marks. Select any TWO questions each from SECTION-I and SECTION-II.
(ii) Extra attempt of any question or any part of the attempted question will not be considered.
(iii) Candidate must draw two straight lines () at the end to separate each question attempted in Answer Books.

SECTION – I

Q.1. (a) Canal system is found in Porifera, explain its types & significance. (8)
(b) In insects respiration is through tracheal tubes, explain its structure along with its working. (6)
(c) Describe structure and Types of foot in Mollusca. (6)

Q.2. (a) How Platyhelminthes are adapted for Parasitic mode of life. (7)
(b) Describe complete Metamorphosis in an insect. (7)
(c) Some Protozoa are medicinally important, explain at least three such Protozoan.(6)

Q.3. Write note on the following: (5 each)
(a) Water vascular system in Echinodermata
(b) Corals
(c) Trochophore larva
(d) Shell in Mollusca

SECTION – II

Q.4. (a) Amount of yolk determine the cleavage type, describe various types of cleavages found in vertebrates. (7)
(b) Describe Placentation in mammals, explain various types. (7)
(c) Differentiate between the scale of fishes and Reptiles. (6)

Q.5. (a) How vertebrate kidney was evolved. (10)
(b) How Birds migrate, explain various factors, which are involved in their migration. (10)

Q.6. Write note on the following: (5 each)
(a) Amphioxus
(b) Amphibian Heart
(c) Gastrulation in birds
(d) Snake biting

COMPULSORY QUESTION

Q.7. Write only the correct answer in the Answer Book. Do not reproduce the question.

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| (1) The autonomic nervous system comprises of:
(a) Sympathetic nervous system
(b) Para-sympathetic nervous system
(c) Both (a) and (b)
(d) None of these | (3) The odd-toed ungulates are termed as:
(a) Perissodactyls
(b) Artiodactyls
(c) Paradactyls
(d) All of these |
| (2) In Turtles, the dorsal plate is known as:
(a) carapace
(b) Plastron
(c) scutes
(d) None of these | (4) The functional kidney of adult fishes is:
(a) Pronephros
(b) Mesonephros
(c) Metanephros
(d) None of these |

- (5) The telencephalon & diencephalons are part of:
(a) Mid-brain
(b) Hind brain
(c) Fore brain
(d) All of these
- (6) The sense organs of taste in tongue are known as:
(a) Olfactoreceptors
(b) Gustatoreceptors
(c) cutaneous receptors
(d) All of these
- (7) The process of cartilage formation is known as:
(a) chondrioblasts
(b) Chondriocytosis
(c) chondriogenesis
(d) None of these
- (8) Significant flight muscles in birds is:
(a) Pectoral
(b) Appendicular
(c) Tensor
(d) All of these
- (9) Typical character of a mammal is:
(a) Hairs
(b) Mammary glands
(c) Only (a)
(d) Both (a) and (b)
- (10) Body wall of obelia is:
(a) Monoblastic
(b) Diploblastic
(c) Triploblastic
(d) None of these
- (11) The arrangement of the organs of an animal in a series of similar units along the longitudinal axis of the body is called:
(a) Pseudometamerism
(b) Parametamerism
(c) Metamerism
(d) Prometamerism
- (12) The white blood corpuscles of the cockroach are called as:
(a) Haematocyte
(b) Haematoclast
(c) Haemoblast
(d) Leucocyte
- (13) Hormone which control molting in insects is:
(a) cardisone
(b) ecdysone
(c) ecdycortisone
(d) None of these
- (14) In Sycon water leave the sponge through:
(a) ostia
(b) osculum
(c) Madriporite
(d) All of these
- (15) Flame cells are commonly found in:
(a) Platyhelminthes
(b) Annelida
(c) Coelenterata
(d) All of these
- (16) The number of vertebrae in horse neck are:
(a) 5
(b) 6
(c) 7
(d) 10
- (17) The group in which RBC's are mostly non-nucleated:
(a) Amphibians
(b) Birds
(c) Mammals
(d) All of these
- (18) Cockroach is dissected from side:
(a) dorsal
(b) ventral
(c) Lateral
(d) Both (a) and (b)
- (19) Heart of fish is:
(a) Open
(b) Single circuit
(c) Double circuit
(d) Both (b) and (c)
- (20) Round worms belong to:
(a) Platyhelminthes
(b) Annelida
(c) Centipedesa
(d) None of these

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ZOOLOGY, PAPER-II**

TIME ALLOWED: THREE HOURS MAXIMUM MARKS: 100

NOTE: (i) Attempt ONLY FIVE questions in all, including QUESTION NO.8, which is COMPULSORY. All questions carry EQUAL marks.

(ii) Extra attempt of any question or any part of the attempted question will not be considered.

(iii) Candidate must draw two straight lines (=====) at the end to separate each question attempted in Answer Books.

Q.1. (a) What is the structure and role of Nucleolus in the cell. (9)

(b) Explain Polymorphism in Lysosomes. (11)

Q.2. (a) Describe various steps involved in Translation. (10)

(b) What are various functions of Endoplasmic reticulum. (10)

Q.3. (a) How CO₂ is transported in higher animals? Explain various methods. (11)

(b) What is the relationship between availability of water and the nitrogenous waste products produced in animals? (9)

Q.4. (a) Explain law of Independent assortment by taking examples from animals. (10)

(b) Discuss various chromosomal aberrations along with their role. (10)

Q.5. (a) Prove the role of Natural Selection in Darwinian Evolution by examples. (10)

(b) What is a species, how they were evolved, discuss various ideas. (10)

Q.6. (a) Explain Biogeochemical cycle, with the help of Nitrogen cycle. (12)

(b) Name various zones of a deep freshwater pond. What type of life is present in each zone. (8)

Q.7. Write notes on the following: (5 each)

(a) Transcriptional bubble

(b) Nerve Impulse

(c) Pituitary

(d) Green House effect

COMPULSORY QUESTION

Q.8. Write only the correct answer in the Answer Book. Do not reproduce the question.

(1) Chemical composition of Ribosomes is:

(a) DNA

(b) RNA

(c) DNA & Protein

(d) RNA & Protein

(4) XXY individual in Drosophila (Fruit fly) is:

(a) male

(b) female

(c) sterile

(d) All of these

(2) Electron Transport chain is located in:

(a) cytoplasm

(b) mitochondria

(c) lysosomes

(d) Nucleus

(5) Ecological niche is of an individual:

(a) address

(b) profession

(c) Both (a) and (b)

(d) None of these

(3) Transcription involve the synthesis of:

(a) Mrna

(b) rRNA

(c) tRNA

(d) All of these

(6) Crossing over involve the formation of:

(a) desmonstomata

(b) chromonemata

(c) chiasmata

- (d) All of these
- (7) Attachment of O₂ with hemoglobin to form oxyhemoglobin is a change:
(a) Physical
(b) Chemical
(c) Both (a) and (b)
(d) None of these
- (8) Acetylcholine is a:
(a) chemical transmitter
(b) electrical transmitter
(c) physical transmitter
(d) None of these
- (9) In Blood groups gene I^A and I^B are:
(a) Co-dominant
(b) Co-recessive
(c) Dominant recessive
(d) Incomplete Dominant
- (10) The idea of Lamarck on evolution is based upon:
(a) Use & Disuse of organs
(b) Acquired character
(c) Both (a) and (b)
(d) None of these
- (11) Ammonia is the excretory nitrogenous waste:
(a) Primary
(b) Secondary
(c) Tertiary
(d) None of these
- (12) Special functions of smooth Endoplasmic reticulum is:
(a) Lipid synthesis
(b) Glycogenolysis
(c) Detoxification
(d) All of these
- (13) In birds sex is determined by the type of:
(a) Sperms
(b) Eggs
(c) Both (a) and (b)
(d) None of these
- (14) The Pre-Historic atmosphere of earth had:
(a) methane
(b) ammonia
(c) hydrogen sulphide
(d) All of these
- (15) C. Linneous proposed the method of naming organisms:
(a) uninominal
(b) binomial
(c) trinomial
(d) None of these
- (16) Trypsin is protease secreted in:
(a) Bile
(b) Saliva
(c) Gastric juice
(d) Pancreatic juice
- (17) Cerebellum is the part of brain:
(a) Forebrain
(b) Mid-brain
(c) Hind-brain
(d) Spinal cord
- (18) The constriction of centromere is called as:
(a) Primary
(b) Secondary
(c) Tertiary
(d) All of these
- (19) Gene for Haemophilia in man is located on:
(a) autosome
(b) X-chromosome
(c) Y-chromosome
(d) All of these
- (20) DNA duplicate during:
(a) Prophase
(b) Metaphase
(c) Telophase
(d) Interphase