

FEDERAL PUBLIC SERVICE COMMISSION



COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2013

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) First attempt PART-I (MCQs) on separate OMR Answer Sheet which shall be taken back after 30 minutes.		
(ii) Overwriting/cutting of the options/answers will not be given credit.		

PART-I ((MCQs) (COMPULSORY)

Q.1. (i) Select the best option/answer and fill in the appropriate Circle ● on the OMR Answer Sheet. (20x1=20)
(ii) Answers given anywhere, other than OMR Answer Sheet, shall not be considered.

- Metamerically segmented worms belong to phylum:
(a) Nematoda (b) Platyhelminthes (c) Annelida (d) None of these
- Which of the following is a multiflagellate Protozoa?
(a) Ceratium (b) Noctiluca (c) Leishmania (d) None of these
- Spicules are secreted by:
(a) Scleroblasts (b) Nematoblasts (c) Endoblasts (d) None of these
- Which of the following is a porous opening through which water enters the hydrocoel of an echinoderm?
(a) Pedicellaria (b) Tube feet (c) Madreporite (d) None of these
- The body cavity of most triploblastic animals formed by splitting the mesoderm into an outer and an inner layer is called:
(a) Coelentron (b) Coelom (c) Colon (d) None of these
- Compound eyes are found in:
(a) Platyhelminthes (b) Echinodermate (c) Mollusca (d) None of these
- Egg-laying mammals are placed in sub class:
(a) Metatheria (b) Prototheria (c) Theria (d) None of these
- Open circulatory system is found in:
(a) Birds (b) Earthworms (c) Cockroaches (d) None of these
- Bivalve molluscs are usually:
(a) Scavengers (b) Deposit feeder (c) Filter feeder (d) None of these
- The pillar or central axis around which the whorls of a gastropod shell are coiled is called:
(a) Columella (b) Collembola (c) Colloblasts (d) None of these
- The ninth vertebra of frog is known as:
(a) Cervical (b) Sacral (c) Urostyle (d) None of these
- The stage in an embryo in which the primary germ layers have been laid down is called:
(a) Gastrula (b) Blastula (c) Morula (d) None of these
- A fish which migrates down river to spawn in the sea is called:
(a) Anadromous (b) Catadromous (c) Dromiacea (d) None of these
- Which of the following has four-chambered heart?
(a) Dog fish (b) Frog (c) Pigeon (d) All of these
- Facets by which vertebrae articulate with one another are called:
(a) Metapophyses (b) Parapophyses (c) Zygapophyses (d) None of these

ZOOLOGY, PAPER-I

16. The inner membrane of the two foetal membranes in reptiles, birds and mammals is called:
(a) Amnion (b) Chorion (c) Peritoneum (d) None of these
17. Amphioxus is an example of:
(a) Urochordata (b) Cyclostomata (c) Hemichordata (d) None of these
18. Filarial worm (genus Wuchereria) belong to phylum:
(a) Nematoda (b) Platyhelminthes (c) Annelida (d) None of these
19. Notochord is formed from primary:
(a) Ectoderm (b) Mesoderm (c) Endoderm (d) All of these
20. Shell fish includes:
(a) Shrimp, Crabs and eel fish (b) Dog fish, crabs and lobsters
(c) Lobsters, crabs and shrimps (d) All of these

PART-II

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Candidate must write **Q. No.** in the **Answer Book** in accordance with **Q. No.** in the **Q. Paper**.
(iii) Attempt **ONLY FOUR** questions from **PART-II**, selecting **TWO** questions from **EACH SECTION**. **ALL questions carry EQUAL marks**.
(iv) Extra attempt of any question or any part of the attempted question will not be considered.

SECTION-A

- Q.2.** (a) Give an account of life cycle of Fasciola hepatica. (10)
(b) Describe the various types of larval forms found in crustacea. (10)
- Q.3.** (a) What is the difference between corallite and coral reef? Give a detailed account of the various forms of coral reefs. (10)
(b) Write an essay on parasitic adaptation in platyhelminthes. (10)
- Q.4.** (a) Describe the morphology and microscopic structure of the shell of a gastropod mollusc such as Pila. (10)
(b) Describe the water vascular system of star fish. (10)
- Q.5.** Write short notes on the following:- (5 each) (20)
(a) Binary fission in Paramecium (b) Flame cells
(c) Leishmaniasis (d) Spicules

SECTION-B

- Q.6.** (a) Describe various types of heart found in the vertebrate. (10)
(b) Give an account of flight adaptation of birds. (10)
- Q.7.** (a) Describe the pelvic girdle of frog with the help of labelled diagram. (10)
(b) Give a detailed structure of the eye of frog. (10)
- Q.8.** Write short notes on the following:- (5 each) (20)
(a) Biting mechanism of snakes (b) Placenta
(c) Fish scales (d) Neuron

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ZOOLOGY, PAPER-II

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THREE HOURS	(PART-II)	2 HOURS & 30 MINUTES	MAXIMUM MARKS: 80
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PART-I ((MCQs) (COMPULSORY)

Q.1. (i) Select the best option/answer and fill in the appropriate Circle ● on the OMR Answer Sheet. (20x1=20)
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- Which of these is a direct source of energy for muscle contraction?
(a) ATP (b) Creatine phosphate (c) Lactic acid (d) Glucose (e) None of these
- Muscle fatigue is caused by:
(a) CO₂ (b) Lactic acid (c) Fumaric acid (d) Ethyl alcohol (e) None of these
- The functional unit in a skeletal muscle is called:
(a) Actin filament (b) Sarcomere (c) Z line (d) Myosin filament (e) None of these
- We would describe the layered, flat, scaly epithelium of human skin as:
(a) Simple Squamous (b) Stratified Squamous (c) Stratified Columnar
(d) Pseudo Stratified Cuboidal (e) None of these
- Which of the following is not considered to be a tissue?
(a) Cartilage (b) Mucous membrane lining the stomach (c) Blood (d) Brain (e) All of these
- As a Zoologist you would look for looping movement in:
(a) Earthworms (b) Poly chaetes (c) Echinoderms (d) Leeches (e) None of these
- The elements of nervous system which help in co-ordination are:
(a) Receptors (b) Neurons (c) Effectors (d) All of these (e) None of these
- The distal ends of which of these neurons lie adjacent to blood stream:
(a) Afferent neurons (b) Efferent neurons (c) Inter neurons
(d) Neuro secretory neuron (e) All of these
- The electrical potential that exists across a cell membrane is:
(a) Resting membrane potential (b) Active membrane potential (c) Automatic potential
(d) All of these (e) None of these
- A nerve is a:
(a) Collection of neurons (b) Concentration of dendrites and axons
(c) Bundles of axons or dendrites of neurons
(d) Bundles of axons or dendrites bounded by connective tissues (e) None of these
- Which of these is a correct statement?
(a) All of the neurons are excitable (b) All of the neurons can transmit impulses across their membrane
(c) Transmission of nerve impulses is always unidirectional (d) All of these statements
(e) None of these
- Sodium-Potassium pump operates with the help of which of these enzymes:
(a) Na⁺ – K⁺ ATPase (b) Phosphatase (c) Isomerase (d) Hydrolase (e) None of these
- Name of the chemical messengers released to the exterior of one animal that affect the behaviour of another individual of the same species:
(a) Neuropeptides (b) Neurohormones (c) Pheromones (d) Neurotransmitters (e) None of these

ZOOLOGY, PAPER-II

14. Hormones that the Thyroid gland secretes are:
(a) Proteins (b) Amines (c) Steroids (d) Carbohydrates (e) All of these
15. Thyroxine is:
(a) An enzyme (b) A hormone (c) A vitamin (d) An excretory waste (e) None of these
16. Development of Secondary Sexual characters in a female is controlled by:
(a) STH (b) Androgens (c) TSH (d) Estrogens (e) None of these
17. Insulin is a hormone which is secreted by:
(a) Islet of langerhans and regulates glucose level in blood (b) Thyroid and regulates growth
(c) Adrenals and regulates heart beat (d) Pituitary and regulates reproduction (e) None of these
18. Hormone responsible for regulation of calcium and phosphorous is secreted by:
(a) Thyroid (b) Para-thyroid (c) Adrenals (d) Thymus (e) None of these
19. A hormone responsible for conversion of glucose into glycogen within the liver is called:
(a) Secretin (b) Gastrin (c) Pancreozymin (d) Insulin (e) None of these
20. Fibrinogen is found in the:
(a) Bile and produced in liver (b) Blood and produced by RBCS
(c) Blood and produced in liver (d) Bone and produced in bone marrow (e) None of these

PART-II

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SECTION-A

- Q.2.** Describe the phenomenon of Mitotic Cell division in animals. (20)
- Q.3.** Define an allele. Explain Mendel's principle of Independent assortment with examples. (20)
- Q.4.** What do you know about sex-linked inheritance? Explain with examples. (20)

SECTION-B

- Q.5.** Do you believe in "Evolution". Give evidences in favour of the theory. (20)
- Q.6.** Define bio-geochemical cycles. Explain 'Nitrogen' cycle diagrammatically. (20)
- Q.7.** What is Darwinism? Differentiate it from Lamarkism. What do you know about the synthesis of Darwinian theory with population genetics? (20)
- Q.8.** Describe various interactions among animal populations (20)
