

**Paper: CC-IV (Animal Physiology)**

**1. Answer the following questions.**

**1×10=10**

- a) Which connective tissue specializes in storage of fat?
- b) What is the significance of the carbaminohemoglobin?
- c) Distinguish proximal convoluted tubule from distal convoluted tubule.
- d) State the role of bile salts in lipid digestion.
- e) Mention one distinctive feature of the cardiac muscle.
- f) Name the hormones that determine the luteal phase of menstrual cycle?
- g) Which hormone controls the release of bile from the gall bladder.
- h) Where hyaline cartilage is found?
- i) What is the significance of H-antigen in the blood grouping system?
- j) State the location and function of rete testis.

**2. Answer the following questions.**

**2×10=20**

- a) Differentiate between epithelial tissue and connective tissue.
- b) Name two important contractile proteins in muscle.
- c) Define Bohr effect.
- d) Mention the location and significance of the pneumocytes?
- e) Cite the name and role of two protein digesting enzymes of pancreas.
- f) Explain the significance of vasa recta.
- g) What is erythroblastosis fetalis?
- h) State the roles of gastrin and secretin in digestion.
- i) Write two functions of the pineal gland.
- j) What is vital capacity? Write its importance.

**Paper: CC-V (Diversity of Chordates)**

**1. Answer the following questions.**

**1×10=10**

- a) Which type of skull is found in turtles?**
- b) Write down two distinguishing features of Class Mammalia.**
- c) What is the significance of the preen gland?**
- d) In which Order *Naja naja* belongs?**
- e) Which group of amphibians perform internal fertilization?**
- f) Distinguish Chondrichthyes from the Osteichthyes.**
- g) Why *Petromyzon* sp. is known as cyclostome?**
- h) Which group of animals are popularly known as 'sea squirt'?**
- i) Mention two important features of larval *Balanaglossus*.**
- j) What is the function of velar tentacles?**

**2. Answer the following questions.**

**2×10=20**

- a) Mention the Order of leg-less amphibians with an example.**
- b) What is fang? Which type of fang is found in viper snake?**
- c) Write down the features of the diapsid skull?**
- d) What is pygostyle?**
- e) What is Jacobson's organ?**
- f) Distinguish eutherians from metatherians with example.**
- g) What is Wallace's line?**
- h) What is sebaceous gland?**
- i) Mention the features of suctorial mouth of the cyclostomes.**
- j) Mention two important types of fish-migration with example.**

**Paper: CC-III (NON-CHORDATES II: COELOMATES)**

**1. Answer the following questions.**

**1×10=10**

- a) What are Eucoelomates?**
- b) What are the significance of parapodia in annelids?**
- c) What is odontophore?**
- d) How book lung acts as respiratory organ?**
- e) What is the significance of metamorphosis to an insect life?**
- f) Write two larval stages in Asteroidea.**
- g) What is Pedicellaria?**
- h) State the role of solenocytes**
- i) What is ctenidium?**
- j) Mention the position of pallial organs after the torsion.**

**2. Answer the following questions.**

**2×10=20**

- a) Distinguish between pseudo-metamerism and metamerism**
- b) Write two distinguishing features of Class Oligochaeta with example.**
- c) State the location and role of the osphradium.**
- d) Mention the photoreceptive parts of the ommatidium.**
- e) How does pheromones regulate social behaviour of honey bees?**
- f) Signify the relationship of Onychophora with Annelida and Arthropoda.**
- g) Give the example of Holobranchiate and Plicate type of molluscan gill.**
- h) In which way mantle helps in pearl formation?**
- i) State the functional relationship of tube feet and the water vascular system.**
- j) Mention the name of ciliary bands of the trochophore larva of Mollusca.**

**Paper: CC-I**  
**BASIC CONCEPT OF TAXONOMY & NON-CHORDATES-I: PROTISTA**  
**TO PSEUDOCOELOMATES**

**1. Answer the following questions.**

**1×10=10**

- a) What is Holotype?
- b) What is the significance of ookinete?
- c) Which larval stage of *Taenia solium* penetrate through the intestinal wall?
- d) Where mesoglea is found?
- e) How nematocysts play role in food capturing?
- f) Name the adhesive cells used in food capturing of Ctenophora.
- g) Through which part of the host rhabditiform larva enters into the blood?
- h) What is renette cells?
- i) Which organism causes amoebic dysentery?
- j) Who gave the biological species concept?

**2. Answer the following questions.**

**2×10=20**

- a) Specify the importance of Contractile vacuole in *Paramecium*.
- b) Write two types of spicules with their chemical composition.
- c) What is fringing reef? Give an example.
- d) Mention the different larval stages of the life cycle of *Fasciola hepatica*.
- e) State the importance of choanocytes in the digestion and reproduction.
- f) Write down two important features of merozoit stage.
- g) State the significance of palmelloid stage of *Euglena*.
- h) Differentiates hydrorhiza from hydrocaulus.
- i) Mention two Phyla where diffused type of nervous system is found.
- j) What is the difference between a homonym and a synonym?