ASD

2011

ZOOLOGY (Optional) (Paper – I)

310032

Standard : Degree **Total Marks : 200**

Nature : Conventional (Essay) type **Duration : 3 Hours**

N.B. :

1) *Answers must be written in* ***English*** *only.*

2) *Question* ***No. 1*** *is* ***compulsory****. Of the remaining questions, attempt* ***any four*** *selecting* ***one*** *question from* ***each Section.***

3) *Figures to the* ***RIGHT*** *indicate marks of the respective question.*

4) *Number of optional questions upto the prescribed number in the order in which they have been solved will only be assessed. Excess answers will not be assessed.*

5) *Credit will be given for orderly, concise and effective writing.*

6) *Illustrate your answers with suitable diagrams wherever necessary.*

7) *Candidate should not write roll number, any name (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he/she will be penalised.*

SEAL

Marks

1. Answer **any four** of the following (**10** marks each) : **40**

(a) Write a short essay on parasitic adaptations in phylum Platyhelminthes.

(b) Define migration. Give various kinds of migrations in birds and advantages of migration.

(c) Explain how hypothalamus controls the secretory activity of the pituitary gland.

(d) What is particulate matter ? Write properties of different types of particulate matter and state their effects.

(e) Briefly discuss biosphere and its links to other spheres of environment.

P.T.O.

Marks

SECTION – A

2. (a) What is speciation ? Discuss allopartic and sympartic speciation. 10

(b) Give an account of the canal system in sponges. 10

(c) Briefly discuss different types of metamorphosis and add a note on hormonal control of metamorphosis. 10

(d) Discuss how torsion occurs, how does it effects the gastropods and mention its significance. 10

3. (a) Write a essay on metamerism in Metazoa. 10

(b) Give an account of the major kinds of coral reefs and mention its economic importance. 10

(c) Explain the food, feeding mechanism and physiology of digestion in pheretima. 10

(d) Describe the Locomotory organs and the mode of Locomotion of starfish, Asterias. 10

SECTION – B

4. (a) Discuss retrogressive metamorphosis in urochordata. 10

(b) Comment on parental care in Amphibia. 10

(c) Differentiate between a poisons and a non-poisons snake of India. 10

(d) Give brief account of flight adaptations in birds. 10

5. (a) Comment on accessory respiratory organs in fishes. 10

(b) Write an essay on neoteny in Amphibia. 10

(c) Give an account of adaptive radiations in reptiles. 10

(d) Discuss the kinds of teeth and dental formula in mammals. 10

SECTION – C

6. (a) Comment on the mechanism involved in the osmoregulation in terrestrial vertebrate. 10

(b) Give an account of various respiratory pigments found in various groups of animals. 10

(c) Explain counter current multiplier theory of urine formation. 10

(d) With the help of neat labelled diagram describe the ultrastructure of synapse and mechanism of transmission of impulse. 10

Marks

7. (a) Comment on osmoregulation in freshwater and marine water fishes. 10

(b) Discuss the formed components of blood and give its functions. 10

(c) Give an account of the physiology of hearing. 10

(d) Explain in detail endocrine regulation of menstrual cycle. 10

SECTION – D

8. (a) Give an account of effect of temperature on animal life. 10

(b) Comment on Greenhouse effect and its impact on environment. 10

(c) Explain the concept of endangered species. Describe the same with suitable examples. 10

(d) What is biological clock ? Explain mode of function of biological clocks. 10

9. (a) Describe the energy flow in the ecosystem. 10

(b) Why water conservation is necessary ? Discuss the rain water harvesting system. 10

(c) Discuss the process of eutrophication. What are its adverse effects and how it can be stopped. 10

(d) Comment on mimicry and colouration. 10