Indian Forest Service Examination-2012 | D-GT-M-APA

ZOOLOGY

Paper – I

Time Allowed : Three Hours | *Maximum Marks : 200*

INSTRUCTIONS

Candidates should attempt questions 1 and 5 which are compulsory, and any THREE of the remaining questions, selecting at least ONE question from each Section.

All questions carry equal marks.

The number of marks carried by each part of a question is indicated against each.

Answers must be written in ENGLISH only.

Neat diagrams are to be drawn, wherever required.

IMPORTANT NOTE :

All parts/sub-parts of a question must be answered contiguously. That is, where a question is being attempted on the answer-book, all its constituent parts/sub-parts must be attempted before moving on to the next question.

Pages left blank in the answer-book(s), if any, must be clearly struck out. Answers that follow pages left blank may not be given credit.

SECTION A

1. Comment briefly on the following (in not more than 90 words each) : *5×8=40*

   (a) Acoelomata and Coelomata

   (b) Symmetry

   (c) Migration in fishes

   (d) Polymorphism

   (e) Water vascular system in *Asterias*

   (f) Paedomorphosis

   (g) Canal system in Porifera

   (h) Hemichordata

2. (a) Describe various types of locomotion in Protozoa. *15*

   (b) Give an account of the general features, life history and parasitic adaptations of *Ascaris*. *15*

   (c) What is metamerism ? Describe the general features of *Nereis*. *10*

3. (a) Discuss social organization in insects. *15*

   (b) Discuss general features and life history of *Hirudinaria*. Mention its parasitic adaptations. *15*

   (c) Briefly bring out the shell diversity in Mollusca and the larval forms in Echinodermata. *10*

4. (a) Give a detailed account of skull types in Reptilia and discuss the status of sphenodon and crocodiles. *20*

   (b) Describe with illustrations various types of respiratory systems in vertebrates. *20*

SECTION B

5. Comment briefly on the following (in not more than 90 words each) : *5×8=40*

   (a) Biosphere

   (b) Habituation

   (c) Crypsis

   (d) Tuberculosis

   (e) Student t-test

   (f) Scintillation counting

   (g) Biological rhythms

   (h) Geiger – Muller counter

6. (a) What is ecological succession ? Give an account of the causes, trends and general process of succession in nature. *20*

   (b) Name four pests of sugarcane. Give an account of the life history of any one and describe measures for its prevention and control. *20*

7. (a) What is orientation ? Discuss Sun compass orientation in Bees and Starlings. *20*

   (b) Name different species of silkworm. Give an account of life history of silkworm and describe the diseases which cause damage to the sericulture industry. *20*

8. (a) What is H_0 and H_1 hypothesis ? Describe types of errors in hypothesis testing. What do you understand by a two-way F-test ? *15*

(b) Give an account of principle, working and applications of Spectrophotometry. *15*

(c) Highlight varioús types of anti-predator behaviour exhibited, with suitable examples. *10*