2015

M.Sc. Part–II Examination

ZOOLOGY

PAPER—VII (Group—A)

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the Answers to Questions of each Unit in separate Booklet.

Answer any *four* questions taking *two* from each unit.

Unit—I

[*Principle of Instrumentation and Computer application of Biology*]

1. (a) Why salt gradient is used in ion-exchange chromatography and mention its biological significance.

   (b) State the Principle of Centrifugation. Write a note on differential density gradient centrifugation.

(c) Write notes on Moving Boundary Electrophoresis (MBE).

$2+2+2+3+3\frac{1}{2}$

2. (a) Write the principle of Gel Electrophoresis. State briefly the steps of SDS-PAGE.

(b) Mention the functional significance of the following in Electrophoresis :

(i) Ethidium bromide ;

(ii) Sodium dodecyl sulphate (SDS) ;

(iii) Ammonium persulfate (APS)

(c) What is R_f value ?

$(2+5\frac{1}{2})+3+2$

3. (a) Explain the terms : PROM, EPROM, EEPROM.

(b) What are various types of data communication hardwares ? How does Modem function ?

(c) Define Assembly language. What are its advantages over Machine language ?

$4\frac{1}{2}+(3+2)+(1\frac{1}{2}+1\frac{1}{2})$

4. (a) Describe the types of Primary Biological databases with examples.

(b) State the available variety of storage devices.

(c) Distinguish between High-level and Low-level languages.

(d) State the application of bioinformatics in evolutionary biology. What is sequence analysis ?

$2+1+2\frac{1}{2}+(3+4)$

Unit—II

[*Parasitology*]

5. (a) Mention the characteristic features of the genes *Schistosoma* which make different from other trematodes. Describe briefly the life cycle stages of any one species with labelled diagram.

(b) Define Phoresis with example.

$(2+8\frac{1}{2})+2$

6. (a) Explain, how induction of immunity develops through antigen in visceral leishmaniases.

(b) Give a note on distribution of Old world and New world leishmaniasis.

(c) Distinguish VAT and VSG.

$5+5+2\frac{1}{2}$

7. (a) Discuss the host parasite factors in relation to epidermiology of filariasis.

(b) Comment on pathogenicity of Primary and Secondary amoebiosis.

(c) What is the difference between relapses and reinfection ?

$6\frac{1}{2}+4+2$

8. (a) Enumerate the structure and chemical composition of trematode tegument.

(b) Distinguish the Microfileria (mf) of *Wuchereria* sp. and *Brugia* sp.

(c) What is CS protein ?

$6\frac{1}{2}+4+2$
