

2018

M.Sc.

Part-II Examination

ZOOLOGY

PAPER—VII A

Full Marks : 50

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Use separate Answer-scripts for each unit.

Group—A

Answer four questions taking two from each unit.

Unit—I

*(Principle of Instrumentation and
Computer Application of Biology)*

1. (a) State the principle of Gel filtration chromatography.

(Turn Over)

- (b) What is Rf value ?
- (c) Differentiate between paper and column chromatography.
- (d) Write the utility of centrifugation technique. $3+3+4\frac{1}{2}+2$
2. (a) Write the principle of Gel-Electrophoresis. Describe briefly the process of Agarose gel electrophoresis. Write the applications of Agarose gel electrophoresis.
- (b) Write notes on cell fractionation. $2+5\frac{1}{2}+2+3$
3. (a) Convert 110001 from binary to decimal number system.
- (b) Differentiate protein database from Nucleic acid database with examples.
- (c) Name the different levels of languages with few examples. Also note the translators used from interconverting these.
- (d) List the advantages of ICT. $2\frac{1}{2}+3+3\frac{1}{2}+3\frac{1}{2}$
4. (a) Compare the features of 3rd generation computers with that of 5th generation.
- (b) Schematically represent the functional anatomy of a computer. Also list the complete features of a digital computer.
- (c) Distinguish between compiler and interpreter. $3+(3+3\frac{1}{2})+3$

Unit—II
(Parasitology)

5. (a) Discuss the factors involving the parasite in relation to epidemiology of malaria.
- (b) Enumerate the structure and composition of Trematode tegument.
- (c) What is CS protein? $6\frac{1}{2}+4+2$
6. (a) What is 'Monoclonal gammopathy of undetermined significance'?
- (b) Name the reproductive and non-reproductive stages in the life histories of digenetic trimatodes.
- (c) Elaborate the phenomenon of 'parasite induced trophic transmission' with suitable examples. $3+2+7\frac{1}{2}$
7. Define zoonosis with example. Describe briefly the binary fission and conjugation process of Balantidium coli. Briefly comment on the Pathogenicity and Prophylaxis of Balantidiosis. $2+5\frac{1}{2}+3+2$

8. (a) Elucidate the role of CD4+ T-cell in antileishmanial immunity.
- (b) What do you mean by molecular mimicry?
- (c) What is the difference between relapses and reinfection? 6½+3+3
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