2016

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

Unit—I

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

1. (a) Describe the principle of SDS-PAGE. 3

(b) Define Cell Fractionation. Describe the ultra-structural method of cell fractionation. 2+2

(c) Write down the steps and applications of Agarose Gel Electrophoresis. $5\frac{1}{2}$

2. (a) What is a matrix material ? Give example. What are the criteria of a good matrix material ? 3

(b) Write the principle and application of Affinity Chromatography. 5

(c) How do you determine Rf value ? 2

(d) Write the composition and function of tracking dye. $2\frac{1}{2}$

3. (a) Distinguish between High level and Assembly languages with examples. 4

(b) Write down the features of a Digital Computer. 4

(c) Convert $(2416)_{10} = (?)_2$. 2

(d) State the scope of Bioinformatics. $2\frac{1}{2}$

4. (a) Describe the broad functions of an operating system. $3\frac{1}{2}$

(b) Briefly describe secondary and structure databases with an example. 5

(c) Write down the meaning of the terms : 4

(i) ASCII ; (ii) FTP ;

(iii) BASIC ; (iv) VGA.

Unit—II

[*Parasitology*]

5. (a) What do you mean by hyperparasite ? Give example. 2

(b) Enumerate the structure and chemical composition of Cestode integument. $6\frac{1}{2}$

(c) Write short notes on VSG gene. 4

6. What is the causative agent of malayan filariasis ? State briefly the life cycle and pathogenicity of it. $1+7+4\frac{1}{2}$

7. (a) Discuss the factors involving the parasite in relation to epidemiology of malaria. 6

(b) Elucidate the role of CD4+ T-cell in antileishmanial activity. $6\frac{1}{2}$

8. (a) Distinguish Cyclopropagative and Cyclodevelopmental transminion. Give examples. 3

(b) Explain endemic and pandemic diseases. 2

(c) What is PKDL? 1

(d) What are Schistosomules? $1\frac{1}{2}$

(e) Schematically represent the binary fission and conjugation process in the life cycle of Balantidium. Mention its pathogenecity. 5

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