

2007

ZOOLOGY

PAPER-VII

GROUP-A

Full Marks- : 50

Time : 2 hours

Answer any **four questions taking at least two**
from each Unit

The figures in the right-hand margin indicate marks

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

UNIT-I

*(principles of Instrumentation and Computer
Applies don to Biology)*

1. (a) What do you mean by **Biological sequence/**
structure deficit? 1
- (b) Describe the main goals of Bioinformatics. 21
2
- (c) Name different types of Databases **with examples.** 4

(Tian Over)

- (d) Explain the advantages and disadvantages of Assembly language. 3
- (e) What is cation-exchanger? 2
2. (a) State the characteristics of a Digital computer. 1
2
- (b) Summarise the physical components of Information and Communication technology with the help of a chart.
- (c) Compare the efficacies of FTP and Archie as internet tools. 3
- (d) Differentiate primary memory and secondary memory. 3
3. (a) Discuss the principle of immobilised metal ion affinity chromatography (IMAC) with its significance. 5+11
2
- (b) Explain the principle of ion-exchange chromatography. Describe the procedure. 3+3
4. (a) Point out the features and facilities of WWW as internet tool. 31
2
- (b) Write an algorithm and draw flowchart to list the name and ages of voters among 500 people each having ages above 18 years. 4

- (c) Write a program in BASIC / FORTRAN to add first 5 (five) even numbers. 5

UNIT-11

(parasitology)

- S. (a) What is epidemic and panzootic? 3
- (b) Comment on the modes of transmission of parasites. 5
- (c) Give idea on the landscape epidemiology. AI
2
6. (a) Discuss on the antigen presentation and induction of immunity in Leishmaniasis. 61
2
- (b) Mention how TH₁ and TH₂ CD4 T-cell subsets differ in cytokine production. 2
- (c) Write a note on the role of toxic metabolites of oxygen and oxide in macrophage anti-leishmanial killing.
7. (a) What are stable and unstable malaria? Explain how the stability index is calculated. 4+2
- (b) Classify the endemicity of malaria. 41
2

- (c) **Give an outline idea on epidemiological assessment in filariasis.** 2
8. (a) Name the causative agent of Kalazar. 1
- (b) Write briefly on **antigen presentation and consequent induction** of immunity **in Kalazar.** 6
- (c) Write a note on the **environmental** factors **controlling** the epidemiology **of malaria.**