

Total Pages—4

PG/IIS/ZOO-204/13

M.Sc. 2nd Semester Examination, 2013

ZOOLOGY

PAPER—ZOO-204

Full Marks : 40

Time : 2 hours

*The figures in the right-hand margin indicate marks
Candidates are required to give their answers in their
own words as far as practicable*

Illustrate the answers wherever necessary

GROUP—A

(Bioinformatics)

1. Answer any *two* of the following : 2 × 2
- (a) What is the purpose of CLUSTAL-W ?
 - (b) $\frac{\text{Sequence}}{\text{Structure}}$ deficit.
 - (c) Chaperones.

(Turn Over)

(2)

(d) Human Genome Project.

2. Answer any *two* questions : 4×2

(i) Classify sequence database with examples.

(ii) State the significance and scope of Bioinformatics ?

(iii) State the function, structure and advantages of 'GenBank'.

(iv) Write down the full form of following data bases :

(a) NCBI

(b) PIR

(c) EMBL

(d) NRDB.

3. Answer any *one* of the following : 8×1

(a) (i) Describe the features and structure of SWISS-PROT.

(ii) Mention the difference between 'Pattern recognition' and 'Prediction'. $4 + 4$

(3)

(b) (i) State the principal methods for building pattern database. Provided an illustration for the different approaches.

(ii) What do you mean by Motif and Domain.

(2 + 4) + 2

GROUP – B

(*Biosystematics*)

4. Answer any *two* of the following : 2×2

(a) Distinguish between Biological species and Evolutionary species.

(b) β taxonomy and γ taxonomy.

(c) Sibling species.

(d) Law of Priority. Explain with suitable example.

5. Answer any *two* of the following : 4×2

(a) Discuss in brief on the role of systematics in biology.

(b) Comment on Holotype and state the importance of type concept used in systematics.

(c) Define and discuss on the Taxonomic characters.

(d) State the significance of biochemical taxonomy in tracing the animal evolution.

6. Answer any *one* of the following : 8×1

(a) Define cytological taxonomy. Discuss in details on the cytological approach of systematics. $2 + 6$

(b) Discuss in brief on any *two* questions : 4×2

(i) Differential systematics.

(ii) Behavioural approach of systematics.

(iii) Circular and overlapping species.

(iv) Role of systematics in Public Health Management - explain.