M.Sc 3rd Semester Examination, 2009

ZOOLOGY

PAPER—Z - 302

Full Marks : 40

Time : 2 hours

Answer **all** questions

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

Write the answers to questions of each Group in separate books

GROUP—A

(Biotechnology)

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

(a) Why Proteomics study is more essential than genomics ?

(b) What is the utility of studying Pharmacogenomics ?

(c) Write the name of one fungicide and one microorganism responsible for biodegradation. What is Rhizofiltration ?

(d) Mention the biotechnological use of a mold and bacteria each.

2. Answer any *two* questions : 4 × 2

  (a) Write brief notes on : 2 + 2

    (i) Biochips.

    (ii) Biosensors.

  (b) What are 'Biomarkers' ? State their applications in biology. 1 + 3

  (c) Mention the advantages of embryo transfer in live stock management. 4

  (d) What is Vermitechnology ? 4

3. Answer *one* of the following :   8 x 1

   (a) What is bioremediation ? Briefly describe
   ex situ bioremediation process. Mention the
   advantages of application of biofertilizers.

                                                   1 + 4 + 3

   (b) (i) Write the principle of Cryopreservation.

      (ii) Describe the technique of PCR with the
      help of a schematic diagram.

      (iii) Distinguish between stagger cut and blunt
      cut with example.   2 + 5 + 1

GROUP—B

(*Environmental Management and Biodiversity*)

1. Answer any *two* questions :   2 x 2

   (a) IUCN categories of protected areas.

   (b) Objectives of conservations as identified in
   World Conservation Strategy.

   (c) Biodiversity Act.

   (d) Distinguish between survey and surveillance.

2. Answer any *two* questions :   4 × 2

(a) What is Public Interest Litigation.

(b) Name 18 Megadiversity countries.

(c) Give an account of the types of Bioindicators.

(d) Explain "Depletion curves" of P.E. Cloud.

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

(a) Define sustainable development. State economic, social and environmental objectives of sustainable development. Discuss in brief main attributes of sustainability.   1 + 3 + 4

(b) What are the advantages of biomonitoring over chemical monitoring ? Describe three biotic indices which may be used for monitoring pollution of water.   5 + 3