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DE–3597

DISTANCE EDUCATION

M.Phil. DEGREE EXAMINATION, MAY 2008.

Non–Semester

Zoology

RESEARCH METHODOLOGY AND LABORATORY TECHNIQUES

(2006 batch)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Give an account on basic and working principles of scanning and transmission electron microscope. Add a note on their applications in biological sciences. (20)
2. (a) What is fluorescence? Explain the basic and working principle of microscope. (8)
   1. (b) What is microtechniques? Explain the process of cryostat and ultra microtome sectioning and staining of biological materials. (12)
3. (a) What is pH? Give a brief account on basic principles of pH determination using pH meter. Add a note on glass electrode. (12)
   1. (b) Give a detailed account on X-ray diffraction and its application in structural studies. (8)
4. What is electrophoresis? Explain the uses of SDS-PAGE in quantitative analysis of proteins. (20)
5. What is chromatography? Discuss the principles and applications of HPTLC and affinity chromatography. (20)
6. (a) What are the basic principles involved in the isoelectric focusing and its significances. (10)
   1. (b) What is monoclonal antibodies and write a essay an hybridoma technology. (10)
7. What is blotting techniques? Discuss the procedure and application of southern and northern blotting. (20)
8. Give a short notes on the following : (20)
   1. (a) Types of data bases
   2. (b) Protein motifs
   3. (c) Primer designing
   4. (d) Plasmid mapping.
9. ————————

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DE–3598

DISTANCE EDUCATION

M.Phil. DEGREE EXAMINATION, MAY 2008.

Non–Semester

Zoology

ANIMAL DIVERSITY, RESOURCES AND CONSERVATION

(2006 batch)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Write an essay on diversity of invertebrates with suitable examples.
2. Give a detailed account of wild life sanctuaries of India.
3. How do exotic species affect the ecology of the particular geographical region? Explain.
4. Write notes on the following :
   1. (a) Values of biodiversity
   2. (b) Threats to biodiversity
   3. (c) Genetic diversity
   4. (d) Functional diversity.
5. Write a detailed essay on Biogeochemical cycles.
6. Enumerate the role of NGO’s in minimising environmental crisis.
7. Elaborate the steps taken for resource conservation and its sustainability.
8. Write in detail the status of nuclear power plants in India.

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DE–3599

DISTANCE EDUCATION

M.Phil. DEGREE EXAMINATION, MAY 2008.

Non-Semester

Zoology

ANIMAL BIOTECHNOLOGY

(2006 Batch)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

1. (a) Write about embryonic stem cell culture and their applications.
   1. (b) Write about cryopreservation and growth media for animal cell culture.
2. Write a detailed account on cell cloning and micromanipulation.
3. Explain different methods for the construction of recombinant animal vectors for gene transfer.
4. (a) Define primary culture and cell lines.
   1. (b) Describe the origin, characteristic and maintenance of cell lines.
5. Elaborate the use of animal biotechnology for the production of regulatory proteins, blood products and hormones.
6. (a) What are oncogenes and antioncogenes?
   1. (b) Write about DNA based diagnosis of genetic disorders.
7. Write a detailed account on cell separation and cell synchronization.
8. Write notes on :
   1. (a) Apoptosis
   2. (b) Retrovirus
   3. (c) Viral vectors
   4. (d) Biotechnology for soil fertility.

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