PG Even Semester (CBCS) Exam., May—2017

LIFE SCIENCE AND BIOINFORMATICS

(4th Semester)

Course No. : LSBCC–401

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Botany Students will answer from LSBCC–401 (B) and Zoology Students will answer from LSBCC–401 (Z)

Course No. : LSBCC–401 (B)

(MYCOLOGY AND PLAT PATHOLOGY)

1. "There is progressive degeneration of sex in fungi." Substantiate the statement. 14

OR

2. Write an elaborate account on the tools and techniques used for identification of fungi. 14

3. Illustrate the structure and function of important plant cell wall polysaccharides. Explain the fungal enzyme families responsible for degradation of each plant cell wall polysaccharide. 7+7=14

OR

4. Write short notes on the following : 7×2=14

(a) Types of mycorrhizal associations

(b) Fungal antibiotics

5. Name one bacterial disease of a plant. What are the symptoms of that particular disease? Describe the disease cycle and control measures of the disease. 1+3+5+5=14

OR

6. Write notes on the following : 7×2=14

(a) Various symptoms of plant diseases

(b) Biological methods of plant disease control

7. What do you mean by pathogenicity? Write down the factors responsible for generation of pathogenicity. Describe the molecular mechanism of host-parasite interactions with suitable model. 2+4+8=14

OR

8. Write notes on the following : 7×2=14

(a) Phytoalexins

(b) PR proteins

9. Write short notes on the following : 4+4+6=14

(a) Crop rotation

(b) Plant quarantine

(c) Disease-resistant plant cultivars

OR

10. Write an elaborate account on the genetic engineering for virus resistance in plants. 14

Course No. : LSBCC–401 (Z)

(LIMNOLOGY, WETLAND BIOLOGY AND BIOSYSTEMATICS)

1. What is eutrophication? Discuss the causes, consequences and management of eutrophication. 2+3+3+6=14

OR

2. What is remote sensing? Briefly outline the principles involved in remote sensing. How can remote sensing aid limnological studies? 2+6+6=14

3. Differentiate between lentic and lotic ecosystems. Enumerate the abiotic components of a lentic ecosystem. 7+7=14

OR

4. Define wetland. Name four wetlands of North-East India. Classify wetlands with suitable examples. 2+2+10=14

5. Define biosystematics. What are different species concept? Briefly elaborate the biological species concept. 2+5+7=14

OR

6. What is taxonomy? What are the scopes of taxonomic studies? Outline the contributions of Indian taxonomists in the field. 3+5+6=14

7. Write short notes on the following : 7×2=14

(a) Taxonomic keys

(b) Type concept

OR

8. Name some taxonomic museums in India. Elaborate the common techniques involved in the maintenance of taxonomic collections. 3+11=14

9. Write short notes on the following : 7×2=14

(a) ICZN

(b) Organic evolution

OR

10. What is molecular taxonomy? Discuss the application, limitations and scopes of molecular taxonomy. 2+6+3+3=14

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