PG Odd Semester (CBCS) Exam., December—2016

LIFE SCIENCE AND BIOINFORMATICS

(3rd Semester)

Course No. : LSBCC–302

Botany students will answer from LSBCC–302 (B) and Zoology students will answer from LSBCC–302 (Z)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

OPTION—A

Course No. : LSBCC–302 (B)

(Morphology, Differentiation and Systematic Botany)

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Write a brief note on the evolution of inflorescence. Illustrate your answer with suitable diagrams. 12+2=14

2. Write in brief how different hormones regulate sex expression in plants. 14

UNIT—II

3. With suitable illustration, explain the process of megagametogenesis in angiosperm. Also highlight the pattern of gametophyte organization. 12+2=14

4. Discuss in detail the significance of double fertilization in angiosperms. 14

UNIT—III

5. Write short notes on : 7×2=14

(a) Polyembryony

(b) Somatic embryogenesis

6. Write a brief note on the mechanism of male sterility and its application in crop improvement. 14

UNIT—IV

7. Write a brief note on the activities of BSI in plant exploration and conservation. 14

8. Write in detail the basic principles of different systems of classification of angiosperm. 14

UNIT—V

9. Write notes on phylogeny and floral evolution in Magnoliales. 14

10. Mentioning the types of vegetation, describe different floristic regions of India. 14

OPTION—B

Course No. : LSBCC–302 (Z)

(Applied Biology)

1. Write notes on the following : 7+7=14

(a) Chimeric phage display

(b) Monoclonal antibody

OR

2. What do you mean by immunodiagnostics? Differentiate between radioimmunoassay and ELISA. 4+10=14

3. What is bioremediation? Write an essay on the different biological approaches for waste management. 2+12=14

OR

4. Write notes on the following : 7+7=14

(a) Risk assessment of chemical pollution

(b) Biosensors

5. Differentiate between the following : 7+7=14

(a) Endemic and restricted zone animals

(b) Conservation breeding and inbreeding depression

OR

6. Discuss the important provisions of the Wildlife Protection Act, Biodiversity Act and Forest Right Act from the perspective of wildlife conservation. 5+5+4=14

7. *(a)* Write in detail on the various habitats and environments of parasites with examples.

(b) Write a note on the importance of nutritional levels of environment in parasite life cycle. 10+4=14

OR

8. *(a)* Describe the host-parasite interactions with special reference to immunity.

(b) Write in detail on mosquito and housefly as vectors of human diseases. 7+7=14

9. Give an account of the life cycle, pathogenicity and control of *Entamoeba histolytica*. 14

OR

10. Write notes on the following : 7+7=14

(a) Common parasites of humans

(b) Common pathogens of domestic animals

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