**PG Odd Semester (CBCS) Exam., December—2017**

LIFE SCIENCE AND BIOINFORMATICS

**( 3rd Semester )**

Course No. : LSBCC–302 (B/Z)

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

*Full Marks* : 70
*Pass Marks* : 28

*Time* : 3 hours

*The figures in the margin indicate full marks for the questions*

OPTION—B

Course No. : LSBCC–302 (B)

**( Morphology, Differentiation and Systematic Botany )**

**1.** With detailed diagram, explain racemose inflorescence. 14

**OR**

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

*(a)* Placentation in angiospermic plants

*(b)* Hormonal regulation of sex expression





**3.** Write a note on megagametogenesis giving emphasis on gametophyte organization patterns. 14

**OR**

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

*(a)* Significance of double fertilization in angiosperms

*(b)* Mechanisms of self-incompatibility

**5.** Write short notes on the following : 7+7=14

*(a)* Principles of priority

*(b)* Sympatric speciation

**OR**

**6.** Write notes on the following : 7+7=14

*(a)* Method of preparation of herbarium sheet and significance of herbarium in botanical study

*(b)* Database of plant names

**7.** Write short notes on the following : 7+7=14

*(a)* Somatic embryogenesis and its significance

*(b)* Endosperm development in angiosperms

**OR**

**8.** Define polyembryony. Mention different sources of how polyembryony can occur in angiosperms. What is the ecological significance of polyembryony? 2+8+4=14

**9.** Write in brief about floristic regions of India mentioning floristic elements of each. 14

**OR**

**10.** Characterize Zingiberales. State how it differs from Orchidales. 14

OPTION—Z

Course No. : LSBCC–302 (Z)

**( Applied Biology )**

**1.** Define vaccine. Enumerate the different types of vaccines. Briefly discuss about recombinant vaccines. 2+2+10=14

**OR**

**2.** What are monoclonal antibodies? Describe the methods of raising monoclonal antibodies. Briefly outline the advantages of monoclonal antibodies. 2+4+8=14





**3.** Discuss the ways of assessing risks associated with toxicants. Briefly add a note on dose-response relations. 6+8=14

**OR**

**4.** Briefly discuss about phytoremediation process. 14

**5.** Discuss about the various wildlife protection acts of India. 14

**OR**

**6.** Write short notes on the following : 7+7=14

*(a)* Inbreeding depression

*(b)* Wildlife census

**7.** Briefly elaborate on host-parasite interactions with special reference to immunity and resistance. 14

**OR**

**8.** What is prophylaxis? Outline different established prophylactic measures used to control a parasitic attack. 3+11=14

**9.** Discuss the life cycle and pathogenesis of *Plasmodium* species of man. 7+7=14

**OR**

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

*(a)* Hookworm infection

*(b)* Life cycle of *Leishmania donovani*

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