PG (CBCS) ODD SEMESTER EXAMINATION, 2022

LIFE SCIENCE & BIOINFORMATICS

3rd Semester

COURSE NO. LISBCC – 303(Z)

(Evolution and Behavior)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer all questions

1. Discuss in details the synthetic theory of evolution. 14

Or

2. Write short notes on the following: 7x2=14

   a) Gene mutation and formation of new alleles

   b) Darwin's theory of evolution

3. Give an account on the various methods of appearance of new genes in nature resulting in species diversity. 14

Or

4. Write short notes on the following: 7x2=14

   a) Molecular clock

   b) Neutral evolution

(Turn Over)

5 In a population of 100 individuals, 9 individuals suffer from a homozygous recessive disorder. Calculate the frequency of the disease-causing allele as well as find out the total number of heterozygotes present in the said population. 10+4=14

Or

6. Write short notes on the following: 7x2=14

   a) Reproductive isolation

   b) Hardy-Weinberg law

7. Distinguish the terms learning, memory and cognition. Discuss how these are controlled at neuronal level. 6+8=14

Or

8. Write short notes on the following: 7x2=14

   a) Circadian and circannual rhythms

   b) Biological clocks

9. Discuss the concepts of social dominance and territoriality in animal behavior. 4+10=14

Or

10. Write short notes on the following: 7x2=14

    a) Altruism

    b) Social communications in insects.

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