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63 (FY)SEM-3/MIN/ZOOMIN2014

2024

ZOOLOGY

Paper : ZOOMIN2014

(Evolutionary Biology and Genetics)

Full Marks : 50

Time : Two hours

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

1. Choose the correct answer : 1×5=5
- a) Industrial melanism is an example of
- i. Darwinism
 - ii. Lamarckism
 - iii. Mutation
 - iv. Natural Selection

- b) The concept of use and disuse of organs was given by
- i. Lamarck
 - ii. Darwin
 - iii. Hugo de Vries
 - iv. Morgan
- c) Phenotypic ratio of law of dominance is
- i. 1:1
 - ii. 1:2
 - iii. 3:1
 - iv. 2:1
- d) Example of Trisomy-21 is
- i. Turner's Syndrome
 - ii. Patau's Syndrome
 - iii. Haemophilia
 - iv. Down's Syndrome
- e) The term 'genetics' was coined by
- i. Mendel
 - ii. Morgan
 - iii. Bateson
 - iv. Johanssen

2. Answer the following questions : **(any five)**
2×5=10
- a) What do you mean by allopatric speciation ?
 - b) Define lethal alleles.
 - c) What is mutation ?
 - d) What is transduction ?
 - e) State sex determination in human.
 - f) What is molecular clock ?
 - g) Define linkage.
3. Answer the following questions : **(any five)**
5×5=25
- a) Write a note on different types of speciation.
 - b) Write the role of Migration in changing allele frequencies.
 - c) State the law of dominance with an example.
 - d) Describe adaptive radiation with example.
 - e) Write a note on transposable elements.

- f) Explain polygenic inheritance with an example.
- g) Write a note on Darwinism with a suitable example.
- h) Write about the extrachromosomal inheritance in *Chlamydomonas*.

4. Answer the following question: **(any one)**

10×1=10

- a) Describe different mechanisms of recombination in bacteria with suitable diagrams.
- b) What is natural selection? Explain different types of Natural selection.

2+8=10