



Roll No.

Total No. of Questions : 9]
(2042)

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UG (CBCS) IInd Year Annual Examination

2099

B.Sc. ZOOLOGY

(Genetics and Evolutionary Biology)

(DSC-ID)

Paper : ZOOL 202 TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt *one* question each from Sections B, C, D and E. Question No. 1 (Section-A) is compulsory.

Section-A

(Compulsory Question)

1. Fill in the blanks :

(i) Term Genetics was coined by

(ii) Position of gene on a chromosome is called

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- (iii) In Polymeric Intergenic interaction, F_2 phenotypic ratio obtained is
- (iv) Chromosomal theory of Linkage was proposed by
- (v) Frame Shift Mutation is caused due to
- (vi) Replacement of Purine by Pyrimidine and Vice-Versa is called
- (vii) Among the plants, is an example of living fossils.
- (viii) are produced by interbreeding of lioness and tiger.
- (ix) The unit of Natural Selection is
- (x) Geographically isolated species are called species. 1×10=10

Section-B

- 2. (a) Define Genetic Variations. Describe types, causes and significance of them. 5,5
- (b) Differentiate DNA and RNA. 5,5

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- 3. (a) Differentiate complementary and supplementary genes.
- (b) Define Pseudoalleles. Explain the phenomenon with the help of two examples. 3,7

Section-C

- 4. (a) Define Linkage. Differentiate completely linked genes and incompletely linked genes, taking one example of each.
- (b) What is Synaptonemal Complex ? 8,2
- 5. (a) List the limitations of Autopolyploids.
- (b) Explain the mechanism of sex determination in *Drosophila*. 2,8

Section-D

- 6. (a) Describe various theories of origin of Life.
- (b) Describe progressive and retrogressive metamorphosis with an example of each. 7,3
- 7. (a) Write a note on Darwinism.
- (b) What do you understand by Dating of Fossils ? 6,4

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Section-E

8. Differentiate between :
- (i) Allopatric and Sympatric Species
 - (ii) Monotypic and Polytypic Species
 - (iii) Biological and Sibling Species
 - (iv) Keystone and Subdominant Species $2\frac{1}{2} \times 4 = 10$
9. (a) Explain Sixth Extinction of Holocene Extinction.
- (b) Write down significance of Inversion. 8,2