



K18P 0145

Reg. No. :

Name :

Second Semester M.Sc. Degree (Regular/Supplementary/Improvement)

Examination, March 2018

(2014 Admn. Onwards)

ZOOLOGY

ZOO2C05 : Molecular Biology and Molecular Evolution

Time : 3 Hours

Max. Marks : 60

I. Answer **any two** of the following :

- 1) Explain operon model. Give an account of lac operon in *E. coli* with reference to both positive and negative control mechanisms.
- 2) With the help of a suitable diagram, present Watson and Crick's model of DNA double helix. Briefly discuss semiconservative replication.
- 3) Give an account of the evolution of genome with reference to genome size and gene diversification.
- 4) Describe the characteristic features of genetic code. Explain the experiments on deciphering the genetic code. (2×12=24)

II. Answer **any two** of the following :

- 5) Write an essay on evolution of protein synthesis.
- 6) Give an account of DNA repair mechanisms.
- 7) Describe anagenesis and cladogenesis with examples.
- 8) Comment on the different forms of DNA. (2×8=16)

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III. Write short notes on **any four** of the following:

- 9) Gene mutation
- 10) Cot value
- 11) Genetic polymorphism
- 12) Pseudogenes
- 13) Evolution of eukaryotic organelle
- 14) t-RNA.

(4x5=20)

Max. Marks: 60

Time: 3 Hours

(2x12=24)

(2x8=16)

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