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HEG-003-1181002 Seat No. _____

M. Sc. (Zoology) (Sem. I) (CBCS) Examination

November / December – 2017

ZOOL-102 : Molecular Biology, Genetics & Evolution

Faculty Code : 003

Subject Code : 1181002

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following very briefly : (Any **Seven**) **2×7=14**

(a) What is RNA?

(b) Define F1 generation

(c) Define speciation

(d) What is linkage?

(e) Define alleles with examples

(f) Define natural selection

(g) Define extra-chromosomal inheritance

(h) Significance of chromosomal aberration.

(i) Define induced mutation

(j) Define spontaneous mutation

2 Answer of the following : (Any **Two**) **7+7=14**

(a) Briefly describe the significance of the DNA methylation

(b) Write a brief note on the principal process of transcription.

(c) Write a note on C-value paradox

3 Answer the following : **7+7=14**

(a) Briefly explain the law of segregation in Mendelian genetics

(b) Write a comparative note on the extra-chromosomal inheritance

OR

3 Answer the following : **7+7=14**

(a) Write a brief note on the Hardy-Weinberg genetic equilibrium

(b) Write a note on theories of organic evolution

4 Answer the following : **7+7=14**

(a) Write a very short note on the genetic code

(b) Write a short note on the genetics of speciation.

5 Answer the following : (Any **Two**) **7+7=14**

(a) Explain the molecular basis of spontaneous mutations

(b) Write a short note on the Natural Selection

(c) Explain the process of Translation

(d) Explain the Chromosomal aberration.