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HEG-003-018102 Seat No. _____

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

December – 2017

ZOOL - 102 : Molecular Biology, Genetics & Evolution

Faculty Code : 003

Subject Code : 018102

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

1 Answer the following very briefly : (any **seven**) **2x7=14**

(a) What are alleles?

(b) What is special creation theory?

(c) What is linkage?

(d) What is extra-chromosomal inheritance?

(e) Define genetic code.

(f) What is genetic mapping?

(g) Define Speciation.

(h) What are Chromosomal aberration?

(i) What is C-value paradox?

(j) Define Loci.

2 Answer of the following : (any **two**) **7+7=14**

(a) Discuss the genetic of speciation.

(b) Write a note on Hardy-Weinberg genetic equilibrium.

(c) Write a short note on the theories of organic evolution.

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

(a) Write a note on the structural differences in prokaryotic and eukaryotic DNA.

(b) Briefly describe principles of mendalian genetics.

OR

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

(a) Write a note on the genetic code.

(b) Write the extra-chromosomal inheritance.

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

(a) Explain the DNA damage and repair Chromosomal aberration.

(b) Write a short note on the Translation.

5 Answer the following : (any **two**) **7+7=14**

(a) Briefly describe Urey Miller's experiment in detail with diagram.

(b) Write a note on linkage and chromosome mapping.

(c) Explain the DNA constancy and C-value paradox.

(d) Explain the molecular basis of spontaneous mutations.