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HEG-003-1191002 Seat No. _____

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

November / December – 2017

Micro - 102 : Molecular Biology, Genetics & Evolution

Faculty Code : 003

Subject Code : 1191002

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

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

(a) What is multi-allelic gene?

(b) What are Test cross and Back cross? Explain

(c) Explain the terms Genotype, Phenotype

(d) What is wooble pairing?

(e) What are carcinogens?

(f) Explain what are silent mutation and non-sense mutation

(g) Exemplify DNA damage and DNA repair

(h) What are chromosomal aberrations?

(i) What is a triplet codon? State its importance

(j) State contributions of Gregor Mendel and Jean-Baptiste Lamarck?

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

(a) What do you mean by speciation? What is its genetic basis?

(b) What is linkage analysis? Explain briefly

(c) Discuss in detail The Miller's experiment.

3 Answer the following : **2×7=14**

(a) Explain what is C-value and C-value paradox. State its significance

(b) Give structure detailing of nucleic acids.

OR

(a) Summarize characteristics of genetic codes

(b) Describe in detail process of transcription

4 Answer the following : **2×7=14**

(a) How the process of translation executes? Explain in nutshell.

(b) Write a detailed note on Chromosome mapping.

5 Write short notes on : (Any **Two**) **2×7=14**

(a) Genetic Mutation

(b) DNA repair mechanism

(c) Extra nuclear inheritance

(d) DNA replication