

M.Sc. (Botany) Semester - 1 (CBCS) Examination**Oct/Nov. -2019 - [OLD COURSE]****MOLECULAR BIOLOGY , GENETICS AND EVOLUTION (CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que.1 Answer the following: (Any seven out of ten, each of 02 marks) (14)

1. What is Okazaki fragment?
2. What is non-mendelian genetics?
3. Define the term Mutation? Enlist its types.
4. What is euploidy?
5. Enlist the enzyme of DNA replication.
6. What is C-Value paradox?
7. What is a linkage?
8. What is cytoplasmic inheritance?
9. Write start and stop codon.
10. What is the leading and lagging strand?

Que.2 Answer the following: (Any two out of three, each of 07 marks) (14)

- a. What is natural selection? Discuss in detail.
- b. State Law of independent assortment and describe it with suitable example.
- c. Write a brief note on Miller's experiment.

Que.3 Answer the following(a & b- Both are compulsory, each of 07 marks) (14)

- a. Enlist enzymes responsible for DNA replication. Describe the function of any one enzyme in detail.
- b. What is DNA methylation? Give its importance in eukaryotes.

OR

Que.3 Answer the following(a & b- Both are compulsory, each of 07 marks) (14)

- a. Describe the process of elongation during transcription in eukaryotes with figure.
- b. Write the structural difference between prokaryotes and eukaryotes genetic material.

Que.4 Answer the following(a & b- Both are compulsory, each of 07 marks) (14)

- a. Write a note on post- transcriptional modifications in prokaryotes.
- b. Write a detail note on the features of genetic codon.

Que.5 Answer the following(Any two out of four, each of 07 marks) (14)

- a. What is DNA repair system? Discuss in detail SOS response.
- b. Write a detail note on mutation and their types.
- c. Write note on photoreactivation.
- d. What is chromosomal aberration? Discuss it in detail.
