

M.Sc. (Micro) Semester - 1 (CBCS) Examination
OCT/NOV-2025 (AS PER SYLLABUS YEAR JUNE-2018)
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 <u>seven</u> out of ten, each of two marks) | (14) |
| | <ol style="list-style-type: none">1) Explain the genetic speciation.2) What is methylation?3) What is point mutation.4) Explain stop codon.5) Explain okazaki fragments in brief.6) Define the function of cAMP7) Write about natural selection in brief.8) Explain the inversion chromosomal abbreviation.9) What are the speciation?10) Describe the genetic mapping in brief. | |
| Que.2 | Answer the following (any <u>two</u> out of three, each of seven marks) | (14) |
| | <ol style="list-style-type: none">1) Explain Mendalian genetics.2) Explain the Hardy-Weinberg genetic equilibrium.3) Explain the basic principle Miller's experiment. | |
| Que.3 | Answer the following | |
| | <ol style="list-style-type: none">1) Explain the genetic linkage. | (05) |
| | <ol style="list-style-type: none">2) Explain the structure of nucleic acids in prokaryotic and eukaryotic. | (05) |
| | <ol style="list-style-type: none">3) Explain DNA methylation in detail. | (04) |
| | OR | |
| Que.3 | Answer the following (each of seven marks) | (14) |
| | <ol style="list-style-type: none">1) Explain DNA constancy and C-value paradox.2) Explain the DNA replication in detail. | |
| Que.4 (A) | Answer the following (any <u>two</u> out of three, each of five marks) | (10) |
| | <ol style="list-style-type: none">1) Describe the Transcription.2) Write a note on regulation of gene expression.3) Write a note on translational. | |
| Que.4 (B) | Answer the following (any <u>One</u> out of two) | (04) |
| | <ol style="list-style-type: none">1) Write a note on concept of gene.2) Write note on lac operon in detail. | |
| Que.5 | Answer the following (any <u>two</u> out of four, each of seven marks) | (14) |
| | <ol style="list-style-type: none">1) Explain SOS DNA repair mechanisms.2) Describe induce mutation in detail.3) Explain the chromosomal inheritance.4) Write a note on spontaneous mutation. | |
