

M.Sc. Semester - 1 (CBCS) Examination**Oct/Nov. -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 seven out of Ten, each of 02 marks) (14)
- (1) What is disruptive natural selection?
 - (2) What causes genetic drift?
 - (3) What is a cot curve?
 - (4) What is loci?
 - (5) What happens when DNA is damaged?
 - (6) Why is DNA repair important?
 - (7) What is an extra chromosomal DNA?
 - (8) Enlist the steps in transcription.
 - (9) What is gene and its function?
 - (10) Define the term alternative splicing
- Que-2 Answer the following (Any two out of Three, each of 07 marks) (14)
- a) Discuss Hardy – Weinberg genetic equilibrium
 - b) Write a note on Mendel's Laws of segregation with suitable example.
 - c) Write a note Miller's experiment.
- Que-3 Answer the following (a,b &c, each of 5, 5 & 4 marks respectively)
- a) Distinguish structural of prokaryotic and eukaryotic DNA
 - b) Write a note on C value paradox
- OR
- Que-3 Answer the following (a & b compulsory questions, each of 07 marks) (14)
- a) Briefly describe steps of prokaryotic DNA replication
 - b) What is DNA methylation? Describe.
- Que-4 Answer the following (each of 07 marks) (14)
- a) Write a note on genetic code
 - b) Describe structure and function RNA polymerase.
- Que-5 Answer the following (Any two out of four, each of 07 marks) (14)
- a) What are molecular basis of induced mutations? Discuss.
 - b) Write a note on chromosomal aberration.
 - c) Briefly discuss extra chromosomal inheritance.
 - d) Enlist different ways of DNA repair and briefly discuss any one.
