

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc./IMSC Winter 2019-20 Examination

Semester: 2/8**Subject Code: 11202151****Subject Name: Molecular Biology of the Genes****Date: 12/12/2019****Time: 02:00pm to 04:30pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type (Each of 04 marks) (08)**
(a) Discuss about mRNA processing and maturation
(b) Give the details about DNA Replication and involved enzymes in process
- Q.1. B) Answer the following questions (Any two) (04)**
(a) Short note (Each of 02 marks) (04)
1. Polytene Chromosomes
2. Short note on small RNA's
(b) Short note on Nuclear organization (04)
(c) Short note on RNA editing (04)
- Q.2. A) Answer the following questions. (04)**
(a) Short note (Each of 02 marks) (04)
1. Importance of Taq Polymerase
2. Applications of Gene Amplification
(b) Short note on Transcription mechanism in prokaryotes (04)
- Q.2. B) Answer the following questions (Any two) (03)**
(a) Short note (Each of 01 marks) (03)
1. Role of RNA Polymerase
2. Types of DNA Polymerase
3. Role of Telomerase
(b) Short note Telomer replication (03)
(c) Short note on Fine structure of a Gene (03)
- Q.3. A) Essay type (Each of 04 marks) (08)**
(a) Explain the modifications of protein in protein targeting
(b) Explain the mechanism and regulation of Lac Operon
- Q.3. B) Answer the following questions (Any two) (04)**
(a) Short note (Each of 02 marks) (04)
1. Draw and Label of mRNA
2. Draw the structure of Ribosomes
(b) Short note on Genetic code and their properties (04)
(c) Short note on Transcriptional Motif's (04)
- Q.4. A) Answer the following questions. (04)**
(a) Short note (Each of 02 marks) (04)
1. Plastid genome
2. Spliceosome complex
(b) Short note on Inhibitors of Protein synthesis (04)
- Q.4. B) Answer the following questions (Any two) (03)**
(a) Short note (Each of 01 marks) (03)
1. Leader Sequence
2. Signal Peptide
3. Operon Concept
(b) Short note on Attenuation of Trp Operon (03)
(c) Short note DNA methylation (03)