

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc,IMSC Winter 2018-19 Examination

Semester: 2,4**Subject Code: 11102151****Subject Name: Molecular Genetics****Date: 13/12/2018****Time:10:30am to01:00pm****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) Discuss Mendel's Laws of inheritance in detail. (08)**
- Q.1. B) Answer the following questions (Any two)**
- (a) Define (04)
1. Types of linkages
 2. Gene families
- (b) Write a short note on mechanism of crossing over. (04)
- (c) Write a brief note on types of crossing over (04)
- Q.2. A) Answer the following questions. (04)**
- (a) Write a short note on (04)
1. Linkage groups in the (a) human male _____(b) human female_____
 2. Inheritance of autosomal dominant genes. In the F1 generation of a monohybrid cross, the phenotypic ratio would be_____.
- (b) Write a note genetic drift (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Define (03)
1. C-value paradox.
 2. Microevolution
 3. Pedigree analysis.
- (b) What is sympatric speciation. (03)
- (c) Write a brief note on repetitive sequences (03)
- Q.3. A) Write a Brief note on (Each of 04 marks) (08)**
- (a) Explain Morgan's view on linkage.
- (b) Explain multiple alleles.
- Q.3. B) Answer the following questions (Any two)**
- (a) Define (04)
1. Dominant epistasis
 2. Pleiotropism.
- (b) Describe structural anomalies in chromosome. (04)
- (c) Describe dosage compensation. (04)
- Q.4. A) Answer the following questions. (04)**
- (a) Fill in the blanks. (04)
1. Down syndrome is a _____.
 2. Pleiotropism is the condition of_____.
- (b) What is selection? What are the types of selection? (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Define (03)
1. Polytene chromosomes
 2. Lampbrush chromosomes
 3. Lethal genes
- (b) Describe inheritance of autosomal dominant genes. (03)
- (c) Explain Penetrance & Expressivity (03)