Seat No:_____ Enrollment No:_____

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

B.Sc. Winter 2017-18 Examination

Semester: 2 & 4 **Date: 11/01/2018**
Subject Code: 11102151 **Time: 10:30 am to 1:00 pm**
Subject Name: Molecular Genetics **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) Explain Mendel's monohybrid and dihybrid cross and the laws associated to them. **(08)**

Q.1. B) Answer the following questions. (Any two)
(a) Short note: Viral genome organization. **(04)**
(b) Short note: Lampbrush chromosomes. **(04)**
(c) Short note: Autosomal inheritance with examples. **(04)**

Q.2. A) Answer the following questions.
(a) Discuss Morgan's work in observing sex linkage in Drosophila. **(04)**
(b) Discuss extrachromosomal DNA in chloroplast. **(04)**

Q.2. B) Answer the following questions. (Any two)
(a) Diagrammatically represent 1 point, 2 point and 3 point crossing over. **(03)**
(b) What did the spore arrangement in bread mold prove? How? **(03)**
(c) Short note: Lethal genes **(03)**

Q.3. A) Explain 4 structural and 2 numerical chromosomal aberrations with examples. **(08)**

Q.3. B) Answer the following questions. (Any two)
(a) Short note: Differentiate between types of speciation. **(04)**
(b) Short note: Explain the role of actin and myosin in cell division. **(04)**
(c) Discuss multiple allele variation in humans and rabbits. **(04)**

Q.4. A) Answer the following questions.
(a) Short note: Penetrance and their effect. **(04)**
(b) Short note: Types of point mutations using diagrams. **(04)**

Q.4. B) Answer the following questions. (Any two)
(a) Short note: Diplotene. **(03)**
(b) Explain dosage compensation. **(03)**
(c) Explain atavism using appropriate examples. **(03)**