

**PARUL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**M.Sc. Winter 2018-19 Examination**

**Semester: 4**  
**Subject Code: 11202252**  
**Subject Name: Genomics and Proteomics**

**Date: 18/12/2018**  
**Time: 2:00 pm 4:30 pm**  
**Total Marks: 60**

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**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) Brief note (4x2) (Each of 04 marks) (08)**  
(a) Write a short note on Proteomics.  
(b) Compare Structural and Functional annotation.
- Q.1. B) Answer the following questions (Any two) (04)**  
(a) Short answer questions (Each of 02 marks) (04)  
1. Who coined the term Proteomics and when?  
2. Which field investigates role of genome in drug response?  
(b) Write a short note on DNA sequencing. (04)  
(c) Compare any two high throughput sequencing methods. (04)
- Q.2. A) Answer the following questions. (04)**  
(a) Brief note (2x2) (Each of 02 marks) (04)  
1. Polypharmacy  
2. Proteopathy  
(b) Describe the method which is used to measure the distance between genes? (04)
- Q.2. B) Answer the following questions (Any two) (03)**  
(a) State full forms of the following. (Each of 01 marks) (03)  
1. SMRT  
2. TILLING  
3. SISAR  
(b) What are Protein chips? (03)  
(c) Describe any three mechanisms causing the polymorphism. (03)
- Q.3. A) Describe the various steps involved in Genome Analysis. (08)**
- Q.3. B) Answer the following questions (Any two) (04)**  
(a) Short answer questions (Each of 02 marks) (04)  
1. Name any two Cancer biomarkers.  
2. Names of any two Metabolic pathway databases.  
(b) How to analyze vast genomic and transcriptomic sequence data? Explain in detail. (04)  
(c) Describe the role of *Agrobacterium rhizogenes* in Genomics? (04)
- Q.4. A) Answer the following questions. (04)**  
(a) Brief note (2x2) (Each of 02 marks) (04)  
1. What is a linkage map?  
2. What is Protein toxicity? How is it investigated?  
(b) Describe the uses of Flap endonuclease. (04)
- Q.4. B) Answer the following questions (Any two) (03)**  
(a) Describe Computer aided drug design. (03)  
(b) What are Orthologous and Paralogous sequences? (03)  
(c) Define the purpose of Infinium and Apex-2 assays. (03)