

**PARUL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**B.Sc., Summer 2017-18 Examination**

**Semester: 5**  
**Subject Code: 11102305**  
**Subject Name: Omics Technologies**

**Date: 22-05-2018**  
**Time: 02:00PM to 04:30PM**  
**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) Write an Essay on ENTREZ. (08)**
- Q.1. B) Answer the following questions (Any two)**
- (a) Write a short note on 'Polymerase Chain Reaction'. (04)
  - (b) Explain 'Types of Genetic Markers' in detail. (04)
  - (c) Write a short note on SWISS-PROT. (04)
- Q.2. A) Answer the following questions.**
- (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
    1. Mention any two applications of Genetic markers in Cereal Breeding.
    2. Give the name of any two Protein domains?
  - (b) Describe ENSEMBL. (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) State the full forms (Each of 01 marks) (03)
    1. POI
    2. SDS-PAGE
    3. MALDI
  - (b) Enlist the full form of PMF, PPI and BIND. (03)
  - (c) Enlist the full form of SAM domain, PTB domain, CH domain. (03)
- Q.3. A) Describe in detail the concept and types of 'Omics Technologies'. (08)**
- Q.3. B) Answer the following questions (Any two)**
- (a) Short answer questions (Each of 02 marks) (04)
    1. Nucleic acids (DNA/RNA) can be resolved by Agarose Gel Electrophoresis and Polyacrylamide Gel Electrophoresis. Is it True or False?
    2. Give the names of two Direct Protein Sequencing methods.
  - (b) Explain the principle of Gel electrophoresis. (04)
  - (c) Explain the principle of Peptide Mass Fingerprinting. (04)
- Q.4. A) Answer the following questions.**
- (a) Short answer questions. (Each of 02 marks) (04)
    1. Mention any two methods to study Protein-Protein interaction.
    2. Mention any two methods to study Protein-DNA interaction.
  - (b) Describe the applications of 2 Dimensional Gel Electrophoresis. (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Write the full forms of BIND, BioGRID and HPRD. (03)
  - (b) Explain the role of Protein Sequenator? (03)
  - (c) Give the names of three types of Microarray assays. (03)