

Total No. of Questions : 10]

**DBI01**

**P.G. DIPLOMA DEGREE EXAMINATION,  
JUNE/JULY - 2019  
BIO-INFORMATICS  
Principles of Cell & Molecular Biology & Bioinformatics**

**Time : 3 Hours**

**Maximum Marks : 70**

Answer any Five questions

All questions carry equal marks

- Q1)* Describe the diversity of cell size and shape.
- Q2)* Describe the structure and functions of Mitochondria.
- Q3)* Explain the genome structure and its functions.
- Q4)* Explain the cell division meiosis and its significance.
- Q5)* Describe the development of Molecular biology and its importance.
- Q6)* Write an account on gene discovery and genetic code.
- Q7)* Explain DNA repair mechanisms.
- Q8)* Write an account on mutations.
- Q9)* Explain the challenges in information processing and knowledge based data analysis.
- Q10)* Describe the applications of drug discovery.

**Total No. of Questions : 10]**

**DBI02**

**P.G. DIPLOMA DEGREE EXAMINATION,**

**JUNE/JULY - 2019**

**BIO-INFORMATICS**

**Numerical Methods, Optimization Tech. & Computer Pro.**

**Time : 3 Hours**

**Maximum Marks : 70**

Answer any Five questions

All questions carry equal marks

- Q1)* Write an account on parallel computers and their development.
- Q2)* Describe the inherent parallelism in physical, biological phenomenon and their models.
- Q3)* Explain the system software and its applications in biology.
- Q4)* Explain the internal and external coordinate system.
- Q5)* Describe the numerical methods and their importance in Bioinformatics.
- Q6)* Explain the methods of optimization and their significance in biology.
- Q7)* Describe Randomized minimisation techniques and their applications in bioinformatics.
- Q8)* Write an account on Fast Fourier Transform and its importance.
- Q9)* Write an account on Programming with C and its significance.
- Q10)* Describe the designing of Web pages and their use in bioinformatics.

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**DBI03**

**P.G. DIPLOMA DEGREE EXAMINATION,  
JUNE/JULY - 2019  
BIO-INFORMATICS  
Database Management & Biological Data Banks  
Molecular Designing**

**Time : 3 Hours**

**Maximum Marks : 70**

Answer any Five questions

All questions carry equal marks

- Q1)** Explain the tools of bioinformatics and their individual significance.
- Q2)** Explain the Biological Data banks and their importance.
- Q3)** Explain the structural Data banks and their uses.
- Q4)** Describe the metabolic pathway data banks.
- Q5)** Describe the microbial data banks and their significance.
- Q6)** Describe the gene bank data model with examples.
- Q7)** Describe the primary structure of proteins.
- Q8)** Write an account on DNA primary and secondary structure.
- Q9)** Explain molecular modelling and simulation studies.
- Q10)** Explain the structure prediction of biopolymers and their optimisation.

Total No. of Questions : 10]

**DBI04**

**P.G. DIPLOMA DEGREE EXAMINATION,  
JUNE/JULY - 2019  
BIO-INFORMATICS  
Genomic and Proteomics and Sequencing Analysis**

**Time : 3 Hours**

**Maximum Marks : 70**

Answer any Five questions  
All questions carry equal marks

- Q1)* Describe the organisation of prokaryotic genomes.
- Q2)* Describe the structure and function of organellar genomes.
- Q3)* Explain the nature of genetic code and its importance.
- Q4)* Write an account on micro arrays.
- Q5)* Describe the diversity and structure of proteins.
- Q6)* Describe protein purification and degradation.
- Q7)* Write an account on site directed mutagenesis.
- Q8)* Describe automated DNA sequence.
- Q9)* Explain pair wise and multiple sequence alignment.
- Q10)* Describe predictive methods using DNA sequences.



