

**(DBI01)**

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

**[Total No. of Pages : 01**

**PG DIPLOMA DEGREE EXAMINATION, DEC. – 2016**

**BIO- INFORMATICS**

**Principles of Cell & Molecular Biology & Bioinformatics**

**Time : 3 Hours**

**Maximum Marks: 70**

---

**Answer any FIVE questions from the following**  
**All questions carry equal marks**

**Q1)** Give an account on the diversity of cell size and shape.

**Q2)** Describe the structure and functions of Chloroplast.

**Q3)** Describe Mitosis and its significance.

**Q4)** Write an account cell cycle.

**Q5)** Write an account on genetic code and its importance in molecular biology.

**Q6)** Explain DNA as genetic material.

**Q7)** Describe the mechanisms of DNA repair.

**Q8)** Write an account on transcription and translation.

**Q9)** Describe the scope of Bioinformatics.

**Q10)** Enumerate the Knowledge based data analysis with appropriate examples.



**(DBI02)**

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

**[Total No. of Pages : 01**

**PG DIPLOMA DEGREE EXAMINATION, DECEMBER – 2016**

**BIO - INFORMATICS**

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

**Time : 3 Hours**

**Maximum Marks:70**

---

---

**Answer any Five questions from the following**

**All questions carry equal marks**

- Q1)** Write an account on parallel computers.
- Q2)** Explain inherent parallelism in biological phenomenon and their models.
- Q3)** Write an account on system software.
- Q4)** Enumerate internal and external coordinate system.
- Q5)** Describe numerical methods.
- Q6)** Describe the errors involved in the construction of mathematical model for the real physical processes.
- Q7)** Describe minimization and maximization functions
- Q8)** Explain Fourier transform of discretely sampled data.
- Q9)** Explain programming with HTML.
- Q10)** Enumerate designing of web pages.



(DBI03)

Total No. of Questions : 10]

[Total No. of Pages : 01

**P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2016**

**BIO - INFORMATICS**

**Database Mana. & Biological Data Banks Mole. Desi.**

**Time : 3 Hours**

**Maximum Marks:70**

---

---

**Answer any Five questions from the following.**

**All questions carry equal marks.**

- Q1)** Explain biological data banks.
- Q2)** Write an account on tools in bioinformatics.
- Q3)** Explain structural data banks.
- Q4)** Enumerate microbial data banks.
- Q5)** Give an account on NCBI data model.
- Q6)** Describe the PDB data model.
- Q7)** Describe primary structure of proteins
- Q8)** Enumerate DNA and RNA tertiary structure.
- Q9)** Explain molecular modeling and simulation studies.
- Q10)** Describe structure prediction of biopolymers.



(DBI04)

Total No. of Questions : 10]

[Total No. of Pages : 01

P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2016

BIO - INFORMATICS

Genomic and Proteomics and Sequencing Analysis

Time : 3 Hours

Maximum Marks:70

---

Answer any Five questions from the following.

All questions carry equal marks.

**Q1)** Describe the structure and functions of Organellar genomes.

**Q2)** Write an account on linkage and crossing over.

**Q3)** Explain nature of genetic code and its significance.

**Q4)** Enumerate Genome Projects.

**Q5)** Give an account on drug designing and delivery.

**Q6)** Describe predictive methods using DNA sequences.

**Q7)** Describe protein purification and degradation.

**Q8)** Enumerate Ramachandran plot.

**Q9)** Write an account on Site directed mutagenesis.

**Q10)** Explain automated DNA Sequencing.

