(DBI02)

Total No. of Questions : 10] **[Total No. of Pages : 01**

P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2018

BIO-INFORMATICS

Numerical Methods, Optimization Techniques & Computer Programming

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 physical and biological phenomenon.

Q3) Describe the operating systems and their importance.

Q4) Enumerate system software including their significance.

Q5) Explain the numerical methods and their applications.

Q6) Describe the errors involved in the construction of mathematical model for the real physical processes.

Q7) Explain randomized minimization techniques.

Q8) Write an account of Fast Fourier Transform.

Q9) Explain programming with "C" and its significance in Computer programming.

Q10) Write an account on designing of web pages.

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(DBI03)

Total No. of Questions : 10] **[Total No. of Pages : 01**

P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2018

BIO-INFORMATICS

Database Management & Biological Data Banks Molecular Designing

Time : 3 Hours **Maximum Marks :70**

Answer any five questions from the following.
All questions carry equal marks.

Q1) Describe tools in Bioinformatics.

Q2) Explain information processing challenges.

Q3) Describe structural data banks.

Q4) Write an account on Microbial data banks.

Q5) Describe gene bank data model with its importance.

Q6) Explain NCBI data model with suitable examples.

Q7) Describe the primary and secondary structure of proteins.

Q8) Explain secondary and tertiary structure of DNA.

Q9) Describe molecular modeling and stimulation studies and its significance.

Q10) Write an account on structure prediction of Biopolymers.

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(DBI04)

Total No. of Questions : 10] **[Total No. of Pages : 01**

P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2018

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 organization of prokaryotic genomes.

Q2) Describe the Linkage and crossing over.

Q3) Explain the regulation of gene expression.

Q4) Write an account on Microarrays.

Q5) Describe the diversity and structure of proteins.

Q6) Write an account on protein trafficking.

Q7) Explain pair wise and multiple sequence alignment.

Q8) Write an account on Drug designing and delivery.

Q9) Describe site directed mutagenesis.

Q10) Describe the principle and applications of PCR.

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(DBI01)

Total No. of Questions : 10] **[Total No. of Pages : 01**

P.G. DIPLOMA DEGREE EXAMINATION, DECEMBER – 2018

BIO-INFORMATICS

Principles of Cell & Molecular Biology & Bioinformatic

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 Mitochondria.

Q2) Describe the structure and functions of Ribosomes.

Q3) Describe Meiosis with well labeled diagrams.

Q4) Write an account on genome structure and functions.

Q5) Explain DNA as genetic material with examples.

Q6) Enumerate gene discovery and genetic code and their importance.

Q7) Write an account on Mutations.

Q8) Describe the repair mechanisms of DNA.

Q9) Explain the challenges in information processing.

Q10) Describe the applications of Drug discovery.

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