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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2018
BIO-INFORMATICS
Principles of Cell & Molecular Biology & Bioinformatics

Time : 3 Hours   Maximum Marks : 70

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

Q1) Describe the structure and functions of Nucleous.

Q2) Describe the structure and functions of Endoplasmic reticulum.

Q3) Explain cell cycle and its significance.

Q4) Describe mitosis and its importance with well labeled diagrams.

Q5) Describe the various types of genes and their importance.

Q6) Explain genome organization and its functions.

Q7) Describe genetic recombination and its importance.

Q8) Describe various types of mutations and their significance.

Q9) Enumerate knowledge based data base and its usage.

Q10) Explain the scope of Bioinformatics in molecular biology.

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PG DIPLOMA DEGREE EXAMINATION, MAY – 2018
BIO-INFORMATICS

Numerical Methods, Optimization Techniques & Computer Programming

Time : 3 Hours Maximum Marks :70

SECTION - A
Answer any five of the following.
All questions carry equal marks.

Q1) Explain parallel verses sequential computing.

Q2) Describe inherent parallelism in biological phenomenon and their models.

Q3) Write an account on generation of Computers and its significance.

Q4) Describe operating systems, internal and external coordinate systems.

Q5) Explain numerical methods and their importance.

Q6) Write an account on optimization methods and their significance.

Q7) Explain Randomized minimization techniques in computer programming.

Q8) Enumerate Fourier transform of discretely sampled data.

Q9) Explain programming with HTML with suitable examples.

Q10) Write an account on designing of web pages and their importance.

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Total No. of Questions : 10]   [Total No. of Pages :1

P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2018
BIO-INFORMATICS
Database Management & Biological Data Banks Molecular Designing

Time : 3 Hours   Maximum Marks : 70

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

Q1) Describe Biological Data Banks and their importance.

Q2) Explain information processing challenges.

Q3) Describe metabolic pathway data banks.

Q4) Explain genomic Data banks with examples.

Q5) Describe Gene Bank Data Model and its applications.

Q6) Explain PDB data model and its importance.

Q7) Describe secondary and Tertiary structure of proteins.

Q8) Explain primary and tertiary structure of RNA.

Q9) Describe the structure prediction of Biopolymers and Optimisation.

Q10) Explain phylogenetic analysis of molecular modeling.

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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 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 eukaryotic genomes.

Q2) Describe the organization of Viral genomes.

Q3) Explain genome projects and their importance.

Q4) Describe the nature of genetic code.

Q5) Explain Ramachandran plot and its importance.

Q6) Describe protein purification and degeneration.

Q7) Explain predictive methods using DNA sequences.

Q8) Write an account on drug designing and delivery.

Q9) Describe the basics of genetic engineering.

Q10) Describe the methods of cell culture techniques.

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