

(DBI01)

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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2017

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)** Describe the structure and functions of Endoplasmic reticulum.
- Q2)** Write an account on cell theory.
- Q3)** Describe in detail Meiosis with labeled diagrams.
- Q4)** Describe the organization and functions of genome.
- Q5)** Write an account on genetic code.
- Q6)** Enumerate the DNA as genetic material.
- Q7)** Describe DNA repair mechanisms.
- Q8)** Describe replication and transcription.
- Q9)** Describe the applications of Drug discovery.
- Q10)** Write an account on the scope of Bioinformatics.



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Total No. of Questions : 10]

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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2017

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)** Explain inherent parallelism in physical and biological phenomenon.
- Q2)** Write an account on parallel computers.
- Q3)** Describe operating systems and their applications in biology.
- Q4)** Describe the internal and external coordinate systems.
- Q5)** Write an account on numerical methods.
- Q6)** Enumerate the Errors involved in the construction of mathematical model for the real physical processes.
- Q7)** Describe Randomized minimization techniques.
- Q8)** Describe Fast Fourier Transform (FFT).
- Q9)** Describe the programming with HTML.
- Q10)** Explain designing of web pages.



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Total No. of Questions : 10]

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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2017

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 databanks.
- Q2)** Enumerate information processing challenges.
- Q3)** Enumerate the Genomic databanks.
- Q4)** Write an account on structural databanks.
- Q5)** Explain the DDBJ data model.
- Q6)** Describe the NCBI datamodel with examples.
- Q7)** Explain the primary and tertiary structure of proteins.
- Q8)** Describe primary and tertiary structure of RNA.
- Q9)** Describe the structure prediction of biopolymers.
- Q10)** Explain phylogenetic analysis of Molecular Modeling and simulation studies.



(DBI04)

Total No. of Questions : 10]

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P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2017

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 function of organellar genomes.
- Q2)** Enumerate the Eukaryotic and Viral genomes.
- Q3)** Explain the genome projects.
- Q4)** Write an account on Genetic code.
- Q5)** Explain Ramachandran plot and its significance.
- Q6)** Describe protein purification and degeneration.
- Q7)** Describe drug design and delivery.
- Q8)** Describe predictive methods using DNA sequences.
- Q9)** Describe PCR and its application in genomics and proteomics.
- Q10)** Explain cell culture techniques.

