B. Sc. (Bioinformatics) (Sem. IV) (CBCS) Examination

April / May - 2017

BI - 403 : Applied Bioinformatics

(Old Course)

Faculty Code : 003

Subject Code : 006403

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

Instructions : (1) All questions are compulsory.

(2) The right side figure indicates total marks of the question.

SECTION – I

1 Answer the short answer questions :   **20**

(1) SYFPEITHI is a database for _____ and _____

(2) Discovery Studio is the product of _____ and used for _____

(3) QUANTA is developed by _____ company and used for _____

(4) Which institute/department was set up by the eminent molecular biophysicist G N Ramachandran?

(5) The product for molecular modeling is _____ which is developed by

(6) Which software creates computer models of different cells, such as bacteria, plant cells and human cells including red blood cells etc.?

(7) MarvinSketch and MarvinView are the product of _____

(8) IBM stands for _____

(9) ChemDraw is the product of _____

(10) Current NIH & NCBI Directors are respectively

(11) The dideoxynucleotide lacks hydroxyl group at which position of sugar component?

(12) How many capillaries are present in a normal single capillary method?

(13) Define Genomics

(14) Proteomics plays an important role in Molecular diagnosis and _____

(15) Which of the steps you can follow to improve the success rate of drug development?

(16) By using the "reference sequence" developed in the human genome project, individual differences are now being detected using _____

(17) What is the term of a patent in the Indian system?

(18) What are the two essential documents to be generated and submitted by a potential patentee?

(19) What is considered as the date of patent?

(20) What is PCT?

SECTION – II

2 (a) Explain any **Three** :   6

    (1) Bioinformatics patents

    (2) Patent literature

    (3) Target

    (4) Alternative Splicing

    (5) Composition of sequencing gel

    (6) DNA fragment assembly

  (b) Explain any **Three** :   9

    (1) Describe IPR?

    (2) Proteome

    (3) What are the modifications made from Sanger's method?

(4) List out any 6 Indian Bioinformatics company developing Bioinformatics Software.

(5) List out any 6 Indian research institutes working on Bioinformatics.

(6) List out any 6 International Bioinformatics Company.

(c) Attempt any **Two** :   10

(1) How can you sequence the DNA by Enzymatic method?

(2) List out the software developed by Schrodinger. Give an overview of each.

(3) Cheminformatics

(4) IPR impacts on Biotechnology Research in India

(5) Four levels of Biosafety

3 (a) Explain any **Three** :   6

(1) Scaffolds and Contigs

(2) List out any four International Bioinformatics company.

(3) Give examples for commercial Bioinformatics software.

(4) BIOVIA

(5) Schrodinger package

(6) Bioethics

(b) Explain any **Three** :   9

(1) PBR

(2) Technology Transfer

(3) Traditional knowledge

(4) Hazards of Genetically Engineered Microorganism

(5) Bioremediation

(6) Ethical and Social impact of Biotechnology and Bioinformatics

(c) Attempt any **Two** : 10

    (1)   Give an example for successful drugs designed by RDD

    (2)   Write notes on comparative proteomics and its applications.

    (3)   What is pharmacogenomics? Add notes on its applications.

    (4)   Write an essay on growth of International Bioinformatics research.

    (5)   What you mean by commercial Bioinformatics? Describe in detail application areas of Bioinformatics Company.

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