Total No. of Questions : 8]

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SEAT No :

[Total No. of Pages :2

[5332]-22

M.Sc.

BIOTECHNOLOGY

BT - 22 : Bioinformatics

(2008 Pattern) (Semester-II)

Time : 3 Hours]   *[Max. Marks : 80*

Instructions to the candidates:

    1)   *Attempt total of five questions selecting at least 2 questions from each section.*

    2)   *Answers to the sections must be written in separate answer books.*

    3)   *Neat diagrams must be drawn whenever necessary.*

    4)   *Figures to the right indicates full marks.*

SECTION-I

Q1) What are types of publicaly available databases? Explain any one of them in detail. **[16]**

Q2) Discuss any one tool of bioinformatics used for homology searching with respect to its algorithm & advantages. **[16]**

Q3) Give a brief account of:

    a)   Study of gene expression using bioinformatics. **[8]**

    b)   Gene search using bioinformatic tool. **[8]**

Q4) a)   What are different techniques used for energy optimization? Discuss any one of them in detail. **[8]**

    b)   Explain the role of bioinformatics in structure based drug designing. **[8]**

P.T.O.

SECTION-II

Q5) How is protein structure predicted using bioinformatics tools? Explain with the help of a suitable example. **[16]**

Q6) Discuss the role of immunoinformatics in biotechnology. **[16]**

Q7) a) Which technique is used to determine structure function relationship in proteins? **[8]**

b) Discuss the role of bioinformatics in protein structure classification. **[8]**

Q8) Write short notes on <u>any two</u>: **[16]**

a) Current research trend in bioinformatics.

b) Academic research funding in bioinformatics.

c) Bioinformatics business model.

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