

Total No. of Questions :2]

SEAT No. :

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**P1851**

**[5232] - 305**

**M.Sc.**

**BIOTECHNOLOGY**

**BT - 305 : Bioinformatics**

**(2013 Pattern) (Semester - III)**

*Time : 1½ Hours]*

*[Max. Marks :25*

*Instructions to the candidates:*

- 1) All questions are compulsory.*
- 2) Draw neat diagrams wherever necessary.*
- 3) Figures to the right indicate full marks.*

**Q1)** Solve any three questions of the following:

**[3 × 5 = 15]**

- a) Write a short note on CATH.
- b) What is bioinformatics? Write its applications.
- c) Explain multiple sequence alignment. Write its applications.
- d) What are protein motifs? How they are used for protein classification?
- e) What is gene annotation? Add a note on its significance.

**Q2)** Answer any one of the following:

**[1 × 10 = 10]**

- a) Explain in detail about bioinformatics tools used for microarray based gene expression analysis.
- b) Explain Ramchandran Plot comment about the structure & physicochemical properties of the proteins.

