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**BR—50—2016**

**FACULTY OF SCIENCE**

**M.Sc. (Second Year) (Fourth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2016**

**(CBCS Pattern)**

**BIOTECHNOLOGY**

**Paper BT-XVI**

**(Computational Biology and Biostatistics)**

**(Thursday, 17-11-2016)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :—* (i) Attempt *All* questions.

(ii) *All* questions carry equal marks.

(iii) Draw well labelled diagram wherever necessary.

(iv) Assume data wherever necessary.

1. Define bioinformatics. Write in detail about sequence databases. 15

*Or*

(a) Write a note on bibliographic databases. 8

(b) Write in brief about use of internet for bioinformatics. 7

2. Write in detail about sequence alignment. 15

*Or*

(a) Write a note on applications of bioinformatics. 8

(b) Write in brief about mass spectrometry. 7

3. Write in detail about databases and search engines in proteomics. 15

*Or*

(a) Write a note on protein-ligand docking. 8

(b) Write in brief about microarrays. 7

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4. What is DNA sequencing ? Write in detail about whole genome analysis. 15

Or

(a) Write a note on classification of proteins. 8

(b) Write a note on standard deviation. 7

5. Write short notes on any *three* : 3×5=15

(a) Mode

(b) Pharmacogenomics

(c) Protein data bank

(d) Google

(e) Introns and Exons.

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