



MCC-16031202020200 Seat No. _____

M. Sc. (Biochemistry) (Sem. II) (CBCS) Examination

April / May - 2018

IBC - 2 : Bioinformatics & Biostatistics

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Answer briefly any **seven** of the following questions : **14**

- (A) Database similarity search
- (B) Define level of significance
- (C) Global Alignment
- (D) Tools for sequence similarity search
- (E) How GenBank database were build ?
- (F) What is Normal Distribution? Give its properties.
- (G) Chemical Databases
- (H) What are the skills required to become a Bioinformatics expert?
- (I) List out few molecular biology databases.
- (J) Subtractive Genomics

2 Answer any **two** of the following questions : **14**

- (A) Data mining to Bioinformatics
- (B) Explain about the various branches of Bioinformatics.
- (C) Docking software.

3 (A) Allee and Bowen studied survival time of goldfish **7**
(in minutes) when placed in colloidal silver suspensions.
Do the results of the two experiments differ? (critical
value – 2.1)

<i>Study of Allee</i>	210	180	240	210	210	185	190	205	224	196
<i>Study of Bowen</i>	150	180	210	240	240	120	180	240	120	150

- (B) Data has been collected for the number of absent of students in class room and their final grade. Regress the data and find out correlation between the number of times absent and final grades. Assume the grade of student whose number of absent is 10. 7

<i>Absent</i>	8	2	5	12	15	9	6
<i>Final grade</i>	78	92	90	58	43	74	81

OR

- (C) What is chi square test? Explain in detail. 7
- (D) Write note on ANOVA. 7
- 4 Answer the following questions : 14
- (A) What are the techniques you can follow to search against databases ?
- (B) Write short note on Phylogenetic analysis tools.
- 5 Answer the following questions : (Any **Two**) 14
- (A) What are the Genome databases available at deferent servers and briefly explain each?
- (B) Write note on GenBank.
- (C) Write short note on MSA tools.
- (D) What are the nature of Biological data?
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