D 26240 **(Pages : 2)** **Name**.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE EXAMINATION
SEPTEMBER/OCTOBER 2006

GBT-211—BIOSTATISTICS AND BIOINFORMATICS

Time : Three Hours Maximum : 80 Marks

Section A

Answer any **two** *questions.*
Each question carries 10 *marks.*

1. Calculate the correlation coefficient for the following heights (in inches) of fathers (X) and their sons (Y) :

X	65	66	67	67	68	69	70	72
Y	67	68	65	68	72	72	69	71

2. Explain with suitable examples, the various control structures available in C.
3. Describe the types of sequence and structure databases available in bioinformatics.

(2 x 10 = 20 marks)

Section B

Answer any **ten** *questions.*
Each question carries 5 *marks.*

4. What do you understand by regression ? What are the properties of regression coefficients ?
5. The distribution of 140 candidates obtaining marks X or higher in a certain examination is given below :

X	10	20	30	40	50	60	70	80	90	100
Class Frequency	140	133	118	100	75	45	25	9	2	0

Calculate the mean and median of the distribution.

6. Describe the chi-square test of fit of a random sample to a hypothetical distribution.
7. Explain with examples the various output devices of a computer.
8. Write a QBASIC program to check whether the given string is a palindrome or not.
9. Explain the different data types in C with suitable examples.
10. Explain the importance of E-R model in database management systems.
11. Describe the important components of MS-Office Software.
12. List the different sorting methods. Describe the bubble sort method.
13. Describe the working of BLAST algorithm. How does BLAST program differ from FASTA ?

Turn over

14. How is a nucleotide sequence retrieved from a database ?

15. Write short notes on :

(i) Internet.

(ii) URL.

(iii) Search Engines.

(10 x 5 = 5u

Section C

Answer **all** *questions.*
Each question carries 2 *marks.*

16. Compare mean deviation and standard deviation.

17. What is rank correlation ? State its uses.

18. List differences between 'while' and 'do-while' control structures in C.

19. Write a QBASIC program to swap two numbers without using an additional variable.

20. Give the importance of E-value in a BLAST search.

(5 x 2 = 10 marks)