

2 0 1 5

(5th Semester)

BIOTECHNOLOGY

Paper No. : BT-VII

(Biostatistics and Bioinformatics)

Full Marks : 55

Time : 2½ hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

*The figures in the margin indicate full marks
for the questions .*

1. What is computer? Explain in brief about the components of its hardware. 1+6=7

Or

Define search engine. Write a note on Google and Entrez search engines. 1+6=7

2. Define the classification of data. Explain the types of classification. 2+5=7

Or

Explain diagrammatic representations of data with suitable examples. 7

G16/162a

(Turn Over)

3. What is regression? Explain in brief the kinds of regression. 2+5=7

Or

Define correlation. Explain in brief the kinds of correlation. 2+5=7

4. Write a note on GenBank database. 7

Or

What are the applications of bioinformatics? Describe in brief the primary sources of data. 2+5=7

5. Define bioinformatics. Describe the characteristics of phylogenetic models. 2+5=7

Or

Describe the neighbor-joining method for the reconstruction of DNA-based phylogenetic trees. 7

2015

(5th Semester)

BIOTECHNOLOGY

Paper No. : BT-VII

(Biostatistics and Bioinformatics)

(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer **all** questions

SECTION—A

(Marks : 5)

I. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

1. χ^2 is also applied as a test of

(a) correlation ()

(b) goodness of fit ()

(c) variance ()

(d) regression ()

2. The devices that accept data from outside the computer and transfer into the CPU are called

- (a) input devices ()
- (b) digital devices ()
- (c) analogue devices ()
- (d) truth table peripherals ()

3. The first sequence to be collected were those of

- (a) proteins ()
- (b) DNA ()
- (c) RNA ()
- (d) All of the above ()

4. The groups of organisms that include the most recent common ancestor of all of its members and all of the descendants of that most recent common ancestor is a

- (a) taxon ()
- (b) node ()
- (c) clade ()
- (d) branch ()

5. The value of a variable which divides the total frequency into two equal parts when arranged in ascending or descending order is

- (a) mean ()
- (b) median ()
- (c) mode ()
- (d) None of the above ()

SECTION—B

(Marks : 15)

II. Write short notes on the following :

3×5=15

1. Significance of tabulation

2. Importance of probability

frequency into two equal parts when arranged in ascending or descending order is

(a) mean

(b) median

(c) mode

(d) None of the above

3. Important attributes of fasta format

B. Write short notes on the following :

1. Significance of tabulation

4. PubMed search engine

BIOTECHNOLOGY

Paper No. BI-VII

(Biostatistics and Bioinformatics)

(PART : A -- OBJECTIVE)

(Marks : 20)

Marks in the margin indicate full marks for the questions

Answer all questions

SECTION - A

(Marks : 5)

1. Put a Tick (✓) mark against the correct answer in the brackets provided (5 marks)

1. χ^2 is also applied as a test of

(a) correlation ()

(b) goodness of fit ()

(c) variance ()

(d) regression (++)

5. Importance of sequence alignment for tree reconstruction

- (a) input devices
- (b) digital devices
- (c) analogue devices
- (d) truth table peripherals

The first sequence to be collected were those of

- (a) proteins
- (b) DNA
- (c) RNA
- (d) All of the above

The groups of organisms that include the most recent common ancestor of all of its members and all of the descendents of that most recent common ancestor is a

- (a) taxon
- (b) node
- (c) clade
- (d) branch
