2015

M.Sc.

2nd Semester Examination

BIOTECHNOLOGY

PAPER—BIT-202

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

(Biostatistics and Computer Application)

Group — A

1. Answer any *five* questions from the following : 5×2

(a) What is a frequency polygon ? What is its utility ?

(b) What is mode ? How does it differ from median ?

(c) Define Operating System with example.

(d) Define correlation coefficient. In what type of comparison this statistics is done.

(e) How is a harmonic mean related to the geometric mean and arithmatic mean ?

(f) What is modem ?

(g) Mention the function of ALU.

(h) Define half duplex and full duplex.

Group — B

Answer any *two* questions from the following : 2×5

2. Draw a pie diagram for the following frequency distribution of blood groups in a sample:

Blood groups:	O	A	B	AB	Total
Frequencies:	258	172	387	43	860

3. Find the mean and unbiased standard deviation of the following winglength (mm) of a sample of cockroaches:

35, 36, 26, 28, 44, 30, 22, 33, 27, 25, 40, 44, 35, 31, 29, 32.

4. A random sample of 10 workers of a company was selected and their weights are measured as 38, 46, 45, 40, 35, 39, 44, 45, 33, 37. Find 95% confidence limits within which the mean weight of all workers in the company is expected to lie. (Given t 0.025 = 2.262 for 9 d.f. and 2.228 for 10 d.f.).

5. Write the C Script for finding the perimeter of a circle.

Group — C

Answer any *two* questions from the following : 2×10

6. Write a programme in C to find sum and mean of five numbers.

7. Find the regression of X on Y from the following data:

$$\sum X = 24, \quad \sum Y = 44, \quad \sum XY = 306, \quad \sum X^2 = 164,$$

$$\sum Y^2 = 574, \quad n = 4.$$

8. (a) Describe data transmission speed with media.

   (b) Write notes on client server organization in a network.

9. Crossing a grey-colored body scarlet-eyed Drosophila with a black-body red-eyed one produced all gery-bodied red-eyed flies in the F_1 generation on crossing the F_1 flies, the F_2 generation gave the following phenotypes,

grey-bodied red-eyed = 362,

black-bodied red-eyed = 128,

grey-bodied scarlet-eyed = 122,

black-bodied scarlet-eyed = 44.

Do the data have a goodness of fit with the Mendelian 9:3:3:1 distribution ?

[Given $x^2_{.05(3)} = 7.82$, $x^2_{.02(3)} = 9.84$, $x^2_{.01(3)} = 11.34$]