

2015

M.Sc.

2nd Semester Examination

BIOCHEMISTRY

PAPER—BIC-204

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.

Group—A

1. Answer any *five* questions from the following : 5×2
 - (a) What do you mean by Population and Sample ?
 - (b) What is internet service and how are the terms HTML and HTTP associated with internet ?

(Turn Over)

- (c) Explain 'Standard deviation' of a experimental data.
- (d) What is 'LAN' and how does it differs from 'WAN'?
- (e) Write the situation where 'median and mode' is better than 'mean'.
- (f). Define median of a set of observations. Find the value of mode from the series :
- 2, 2, 2, 2, 4, 5, 6, 6, 6, 7, 8, 10.
- (g) What is meant by analysis of variance ?
- (h) Two dices are thrown. Find the probability that the product of two faces is 12.

Group—B

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

2. Write and explain the different points of organisations of computer. 5
3. What are meant by 'Windows' and 'UNIX'? Which one is prone yo virus attack and why? 2+1+2

4. The number of runs scored by two cricketers A and B during a test series consisting of 5 test matches is shown below for each of the 10 innings :

Cricketer A : 5, 26, 97, 76, 112, 89, 6, 108, 24, 16

Cricketer B : 51, 47, 36, 60, 58, 39, 44, 42, 71, 50.

Make a comparative study of their batting performances.

5

5. In the course of an experiment on the breeding of pea, a botanist obtained 556 peas, of which 315 were round and yellow, 108 were round and green, 101 were angular and yellow, and 32 were angular and green. According to a genetic theory such peas should be obtained in the ratios 9:3:3:1. Are the experimental results compatible with this theory?

5

6. What are 'Skewness' and 'Kurtosis'?

Group—C

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

7. (a) State and prove Bayes theorem.
(b) Three boxes of the same appearance have the following proportions of black and white balls :

Box-I,—5 black and 3 white; Box-II,—6 black and 2 white; Box-III,—3 black and 5 white. One of the boxes is selected at random and one ball is drawn randomly from it. Given that the ball is black find the probability that it come from box III. 5+5

8. Explain the different types of software. 10
9. What is 'Gaussian' probability distribution? Two Biochemist collect the data on the basis of lives in seconds of bacteria. Test whether there is significant difference between the two Biochemists in respect of bacteria's average length of life.

| <i>Biochemist (1)</i> | <i>Biochemist (2)</i> | |
|-----------------------|-----------------------|-----|
| 1505 | 1799 | |
| 1556 | 1618 | |
| 1801 | 1604 | |
| 1629 | 1655 | |
| 1644 | 1708 | |
| 1607 | 1675 | |
| 1825 | 1728 | |
| 1748 | 1679 | 4+6 |

10. (a) What is FTP? How does it work?
- (b) What are 'Multimedia Network' and 'XML' concepts associated with computer basics and internet respectively? (2+2)+(3+3)

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