PG Even Semester (CBCS) Exam., May—2019

LIFE SCIENCE AND BIOINFORMATICS

(2nd Semester)

Course No. : LSBCC–202

(Techniques in Biology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

1. Describe the working principle and sample preparation for transmission electron microscope. Add a note on freeze fracture technique. 4+6+4=14

OR

2. Write short notes on the following : 7+7=14

(a) Principle and instrumentation of confocal laser scanning microscope

(b) Green fluorescence protein (GFP)

3. Describe the principle and instrumentation of mass spectrometry with a suitable diagram. 4+10=14

OR

4. Write short notes on the following : 7+7=14

(a) Nuclear magnetic resonance spectroscopy

(b) Ion exchange chromatography

5. Describe the principle and application of southern blotting technique with a suitable diagram. 4+10=14

OR

6. Write short notes on the following : 7+7=14

(a) Western blotting

(b) RFLP

7. Compute mean, median and mode for the following data and draw your conclusion about the distribution of the data : 14

Class Intervals	*Frequency distribution of marks secured in biostatistics*
0–5	2
5–10	5
10–15	7
15–20	13
20–25	21
25–30	16
30–35	8
35–40	3

OR

8. Write short notes on the following : 7+7=14

(a) Measures of central tendency

(b) Chi-square test

9. What is zone of equivalence? Discuss different forms of immunodiffusion techniques and state their applications. 4+10=14

OR

10. Write short notes on the following : 7+7=14

(a) Sandwich ELISA

(b) RIA

★★★