

<b>F-2127</b>
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<b>Sub. Code</b>
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<b>7PBC1C1</b>
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**M.Phil. DEGREE EXAMINATION, APRIL 2019**

**First Semester**

**Biochemistry**

**RESEARCH METHODOLOGY**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Section A**

(5 × 5 = 25)

Answer any **five** questions.

1. Discuss in detail on the styles of report writing.
2. Write a detailed note on the data gathering methods.
3. Discuss on the aspects of data representation using double graph paper.
4. Write a detailed note on the databases available for deposition of genomic sequence data.
5. Write a detailed note on the data retrieval tools used for searching multiple biological databases.
6. Enumerate on Isotachophoresis and isotachophoregram.
7. Discuss on the different methods employed for protein estimation.
8. Explain the principle and applications of light microscopy.

**Section B**

(5 × 10 = 50)

Answer **all** questions, choosing either (a) or (b).

9. (a) Elaborate on the different steps involved in sampling.

Or

- (b) What are the different steps involved in research process? Explain in detail.

10. (a) List out the factors to be taken into consideration during interpretation of experimental data.

Or

- (b) Explain the practical applications of Chi square test in research.

11. (a) Illustrate on the important methods involved in gene prediction.

Or

- (b) Give a detailed note on the protein structure classification methods.

12. (a) Elaborate on non-denaturing PAGE.

Or

- (b) Explain the principle and applications of adsorption chromatography.

13. (a) Explain the applications of FESEM in analyzing biological samples.

Or

- (b) Elaborate on the instrumentation and application of circular dichroism.

<b>F-2128</b>
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<b>7PBC1C2</b>
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**M.Phil. DEGREE EXAMINATION, APRIL 2019**

**First Semester**

**Biochemistry**

**ADVANCED BIOCHEMISTRY**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Section A**

(5 × 5 = 25)

Answer any **five** questions.

1. Explain the principle and procedure of DNA foot printing.
2. Discuss on the significance of SSLP.
3. What are polyclonal antibodies? Explain its production and uses.
4. Write a detailed note on the Ag-Ab reaction involving precipitins.
5. Differentiate between primary cells and cell lines.
6. Explain the importance of protoplast culture.
7. Elaborate on the applications of RAPD.
8. Discuss on the significance of protein biochips.

**Section B**

(5 × 10 = 50)

Answer **all** questions choosing either (a) or (b).

9. (a) Write a detailed note on DNA microarray.

Or

- (b) Explain the significance of Western analysis.

10. (a) How are proteins localized by the immunofluorescence technique?

Or

- (b) Explain the methodology for protein detection by FPIA.

11. (a) Discuss on the characteristics of 3D cell culture system.

Or

- (b) Explain the methods involved in cell cloning.

12. (a) Write a detailed note on cryopreservation of plant cell cultures.

Or

- (b) Explain the basic methodology involved in micropropagation.

13. (a) Write a detailed note on DNA micro array.

Or

- (b) How is genetic mapping carried out using STS?