

Roll No. : .....

Total No. of Questions : 11 ]

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# **BPF-2181**

**M.Sc. (Final) Examination, 2022**

**BOTANY**

Paper - VII(c)

**(Advanced Plant Physiology-I)**

*Time : 3 Hours ]*

*[ Maximum Marks : 75*

**Section-A**

**(Marks : 2 × 10 = 20)**

**Note :-** Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

**Section-B**

**(Marks : 5 × 5 = 25)**

**Note :-** Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

**Section-C**

**(Marks : 10 × 3 = 30)**

**Note :-** Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

**Section-A**

1. (i) Give *two* differences between anaerobic and aerobic respiration.
- (ii) Write about the names of different chlorophylls found in plants.

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- (iii) Write *two* differences between saturated and unsaturated fatty acids.
- (iv) What do you mean by Ammonium Assimilation ?
- (v) Define Alkaloids.
- (vi) Differentiate between Primary and Secondary Metabolites.
- (vii) What are Saponins ?
- (viii) Define Steroidal alkaloids.
- (ix) Write the principle of Chromatography.
- (x) What is RIA ?

**Section-B**

2. Discuss in brief about the C<sub>3</sub> cycle.

*Or*

Explain about Fermentation.

3. Describe about the mechanism of nitrogen fixation in plants.

*Or*

Write a note on synthesis and functions of Water Soluble Pigments.

4. Write a short note on distribution, synthesis and function of tannins.

*Or*

Explain about the distribution, chemistry and functions of pyridine alkaloids.

5. Give a note on distribution, synthesis and functions of steroidal alkaloids.

*Or*

Discuss about the structure of cardiac glycosides.

6. Give a short note on Partition and Thin Layer Chromatography.

*Or*

Write a comprehensive note on high performance liquid chromatography.

### Section-C

7. Give a comprehensive note on Kreb's cycle.
8. Discuss in detail about the classification, structure and mechanism of action of enzymes.
9. Describe in detail about the pyrrole and pyrrolidine alkaloids.
10. Write an essay on Saponins.
11. Write notes on the following :
  - (a) Ultracentrifugation : Principle and functions
  - (b) Spectrophotometry : Principle and applications.