

Department of Botany
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B.Sc. (HONS WITH RESEARCH) / B.Sc. BOTANY
SEMESTER III EXAMINATION DECEMBER 2024

Paper Name: **Seed Science and Technology**
 Time: **2 hours**

Paper Code: **BBO-SEC301**
 Maximum Marks: **45**

Note: This paper has 3 sections A, B, and C.

Section A: Answer **ALL** the questions. **Section B:** Attempt any **3** out of 5.

Section C: Attempt any **2** out of 3.

Abbreviations used:

CLO-Course Outcomes

After completion of the course, the student will be able to

CLO1: demonstrate a thorough understanding of the principles and concepts of seed science, including seed biology, quality assessment and enhancement methods;

CLO2: apply principles of seed production, seed testing, harvesting and packaging; and

CLO3: analyse factors influencing seed storage, including seed longevity, and demonstrate the ability to design effective seed storage systems while adhering to National and international regulations.

BTL-Bloom's Taxonomy Levels

1- Remembering, 2-Understanding, 3-Applying, 4-Analyzing, 5-Evaluating, 6-Creating

SECTION A

Very Short Type Question (Attempt **ALL**)

10 x 1 = 10 marks

Q.No.	Questions	Marks	CLO	BTL
1	Dicot seeds are usually ex-albuminous. State whether this statement is TRUE or FALSE.	1	1	1
2	Differentiate between scarification and stratification.	1	1	3
3	Give any TWO characteristics of desirable materials for seed pelleting.	1	1	2
4	What are the chemical constituents of a typical seed?	1	1	1
5	Name any one seed-borne disease of wheat and the causative agent of the same.	1	1	1
6	Mention one quick test for seed viability.	1	2	1
7	Expand GOT.	1	2	1
8	Give ONE significant difference between orthodox and recalcitrant seeds.	1	3	3
9	What is DUS testing?	1	3	2
10	Expand ISTA.	1	3	1

Please turn over

SECTION B

Short Type Question. (Attempt any **THREE** out of five)

3 x 5 = 15 marks

Q.No.	Question	Marks	CLO	BTL
1	What are the different components of seed quality?	5	1	2
2	Draw neat labelled diagrams depicting different developmental stages of a dicot embryo.	5	1	3
3	Enlist the different operations involved in seed processing.	5	2	4
4	Outline the types and benefits of seed treatment.	5	3	3
5	Bring out significant differences between breeder, foundation and certified seed.	5	3	3

SECTION C

Long type Question (Attempt any **TWO** out of three)

2 x 10 = 20 marks

Q.No.	Question	Marks	CLO	BTL
1	With the help of neat labelled diagram, explain the structure and function of a monocot seed.	10	1	3
2	Explain the general principles and methods of seed production.	10	2	2
3	What are the main objectives that underlie seed storage? List the seed structures facilitating storage. Mention the factors affecting seed longevity during storage.	10	3	3
