

Q.P. Code – 42333

**Third Semester B.Sc. Degree Examination, October/November 2019**

(CBCS Scheme)

**Botany**

**Paper III — EMBRYOLOGY OF ANGIOSPERMS AND TISSUE CULTURE**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

- 1) Answer all Parts.
- 2) Draw diagrams wherever necessary.

PART – A

I. Answer any **TEN** of the following :

(10 × 2 = 20)

1. Write any two contributions of BGL Swamy.
2. What is palynology? Mention its significance.
3. What is pollen kit? Mention its significance.
4. Mention any four types of ovules in Angiosperms.
5. What is Nucellus? Mention its significance.
6. What is Cleistogamy? Give an example.
7. Mention any four post fertilization changes.
8. What is Ruminant endosperm? Give an example.
9. What is Somatogamy? Give an example.
10. Mention any two applications of Tissue Culture.
11. What is Parthenocarpy? Mention the types.
12. What is Polyembryony? Mention the types.

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**PART – B**

II. Answer any **SIX** of the following questions :

**(6 × 5 = 30)**

Explain/Describe

13. Different type of pollen tetrads.
14. Nemas phenomenon.
15. Placentation and its types.
16. Adaptations for cross pollination.
17. Nuclear and Cellular Endosperm
18. Autoclave.
19. White's medium
20. Recurrent Apomixis.

**PART – C**

III. Answer any **FOUR** of the following :

**(4 × 10 = 40)**

21. Describe T.S. of Mature Anther.
22. Explain Polygonum and Fritillaria type of embryo sac.
23. Explain double fertilization in Angiosperms.
24. Describe the process of development of Monocot embryo.
25. Explain steps involved in Tissue culture.
26. Explain :
  - (a) Control of fertilization
  - (b) Cybrids.

9-30 to 12-30

18/11/17

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**Botany**

**Paper III – EMBRYOLOGY OF ANGIOSPERMS AND TISSUE CULTURE**

*Time : 3 Hours]*

*[Max. Marks : 90*

*Instructions to Candidates :*

- 1) *Answer all Parts.*
- 2) *Draw diagrams wherever necessary.*

**PART – A**

I. Answer any **TEN** of the following questions :

**(10 × 2 = 20)**

1. What is Palynology? Write its significance.
2. Define cross pollination. Mention the contrivances for cross pollination.
3. What is sterilization? Mention any two physical methods.
4. Write any two contributions of Bhojwani and Bhatnagar.
5. What is explant? Give any two examples.
6. Name any four instruments used in plant tissue culture.
7. Draw a neat labelled diagram of a typical angiospermic flower.
8. List any two achievements of B.G.L. Swamy.
9. What is Parthenocarpy? Write its significance.
10. What is Lever mechanism? Give an example.
11. What is apomixis? Mention the types.
12. What is totipotency? Mention its significance.

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PART – B

II. Explain any **SIX** of the following questions :

(6 × 5 = 30)

13. Explain Nemec phenomenon.
14. Write a note on pollen-pistil interaction.
15. Explain the process of microsporogenesis.
16. Write a note on anther culture.
17. Explain with neat labelled diagram L.S. of anatropous ovule.
18. What is placentation? Explain any two types.
19. Write a note on Hot air oven.
20. What is Endosperm? Explain cellular endosperm.

PART – C

III. Answer any **FOUR** of the following questions :

(4 × 10 = 40)

21. Explain T.S. of mature anther.
22. Explain the process of development of monocot embryo.
23. Explain with neat labelled diagrams Fritillaria type of embryo sac development. Write the structure of mature embryo sac.
24. Describe the process of Fertilization.
25. Write in detail the practical applications of plant tissue culture.
26. Explain :
  - (a) Synthetic seeds
  - (b) Polyembryony