5. (a) Briefly discuss the various means of seed dissemination with examples. (5)

(b) Describe various types of suspensor haustoria in angiosperms. (5)

(c) Elaborate on the importance of apomixis in crop improvement. (5)

6. (a) Describe in detail any two methods to test pollen viability. (5)

(b) Explain the types of embryogeny in angiosperms. (5)

(c) Briefly explain any two types of germline transformation methods. (5)

7. (a) Discuss the role of synergids during fertilization in angiosperms. (5)

(b) Draw well-labelled diagram of the following : (2×2.5=5)

(i) L.S. of orthotropous, bitegmic, crassinucellate ovule showing *Polygonum* type of embryo sac

(ii) T.S. young tetrasporangiate anther showing sporogenous tissue

(c) Enlist key characters of anemophilous and entomophilous flowers. (5)

[This question paper contains 4 printed pages.]

27.12.2023(M)

Your Roll No.....

Sr. No. of Question Paper : 4323 **G**

Unique Paper Code : 32161501

Name of the Paper : Reproductive Biology of Angiosperms

Name of the Course : **B.Sc. (Hons.) Botany**

Semester : V

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all including Question Number **1** which is compulsory.
3. All parts of a question must be answered together.
4. **All** questions carry equal marks.
5. Draw well-labelled diagrams and write the botanical name wherever necessary.

1. (a) Give contributions of **any five** of the following : (1×5=5)

(i) P. Maheshwari

(ii) G.B. Amici

(iii) E. Strasburger

(iv) H.Y. Mohan Ram

(v) S.G. Nawaschin

(vi) J. Heslop-Harrison

(b) Define **any five** of the following : (1×5=5)

(i) Polyspory

(ii) FGU

(iii) Double fertilization

(iv) Caruncle

(v) Pollinia

(vi) Parasexual hybrization

(vii) NPC system

(c) Give a genus family name for **any five** in which any of the following feature is present- (1×5=5)

(i) Pseudoembryosac

(ii) Pseudomonads

(iii) Egg cell having filiform apparatus

(iv) Circinotropous ovule

(v) Némec phenomenon

(vi) Occurrence of all five types of microspore tetrads

(vii) Persistent nucellus

(viii) Nucellar beak

2. Write short note on **any five** of the following : (3×5=15)

(i) Obturator

(ii) Pollen wall proteins

(iii) Cleavage polyembryony

(iv) Hellobial endosperm

(v) Adventive embryony

(vi) MGU

3. Differentiate between **any five** : (5×3=15)

(i) Endothelium and endothecium

(ii) Bisporic and tetrasporic embryosac development

(iii) Tenuinucellate ovule and crassinucellate ovule

(iv) GSI and SSI

(v) Nuclear and cellular endosperm

(vi) Hollow style and solid style

(vii) Hyphydrophily and ephydrophily

4. (a) Briefly explain the importance of callose in microsprogenesis. (5)

(b) Briefly explain *Polygonum* type of embryosac development in angiosperms. (5)

(c) Describe any two methods to overcome self-incompatibility in plants. (5)

P.T.O.