

**D-6642**

**M.Sc. (IV<sup>th</sup> Semester) Examination, 2020**

**BOTANY**

**(Reproductive Biology of Flowering Plants)**

*Time Allowed : Three Hours*

*Maximum Marks : 70*

*Minimum Pass Marks : 24*

**Note :** Section A : Attempt any ten questions. Q. 1-5 fill

in the blanks. Q. 6-12 multiple choice type. **10**

Section B : Attempt any five questions. Very short

answer type (25-30 words). **10**

Section C : Attempt any five questions. Short

answer type (250 words). **20**

Section D : Attempt any three questions. Eassy

Type (more than 500 words). **30**

**SECTION - A**

**Q. 1.** Fill in the blanks :

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**(2)**

- (i) Triple fusion discovered by \_\_\_\_\_.
- (ii) ABC model suggested by \_\_\_\_\_.
- (iii) Founder of Indian plant embryology was \_\_\_\_\_.
- (iv) Science of pollen analysis is called \_\_\_\_\_.
- (v) Pollen coat exine is made of \_\_\_\_\_.

Multiple choice type :

(vi) Pseudogamy is :

- (a) Sexual reproduction
- (b) Asexual reproduction
- (c) Vegetative reproduction
- (d) Cloning

(vii) 'Eusperm' is :

- (a) Infertile type sperm
- (b) More fertile egg
- (c) Fertile sperm
- (d) Pseudosperm

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(viii) The study of cyclic & seasonal natural phenomena, specially in relation to climate and plant life is called :

- (a) Ecology
- (b) Phenology
- (c) Polynology
- (d) Pomology

(ix) Cytoplasmic male sterility in plant is the result of :

- (a) Specific nuclear interaction
- (b) Specific mitochondrial interaction
- (c) Both above
- (d) Molecular manipulation

(x) Sibling rivalry is a type of :

- (a) Inhibition
- (b) Competition

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(c) Regulation

(d) Combination

(xi) Foraging is searching for :

- (a) Wild food resources
- (b) Animal ability to survive
- (c) Affect fitness of animals
- (d) All above

(xii) In allopatric speciation, physical barriers to gene flow are usually :

- (a) Natural
- (b) Artificial
- (c) Systematic
- (d) Developed

**SECTION - B**

**Q. 2.** Attempt any five questions.

(i) What is the product of triple fusion ?

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- (ii) Name the types of endosperms ?
- (iii) What is food pollen ?
- (iv) What is sperm dimorphism ?
- (v) What is male-germ unit ?
- (vi) What is breeding ?
- (vii) What is parthenocarpy ?

**SECTION - C**

**Q. 3.** Attempt any five questions.

- (i) How can flowering plant regulate their floral architecture ?
- (ii) What is the mechanism of pollen recognition in plant ?
- (iii) Describe the types of male sterility in flowering plants.
- (iv) Describe the mechanism of invitro fertilization in plant.

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- (v) Describe embryonic pattern formation.
- (vi) Differentiate agamospermy & parthenocarpy.
- (vii) Describe the factor which regulate pollen germination & pollen tube guidance.

**SECTION - D**

**Q. 4.** Attempt any three questions.

- (i) What is the role of plant hormone in pollination regulation ?
- (ii) Write resource, allocation and its role fruit abortion.
- (iii) What is the molecular events of pollen tube growth & guidance ? Also mention pollen recognition & rejection mechanism by the female gametophyte.

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(iv) How can foraging behaviour and resource partitioning drive the evolution of flower and also mention the structure of pollination network ?

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