

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-VI :SUMMER- 2022
SUBJECT : BOTANY : PALYNOLOGY & PLANT BREEDING

Day : Saturday
Date : 9/7/2022

S-18481-2022

Time : 11:00 AM-02:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the **RIGHT** indicate **FULL** marks.
 - 3) Draw neat and labeled diagram wherever necessary.
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Q.1 Attempt **ANY TWO** of the following : **(12)**

- a) Explain germination and growth of pollen tube.
- b) What is pollen viability? Give cause pollen viability.
- c) Give application of palynology in honey industry.

Q.2 Attempt **ANY TWO** of the following : **(12)**

- a) Explain different types of pollen grains with help of acetolysis method.
- b) Give various steps in hybridization techniques.
- c) Explain factors affecting pollen tube growth.

Q.3 Attempt **ANY TWO** of the following : **(12)**

- a) Give types of vegetative reproduction in plant.
- b) Explain pure line selection and mass selection in plants.
- c) Describe clonal selection-advantages and disadvantages.

Q.4 Attempt **ANY THREE** of the following : **(12)**

- a) Give applications of mutation in plant improvement.
- b) Explain effect of apomixes on generating and fixing genotypic variation.
- c) What is polyploidy? Give types and characters of polyploidy.
- d) Describe cybrid production and its advantages.

Q.5 Attempt **ANY FOUR** of the following : **(12)**

- a) What are applications of tissue culture in plant breeding?
- b) Explain somaclonal variant selection in plant tissue culture for crop improvement.
- c) Give role of polyploidy in evolution of new species.
- d) Explain three way cross method in hybridization.
- e) Give achievements of polyploidy in rice.
- f) Describe role of apomixes in plant reproduction.
