

H-4/05/22

Roll No.

IV Semester Examination, 2022**M.Sc.****BOTANY****Paper I****(Plant Reproduction and Utilization of Resources)**

Time : 3 Hours]

[Max. Marks : 80

Note : All questions are compulsory. Question Paper comprises of 3 sections. Section **A** is objective type/multiple choice questions with no internal choice. Section **B** is short answer type with internal choice. Section **C** is long answer type with internal choice.

SECTION A**1×8=8****(Objective Type/Multiple Type Questions)***Choose the correct answer :*

- 1.** Pollination of flower below water level is called :
 (a) Hypohydrophily (b) Epihydrophily
 (c) Ornithophily (d) Cheiroteriphily
- 2.** Double fertilisation refers to the fusion of :
 (a) Two polar nuclei
 (b) Secondary nucleus with male gamete

P.T.O.

- (c) Egg and polar nuclei
- (d) One male gamete with the egg and another with two polar nuclei
- 3.** A monosporic type of embryo sac which does not have any antipodals is :
 (a) Oenothera type (b) Polygonum type
 (c) Peperomia type (d) Allium type
- 4.** Within Ovule meiotic division takes place in :
 (a) Megaspore
 (b) Archegonium
 (c) Nucellus
 (d) Megaspore mother cell
- 5.** Xenia and metaxenia can be best illustrated in :
 (a) Maize (b) Wheat
 (c) Strawberry (d) Myristica
- 6.** The fusion product of polar nuclei and male gamete is :
 (a) Zygote
 (b) Secondary Nucleus
 (c) Primary endosperm nucleus
 (d) Triple fusion

H-4/05/22

7. The term ethnobotany was first coined by :

- (a) Alexander Fleming
- (c) John W. Harshbarger
- (c) C.J. Alexopoulos
- (d) E.P. Odum

8. Who is considered to be the father of Green Revolution in India ?

- (a) Norman Borlaug
- (b) M.S. Swaminathan
- (c) R. Mishra
- (d) K.C. Mehta

SECTION B

6×4=24

(Short Answer Type Questions)

Unit-I

1. Write down the major factors necessary for pollen germination.

Or

Write down significant advantages of cross pollination over self pollination in flowering plants.

Unit-II

2. Write a note on the structure of pollen grains.

Or

Write a note on placentation.

Unit-III

3. Write a note on polyembryony.

Or

Describe the morphological nature and functions of endosperm.

Unit-IV

4. Describe the characteristics and give five (5) names of plants used for shade.

Or

Describe any two (2) plants of ethnobotanical significance of Chhattisgarh.

SECTION C

12×4=48

(Long Answer Type Questions)

Unit-I

1. What is incompatibility ? Discuss interspecific and intraspecific crosses giving examples.

Or

Give a brief description of various agents and types of pollination found in angiosperms.

Unit-II

- 2.** Describe the structure and development of angiospermic ovule.

Or

Write a note on structure and functions of anther.

Unit-III

- 3.** Describe the development of a typical monocotyledonous embryo with the help of suitable diagrams.

Or

Describe briefly :

- (a) Laws of Embryogenesis,
- (b) Parthenocarpy.

Unit-IV

- 4.** Discuss briefly :

- (a) Merits and demerits of green revolution.
- (b) Plants used as avenue trees for aesthetics.

Or

Write a note on the origin of agriculture.

★ ★ ★ ★ ★ c ★ ★ ★ ★ ★