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**M.Sc. (Fourth Semester)  
EXAMINATION, MAY-JUNE, 2022**

**BOTANY**

**Paper First**

**(Plant Reproduction and Utilization of Resources)**

*Time : Three Hours]*

*[Maximum Marks : 80*

**Note : Alltempt all sections as directed.**

**(Section-A)**

**(Objective/Multiple Choice Questions)**

**(1 mark each)**

**Note- Attempt all questions.**

**Choose the correct answer.**

1. Grafting is commonly used in
  - (A) Annuals
  - (B) Perennials
  - (C) Herbaceous perennials
  - (D) Woody perennials

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2. The hormone used for rooting in cutting is
  - (A) NAA
  - (B) IAA
  - (C) IBA
  - (D) All of them
3. One of the plants bearing anemophilous flower is
  - (A) Vallisneria
  - (B) Salvia
  - (C) Kigelia
  - (D) Maize
4. Transfer of pollen to the stigma of another flower of the same plant is
  - (A) Autogamy
  - (B) Allogamy
  - (C) Xenogamy
  - (D) Geitogamy
5. Anther Dehisces by
  - (A) Epidermis
  - (B) Hypodermis
  - (C) Stomium
  - (D) Tapetum

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6. The male nuclei or gametes are formed by
- (A) Vegetative cell
  - (B) Generative cell
  - (C) Pollen mother cell
  - (D) Sporogenous cell
7. Maturation of male and female reproductive organs at different times is known as
- (A) Herkogamy
  - (B) Dichogamy
  - (C) Polygamy
  - (D) Apogamy
8. Translator apparatus is found in
- (A) Mustard
  - (B) Mango
  - (C) Pea
  - (D) Calotropis
9. Pollen grains are able to withstand extremes of temperature and desiccation because their exine is composed of
- (A) Cutin
  - (B) Sclerin
  - (C) Sporopollenin
  - (D) Callose

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10. Ubisch bodies are produced in
- (A) Exine
  - (B) Intine
  - (C) Tapetal Cell
  - (D) Pollen kit
11. Germ pore is the region where the exine is
- (A) Thin
  - (B) Uniform
  - (C) Thick and uniform
  - (D) absent
12. The female gametophyte of a typical dicot at the time of fertilization
- (A) 8 Celled
  - (B) 7 Celled
  - (C) 6 Celled
  - (D) 4 Celled
13. Father of Indian Angiosperms Embryology is
- (A) P. Maheshwari
  - (B) B. M. Johri
  - (C) B. G. L. Swamy
  - (D) R. N. Kapil

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14. Food material in exalbuminous seed is mainly stored in

- (A) Nucellus
- (B) Testa
- (C) Endosperm
- (D) Embryo

15. If any somatic cell of sporophyte produces gametophyte without reduction division it is

- (A) Parthenogenesis
- (B) Apogamy
- (C) Apospory
- (D) Amphimixis

16. The first division of angiospermic zygote is -

- (A) Transverse
- (B) Oblique
- (C) Longitudinal
- (D) Irregular

17. Egg apparatus consists of -

- (A) Egg and antipodals
- (B) Polar nuclei
- (C) Egg and synergids
- (D) Egg

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18. Plants are associated with the social forestry programmes in India

- (A) Teak
- (B) Neem
- (C) Eucalyptus
- (D) Banyan

19. When green revolution started in India -

- (A) 1947-48
- (B) 1957-58
- (C) 1967-68
- (D) 1977-78

20. Which one is usually monocarpic -

- (A) Sal
- (B) Bamboo
- (C) Teak
- (D) Sisoo

**(Section- B)**

**(Very Short Answer Type Questions)**

**(2 marks each)**

**Note : Attempt any eight questions.**

1. What is "gootee"?
2. Define Parthenocarpy.

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3. What is Allogamy?
4. What is megasporogenesis?
5. Define siphonogamy.
6. What are the nuclei that fuse to form endosperm.
7. What is agamospermy?
8. What is embryogeny?
9. What is Ethnobotany?
10. What is meant by avenue trees?

**(Section - C)**

**(Short Answer Type Questions)**

**(3 marks each)**

**Note :Attempt any eight questions. Write answer in 75 words.**

Write short notes on *any eight* of the following:

1. Advantages and disadvantages of vegetative propagation.
2. Autogamy
3. In-vitro fertilization
4. Microsporangial wall
5. Structure of embryo sac
6. Nuclear endosperm
7. Storage Protein of endosperm
8. Fruit development
9. Diversity of domesticated plants
10. Agriculture

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**Section D**

**(Long Answer Type Questions)**

**(5 marks each)**

**Note:- Answer all questions in 150 words.**

1. What do you mean by pollination? Write down different adaptations for cross pollination in plants.

**OR**

What is self incompatibility? Define its various cytological, biochemical and molecular aspects.

2. Describe male sterility in plants.

**OR**

Describe different types of tetrasporic embryo sac found in angiosperms.

3. Describe the process of fruit development and its ripening.

**OR**

Describe "Polyembryony".

4. Write a note on innovation for meeting world food demands.

**OR**

Describe the benefits and adverse consequences of Green revolution.

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