

Roll No.

E-1005**M. Sc. (Fourth Semester) (Main/ATKT)
EXAMINATION, May-June, 2021**

BOTANY

Paper First

(Plant Reproduction and Utilization of Resources)*Time : Three Hours]**[Maximum Marks : 80***Note :** Attempt all Sections as directed.**Section—A**

1 each

(Objective/Multiple Choice Questions)**Note :** Attempt all questions.

Choose the correct answer :

1. The discovery of double fertilization was made by :
 - (a) Nawacschin
 - (b) Hagerup
 - (c) Mendel
 - (d) Smith

2. In which method young stem is buried in soil ?
 - (a) Trench layering
 - (b) Mount layering
 - (c) Simple layering
 - (d) Tip layering
3. The meaning of totipotency is :
 - (a) Reproductive ability
 - (b) Disease resistance
 - (c) Ability to form a plant form single cell
 - (d) All of the above
4. The polar nuclei after fusion form :
 - (a) Secondary nucleus
 - (b) Egg
 - (c) Synergids
 - (d) Antipodals
5. Self-sterility is found in :
 - (a) China rose
 - (b) Mustard
 - (c) Orchid
 - (d) None of the above

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6. Herkogamy is :
- (a) When male and female organs of bisexual flower mature at the same time.
 - (b) When these flowers mature at different time.
 - (c) This process is found in unisexual flower.
 - (d) This process is found in all types of flowers.
7. The cutin found in the exine of pollen grains is called :
- (a) Bacula
 - (b) Naxexine
 - (c) Saxexine
 - (d) Sporollenin
8. How many megaspores are functional out of four megaspores formed during megasporogenesis ?
- (a) One
 - (b) Two
 - (c) Three
 - (d) Four
9. The enzyme found in endosperm is called :
- (a) Cellulose
 - (b) Maltose
 - (c) Diastase
 - (d) All of the above

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10. Porogamy is the entry of pollen tube in ovule through :
- (a) Integument
 - (b) Micropyle
 - (c) Chalaza
 - (d) Funiculus
11. For embryo culture embryos are excised from :
- (a) Mature seeds
 - (b) Immature seeds
 - (c) Endospermic seeds
 - (d) Non-endospermic seeds
12. The male gametes are formed by :
- (a) Vegetative cell
 - (b) Generative cell
 - (c) Pollen mother cell
 - (d) Sporogenous cell
13. The persistent nucellus found in a seed is called :
- (a) Endosperm
 - (b) Suspensor
 - (c) Perisperm
 - (d) Haustoria

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14. Parthenocarpy is :
- (a) Development of fruit after pollination.
 - (b) Development of fruit after pollination and fertilization.
 - (c) Development of fruit from parts other than ovary.
 - (d) Development of fruit from ovary without fertilization.
15. The condition in which a stock and a scion are not 100% compatible is :
- (a) Parthenogenesis
 - (b) Uncongeniality
 - (c) Incompatibility
 - (d) Somatic compatibility
16. Which tree is found abundantly in the plain of India ?
- (a) *Pterocarpus marsupium*
 - (b) *Jatropha curcas*
 - (c) *Aloe vera*
 - (d) *Azadirachta indica*
17. Fruit of which plant are used in the preparation of "Trifala" ?
- (a) *Terminalia chebula*
 - (b) *Aloe vera*
 - (c) *Ricinus communis*
 - (d) *Azadirachta indica*

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18. Who started green revolution in India ?
- (a) M. S. Swaminathan
 - (b) Benjamin Pearly Pal
 - (c) Gurdev Khush
 - (d) M. Govind Kumar Menon
19. Plant used as avenue tree for shade is :
- (a) *Albizia lebbek*
 - (b) *Ficus religiosa*
 - (c) *Mimusops elengi*
 - (d) All of the above
20. Indian agriculture began in :
- (a) North-East India
 - (b) North-West India
 - (c) South India
 - (d) South-East India

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt any *eight* questions.

1. What is grafting ?
2. What is "Stock" ?
3. What is "in vitro" fertilization ?
4. Define microsporogenesis.

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5. What is sperm dimorphism ?
6. Define carpel.
7. What is embryo sac ?
8. What is apomixis ?
9. What is endosperm ?
10. Define green revolution.

Section—C

3 each

(Short Answer Type Questions)

Note : Attempt any *eight* questions.

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

1. Economic aspect of vegetative propagation
2. Double fertilization
3. Tapetum and its function
4. Bisporic embryo sac
5. Nucellus
6. Embryogenesis
7. Pollination
8. Endosperm Haustoria
9. World food demands
10. Plants used as avenue trees

Section—D

5 each

(Long Answer Type Questions)

Note : Attempt all questions in 150 words.

1. Explain the pollen-stigma interaction.

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Or

Write methods of propagation.

2. Explain the development of male gametophyte.

Or

Explain the development of female gametophyte.

3. Write a note on embryo culture.

Or

Explain dynamics of fruit growth.

4. Write in short about the ethnobotanically important plants of Chhattisgarh.

Or

Write a brief note on pollution control and aesthetics.

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