

B. Sc. Part-III

BOTANY

Paper-III (Angiosperm- Taxonomy and Embryology)

Multiple choice question

1. The substitute for the newly collected specimen when the original type material is missing in an herbarium is entitled as:

- (a) Holotype
- (b) Neophyte
- (c) Lectotype
- (d) Isotype

2. This is considered as a demerit of the 'Engler and Prantl' in the system of classification:

- (a) Gymnosperms are placed between monocotyledons and dicotyledons
- (b) Dicotyledons are placed after monocotyledons
- (c) Dicotyledons are placed before monocotyledons
- (d) Gymnosperms are placed among Dicotyledons

3. Inflorescence in family Ranunculaceae is:

- (a) Racemose
- (b) Head
- (c) Compound
- (d) Cymose

4. In tetradynamous condition the stamens are:

- (a) 2 short and 2 long
- (b) 4 short and 2 long
- (c) 4 long and 2 short
- (d) 4 long and 4 short

5. Fruit in family Brassicaceae is:

- (a) Siliqua
- (b) Nut
- (c) Etaerio
- (d) Capsule

6. The flower may be described as perigynous if the floral parts:

- (a) are inserted below the ovary
- (b) are inserted above the ovary
- (c) surround the ovary
- (d) none of the above

7. Polyspermy refers to:

- (a) production of more than one sperm
- (b) production of more than two sperms
- (c) entry of more than one pollen tubes in an embryo sac
- (d) germination of many pollen grains on one stigma

8. Caruncle is a:

- (a) nucellar outgrowth
- (b) integumentary outgrowth
- (c) endosperm haustoria
- (d) embryo sac outgrowth

9. Apomixis in plant means development of a plant:

- (a) from stem cuttings
- (b) from root cuttings
- (c) without fusion of gametes
- (d) from fusion of gametes

10. Ethylene produced by fruits:

- (a) stimulates fruit to mature faster
- (b) inhibit development of other fruits
- (c) causes lysis
- (d) all the above

11. Which of the following is a phylogenetic system of classification?

- (a) Lindley
- (b) Linnaeus
- (c) Bentham and Hooker
- (d) Hutchinson

12. 'Genera Plantarum' is a:

- (a) taxonomic work of a broad scope
- (b) guide to taxonomic literature
- (c) regional flora
- (d) taxonomic journal

13. Central National Herbarium is located in which among the following cities?

- (a) Kolkata
- (b) Delhi
- (c) Lucknow
- (d) Dehradun

14. Ubisch bodies are associated with the development of:

- (a) embryo
- (b) endosperm
- (c) pollen grains
- (d) embryo sac

15. When the entire or most of the internal surface of the ovary wall is covered with ovules, the placentation is described as:

- (a) Lamellar
- (b) Basal
- (c) Superficial
- (d) Marginal

Short answer question

1. Write a short note on herbarium.
2. Write the floral formula and floral diagram of the family Brassicaceae and Acanthaceae.
3. What is inflorescence and. Explain its types with examples in brief.
4. What is a monograph?
5. Describe the principle of priority.
6. In what features is microsporogenesis similar to and dissimilar from megasporogenesis?
7. Explain incompatibility.
8. Describe briefly the structure of pollinium.
9. What structural barriers plants have to check self-pollination?
10. Name the method of origin of cleavage polyembryony.

Long answer question

1. Write down the vegetative and floral characteristics in detail of family Poaceae with suitable diagrams including floral formula and floral diagram.
2. What do you understand by classification of plants? State the main features of the classification proposed by Bentham and Hooker.
3. Describe the floral characters, pollination and systematic position of Solanaceae.
4. Give an illustrated account of the development of the female gametophyte of angiosperms.
5. Describe the structure and development of cellular endosperm.