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Total No. of Questions : 11 ]

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# **BFMS-401**

**M.Sc. (Final) Examination, 2023**

**BOTANY**

Paper - V

**(Angiosperm, Taxonomy, Morphology,  
Anatomy and Embryology)**

*Time : 3 Hours ]*

*[ Maximum Marks : 75*

**Section-A**

**(Marks : 2 × 10 = 20)**

*Note :-* Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

**Section-B**

**(Marks : 5 × 5 = 25)**

*Note :-* Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

**Section-C**

**(Marks : 10 × 3 = 30)**

*Note :-* Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

**Section-A**

1. (i) What is the main objective of BSI and where its headquarters situated ?
- (ii) Explain triphyletic origin of vascular plants.
- (iii) What do you mean by Tautonym ? Give *one* example.

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- (iv) What is the difference between 'Monograph' and 'ICONS' ? Name the flora written by J.D. Hooker.
- (v) Name two theories regarding origin of flower.
- (vi) What is 'conduplicate' evolution of 'Carpel' ?
- (vii) Name two types of 'Megasporangium' in angiosperms.
- (viii) Give only names of wall layers of 'Microsporangium'.
- (ix) How many types of 'Polyembryony' found in Angiosperms ? Give names only.
- (x) Name two angiosperms in which 'Endosperm Haustoria' found. Write their two functions.

### **Section-B**

2. Write short note on 'Modern Tools' of Plant Taxonomy.

*Or*

How 'Takhtajan's classification differ from 'Bentham and Hookers' ?

3. Write in detail about families of 'Heterotrophic' nature.

*Or*

Explain 'Phylogeny' of 'Ranales'.

4. How 'flora' anatomy' helps in 'origin and evolution of flower' ?

*Or*

Write note on 'structural variability' in leaves.

5. With the help of diagram explain development of 'Male Gametophyte' in angiosperm.

*Or*

What do you mean by 'in-vitro pollination' ? How is it useful ?

6. Give a detailed account on "Role of embryology in plant Breeding" with example.

*Or*

Describe a detailed account of development and function of 'Endosperm'.

### Section–C

7. Discuss the primitive and advance characters of 'Angiosperm Families'.
8. Define 'Species', 'Genus', 'Family' and 'Order' and 'illustrate' them by suitable example.
9. Write down differences between 'Monocot' and 'Dicot' seed anatomy with help of diagram.
10. Write short notes on the following :
  - (a) Syngamy and Triple fusion
  - (b) Post Fertilization changes in embryo sac
11. Write short notes on the following :
  - (a) Barriers to fertilization
  - (b) Role of callose