

2203
SECOND YEAR B.Sc. Botany

**TAXONOMY AND EMBRYOLOGY OF
ANGIOSPERMS**

Unit-1

Taxonomic categories; concept of species, genus and family; Herbarium techniques. Systems of classification of Bentham and Hooker, Engler and Prantl, Hutchinson and Takhtajan. Angiosperm Phylogeny Group.

- 10 hours

Unit-2

International rules of nomenclature, range of floral structure, floral variation, and economic importance of Ranunculaceae, Brassicaceae, Papaveraceae, Capparidaceae, Caryophyllaceae, Malvaceae, Rutaceae, Cucurbitaceae, Myrtaceae, Leguminosae, Rosaceae, Apiaceae (Umbelliferae).

-10 hours

Unit-3

Range of floral structure, floral variation and economic importance of Rubiaceae, Asteraceae, Primulaceae, Solanaceae, Asclepiadaceae, Convolvulaceae, Apocynaceae, Acanthaceae, Lamiaceae, (Labiatae), Euphorbiaceae, Poaceae (Graminae).

-10 hours

Unit-4

Classical theory of morphology of flower; Primitive stamens and carpel; Microsporogenesis, Megasporogenesis, Structure and Development and male and female gametophytes, Fertilization, Nutrition of Embryo sac.

-10 hours

Unit-5

Structure, development and types of endosperm and embryo, Polyembryony, Apomixis, Molecular basis of apomixis. Experimental embryology; Culture of anther, endosperm and embryo; *in vitro* Fertilization.

-10 hours

Note:

The paper setter is required to set questions of 3 types contained in 3 Sections (**Section A**- 10 questions, **Section B**- 10 questions and **Section C**- 4 questions) from the 5 units of each paper. There will be 10 questions in **Section A** which will be asked from all the 5 units, i.e., 2 questions from each unit. These questions have to be answered in one word or a few words only. Each question will be of half mark. All the questions in **Section A** are compulsory. In **Section B**, 10 questions will be set from the 5 units, i.e., 2 questions from each unit. Students are required to attempt at least 1 question from each unit. Each

question will carry 5 marks. The answers of each question should be given in about 250 words. In **Section C** there will be 4 descriptive type questions set from all the 5 units, not more than 1 question from each unit. These questions may also have sub-divisions. The students are required to answer 2 questions, each in approximately 500 words. Each question will carry 10 marks.

In short, pattern of question paper and distribution of marks for UG classes will be as under:

- **Section A:** 10 questions, 2 questions from each unit, short answer, all questions compulsory. Total marks : **05**
- **Section B:** 10 questions, 2 question from each unit, 5 question to be attempted, at least 1 from each unit, answer approximately in 250 words. Total marks : **25**
- **Section C:** 04 questions (question may have sub-division), not more than 1 question from each unit, descriptive type, answer in about 500 words, 2 questions to be attempted. Total marks : **20**

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