

**BOTANY**

**TAXONOMY AND EMBRYOLOGY OF ANGIOSPERMS**

Papers	No. of Papers	No. of Periods Per Week	Max. Marks	Min. Pass Marks
Paper I	3	3	50	
Paper II	3	3	50	54
Paper III	3	3	50	
PRACTICALS	6	5	75	27

There shall be three written papers of three hours duration each. The candidates will be required to pass in theory and practical examinations separately.

**THEORY**

Paper I	: Taxonomy and Embryology of Angiosperms	50
Paper II	: Anatomy of Angiosperms, Economic Botany And Ethnobotany.	50
Paper III	: Cytogenetics, Plant Breeding, Evolution and Biostatistics.	50

**PRACTICALS :**

Duration of each Theory Paper	3 hours
Duration of Practicals (in one day)	5 hours

**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.

**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, Apiceae (Umbelliferae).

**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).

**Unit-4**

Classical theory of morphology of flower; Primitive stamens and carpel; Microsporogenesis, Megasporogenesis, Structure and Development of male



and female gametophytes, Fertilization, Nutrition of Embryo sac.

### Unit-5

Structure, development and types of endosperm and embryo, Polyembryony, Apomixis, Experimental embryology; Culture of anther, endosperm and embryo.

#### 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**