

Karnatak University, Dharwad

SUB:BOTANY

Semester – V

PAPER V: MORPHOLOGY OF ANGIOSPERMS AND TAXONOMY

Practical – V

Time : 04 Hours

Max. Marks: 40

- Q. 1. Assign the specimens A, B, C and D to the respective families giving diagnostic features and their classifications. 16 marks.
- Q. 2. Draw the floral diagram and write floral formula of specimen E. 03 marks.
- Q. 3. Explain the morphological peculiarities observed in the specimens F, G, H and I. 12 marks.

Practical Record (Journal) 05 Marks.

Botanical Study-Tour Report 04 marks.

Instructions to the Examiner

- Q. 1. One from monocot or apetalae/ One or two either from Polypetalae or Gamopetalae.
(Identification – 1 mark, Classification – 1 mark, Features – 2 marks)
- Q. 2. A twig with flower buds (Floral diagram – 2 marks, Floral formula – 1 mark)
- Q. 3. One each from root / stem, Leaf, inflorescence/ flower and fruit.

SEMESTER – V

PAPER V: MORPHOLOGY OF ANGIOSPERMS AND TAXONOMY

Unit 1: Angiosperms – Morphology of root, stem and leaf. Their modifications for various functions. Inflorescence – types. Flower as a modified shoot. Structure and variations of flower. Floral diagram and floral formula. Fruits–types. **14 Hours.**

Unit 2: Angiosperm taxonomy - Brief history, botanical nomenclature, principles and rules, taxonomic ranks and principle of priority. **04 Hours.**

Unit 3: Classification of Angiosperms – systems proposed by Bentham and Hooker, Engelm. & Prantl and Angiosperm Phylogeny Group III (APG III) system of classification, their salient features, merits and demerits. Major contributions of Cytology (Cytotaxonomy) and Phytochemistry (Chemotaxonomy) to taxonomy. **04 Hours.**

Unit 4: Diversity of flowering plants as illustrated by members of the following families: Annonaceae, Brassicaceae, Malvaceae, Rutaceae, Fabaceae, Myrtaceae, Combretaceae, Apiaceae, Rubiaceae, Asteraceae, Sapotaceae, Apocynaceae, Convolvulaceae, Acanthaceae, Lamiaceae, Solanaceae, Amaranthaceae, Euphorbiaceae, Orchidaceae, Liliaceae, Arecaceae and Poaceae. **22 Hours.**

Unit 5: Herbarium techniques, botanical gardens and Botanical Survey of India and its functions. **02 Hours.**

PRACTICALS

1. Study of root, stem and leaf structure and modifications.
2. Study of inflorescence types.
3. Study of flower and its parts, floral diagram and floral formula.
4. Study of fruits.
5. Study of families mentioned in theory with at least two examples for each.

SCHEME OF STUDY AND EXAMINATION OF SEMESTER I-VI OF BACHELOR'S DEGREE COURSE IN BOTANY

1. B.Sc. course in Botany will be of three academic years, comprising of six semesters, two in each academic year.
2. There shall be one paper and one practical for I-IV semesters and two papers and two practicals for V and VI semesters.
3. For semesters I-IV each theory paper shall have 70 teaching hours (inclusive of 2 hrs. for tests) and 64 hours of practicals (inclusive of 4 hrs. for test). For semesters V and VI theory paper will have 48 hours and practicals shall have 64 hours of teaching.
4. There shall be study tour (1-2 days) during I and II semesters. During V semester study tour of about 6 days is mandatory. Students are required to submit the tour reports and collections made during the study tour.
5. There shall be two class tests, each of one hour duration, conducted at the end of 8th and end of 12th week of each semester. Each test should be conducted for 20 marks, later to be reduced to 10 marks. The average marks of two tests for 10 marks shall be taken as final internal assessment marks for the test component. The award of remaining 10 internal assessment marks should be for home assignment / seminar.
6. There shall be one practical test, to be conducted at the end of 12th week of semester, for 20 marks, later to be reduced for 10 marks.
7. The internal assessment marks awarded to the students shall be displayed on the notice board within two weeks from the date of conduct of the tests.
8. The practical journal should be evaluated for 5 marks. Submissions and tour reports (I, II and V semesters)/project assignment or skill development (III, IV and VI semesters) shall be evaluated for 5 marks out of 40 marks allotted for the practical examination.
9. At the end of each semester examination for theory and practical will be conducted for 80 and 40 marks respectively. The duration of examination shall be of three hours for theory and 4 hours for practicals of all semesters.