



# MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

Re-accredited by NAAC with 'A' Grade in the 3<sup>rd</sup> Cycle



**Dr. R. Sudha**, M.A., M.Phil., Ph.D.,  
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Tamil Nadu, India.

Ref.: B1/BoS/PG/Botany/Syllabus/2019

Date: 23-07-2019

To

All the Principals of Non-Autonomous Colleges  
affiliated to Madurai Kamaraj University  
(offering M.Sc. Botany under CBCS semester pattern)

Sir / Madam,

Sub: Errors (missing of unit number, spelling mistake in the family name etc.) found in the syllabus of Taxonomy of Angiosperms – Semester III - Paper VII in M.Sc. Botany – Appendix- S of Academic Council dated 26-03-2018 – corrected and intimated - reg.

Ref: Letter received from Dr. S. Chandrasekaran, Chairman, Board of Studies in Botany (PG) dated 16-07-2019.

With reference to the letter cited, I am to inform you that some errors (missing of unit number, spelling mistake in the family name etc.) found in the syllabus of Taxonomy of Angiosperms – Semester III - Paper VII in M.Sc. Botany under CBCS semester pattern have corrected and the same is enclosed herewith.

I request that this may be informed to the concerned staff and the students of your College, accordingly.

Yours faithfully,

*R. Sudha*  
25/7/19

REGISTRAR-i/c.

Encl.: As above

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# M. Sc. Botany (Semester)

## SEMESTER III Paper VII TAXONOMY OF ANGIOSPERMS

Contact hours: 6 hrs. /week

On successful completion of the course, the students will be able to:

- Acquire knowledge on principles of Botanical nomenclature
- Comparative study about different systems of classification
- Describe the salient features of various families belonging to Dicotyledons and Monocotyledons
- Appreciate the modern trends in Taxonomy

**Unit I:** History of Plant Taxonomy, Definition, Aims, importance and scope of Taxonomy Development and phases of classification, systems of classification. Artificial- Linnaean system. Natural – Bentham and Hooker system. Phylogenetic – Engler, Pratil and Hutchinson, Tautajhan and Cronquist system (Comparative study).

**Unit II:** ICN – Norms, New Regulations, Morphology of Angiosperms, Herbarium techniques, Digital Herbarium, Botanical museums, Botanical libraries, Botanical Garden, Effective and valid publication, Type concept and Author citation retention of names, publication of names: rules of priority.

**Unit III:** Modern concepts and trends in plant taxonomy: Elementary treatment of Cytotaxonomy, Chemotaxonomy, Numerical Taxonomy, Molecular Taxonomy, Cladistics

**Unit IV: Polypetalae:** Study of important taxonomic characters and popular examples of the following natural order of Bentham and Hooker classification – Ranunculaceae, Magnoliaceae, Nymphaeaceae, Capparidaceae, Caryophyllaceae, Sterculiaceae, Rutaceae, Rhamnaceae, Sapindaceae, Rosaceae, Lythraceae, Passifloraceae, Aizoaceae, Apiaceae, **Gamopetalae:** Rubiaceae, Asteraceae, Sapotaceae, Gentianaceae, Convolvulaceae, Scrophulariaceae, Bignoniaceae, Lamiaceae, Verbenaceae

**Unit V: Monochlamydeae and Monocotyledons:** Nyctaginaceae, Aristolochaceae, Piperaceae, Loranthaceae, Euphorbiaceae, Orchidaceae, Hydrocharitaceae, Amaryllidaceae, Commelinaceae, Palmaceae, Araceae, Cyperaceae.

### Practical

1. Identification of families mentioned in the syllabus with the help of salient features
2. Preparation of dichotomous key
3. ICN problems
4. Name of the plant using Gamble
5. Submission of 30 herbarium sheets
6. Field trip for minimum of 3 days for collection of plants and preparation of herbarium
7. Study of local flora
8. Spotters related to Theory

### References

1. Bhattacharya, B and Johri, B.M. 1996. **Flowering plant- Taxonomy and Phylogeny**. Narosa Publishing House, New Delhi. 1996
2. Cole, A.J. 1969. **Numerical Taxonomy**. Academic Press, London.



3. Gurcharan Singh, 2016. **Plant Systematics: An Intergrated Approach**, Third Edition, CRC Press, Taylor & Francis group.
4. Heywood, V.H. and Moore, DN 1994. **Current concepts in plant taxonomy**. Academic Press London.
5. Lawrence, GHM 1959. **Taxonomy of vascular plants**. Mac Millan, New York.
6. Nalki, V.N.1993. **Taxonomy of Angiosperms**. Tata Mc-Graw-Hill Publishing Company Ltd., New Delhi.1993
7. Pascale Besse, 2014. **Molecular Plant Taxonomy: Methods and Protocols**, Humana Press, New York.
8. Sharma, O.P., 2011. **Plant Taxonomy** (2<sup>nd</sup> Edition), Tata McGraw-Hill Education, Delhi.
9. Sivarajan V. V. 1991. **Principle of Plant Taxonomy**. Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi.
10. Sokal R.R. and Sneath P.H.A 1963. **Principles of numerical taxonomy**. Fremen& Co. San Francisco. USA.
11. Stace, C. 1985. **Plant taxonomy and biosystematics**, Edward Arnold, London.
12. Subrahmanyam, N.S. 2009. **Modern Plant Taxonomy**. Vikas Publishing House Pvt. Ltd. New Delhi
13. Takhtajan, A.L. 1997. **Diversity and classification of flowering plants**. Columbia Univ. Press, New York.
14. Woodland, D.W. 2009. **Contemporary Plant Systematics**. Prentice Hall, New Jersey.
15. Walter S. Judd, Christopher S. Campbell, Elizabeth A. Kellogg, Peter F. Stevens, Michael J. Donoghue, 2015. **Plant Systematics: A Phylogenetic Approach**, Sinauer, USA.