



SRI VENKATESWARA UNIVERSITY, TIRUPATHI

4 -Year UG Honours in B.Sc. BOTANY: Major in Consonance with Curriculum Frame work w.e.f AY 2026-27

COURSE STRUCTURE (for Semester III)

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
II	III	5	Morphology and Taxonomy of Angiosperms	3	3
			Morphology and Taxonomy of Angiosperms - Practical	2	1
		6	Plant resources and Utilization	3	3
			Plant resources and Utilization –Practical	2	1
		7	Plant Ecology, Biodiversity and Phytogeography	3	3
			Plant Ecology, Biodiversity and Phytogeography –Practical	2	1

Signatures of the Board of Studies members

Sl No.	Designation	Name	Signature
1	BOS Chairman	Dr Mohano Behera, Department of Botany, Govt. Degree College, Pakala	
2	Member	Dr L. Md. Bakshu, Department of Botany, Dr YSR Govt. Degree College, Veduru Kuppam	
3	Member	Dr M. Hemalatha, Department of Botany, SVCR Govt. Degree College, Palamaner	
4	Member	Dr A. Sasikala, Department of Botany, SVCR Govt. Degree College, Palamaner	
5	Member	Smt. S. Padmavathi, Department of Botany, Govt. Degree College, Puttur	
6	Member	Dr P. Sujana, Department of Botany, Govt. Degree College, Puttur	

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III Semester

COURSE 6: PLANT RESOURCES AND UTILIZATION

Theory

Credits: 3

3 hrs/week

I. Learning Objectives: By the end of this course the learner has to:

1. Identify different plants domesticated by humans and utility of their products.
2. Gain knowledge on commercial and timber products obtained from plants.
3. Know the facts on economic value of plants products in relation to human welfare.

II. Learning Outcomes: On successful completion of the course, the students will be able to

1. Explain the significance of plants in human nutrition
2. List out different plant products used by human beings
3. Evaluate the commercial plant products and their utilization
4. Discuss the uses of medicinal and aromatic plants for human health care.
5. Appraise the importance of timber and non-timber products for value added products

III. Syllabus of Theory:

Unit-1: Field crops (Cereals, Millets and Pulses)

9 Hrs.

1. Centers of origin (diversity) of crop plants and their domestication.
2. A general account of cereals, millets and pulses.
3. A brief account of Botany (origin, distribution, botanical name, family and morpho- logical description only) and economic significance of: Cereals -Rice and Maize; Millets -Sorghum and finger millet; Pulses-Chickpea and Red gram

Unit-2: Oilseeds and Commercial field and horticultural crops

9 Hrs.

1. A general account of oilseed crops and vegetable oil yielding trees.
2. A brief account of Botany (origin, distribution, botanical name, family and morpho- logical description only) and economic significance of Oilseeds (Groundnut and Sesame) and Sugarcane.
3. Botanical name, family, nutritional value of major tropical and temperate fruits and nuts.
4. Botanical name, family, nutritional value of vegetable crops (root and tuber crops, cucurbits, cruciferous, solanaceous and leafy vegetables).

Unit-3: Fiber crops, Spices, Condiments; Beverages and Narcotics

9 Hrs.

1. Classification of plant fibers: A brief account of Botany (origin, distribution, botanical name and family) and economic importance of fiber crops (Cotton, Jute, Flax and Hemp)
2. Botanical name, family and economic importance of Spices (Cinnamon, Cloves, Cardamom and Pepper); Beverages (Coffee, Tea and Cocoa); Plants used as fumitories (Tobacco), masticatories (Betel) and narcotics (Opium poppy).

Unit-4: Medicinal and aromatic plants-their products

9 Hrs.

1. Traditional and modern uses of some medicinal plants of India.
2. Botanical name, family and economic importance of *Rauwolfia*, *Withania*, *Emblica*, *Andrographis*, *Senna auriculata*.
3. Essential oils and their uses; aromatic plants in perfumery and cosmetics.
4. Botanical name, family and economic importance of rubber, latex, gums, resins and dye yielding plants.



Unit-5: Timber yielding plants and energy plantations

9 Hrs.

1. A general account on important timber yielding plants of India with an emphasis on Sal, Arjun, babul, Teak, Indian Rosewood, Mahogany
2. Uses of wood: Wood as a construction and manufacturing material and other uses of wood (Brief account of sandal wood)
3. Energy Plantations and biofuels
4. Bamboos, Eucalyptus, Casuarina - generation of paper industry raw material.

IV. Textbooks:

1. Kochhar, S. L. (2016). Economic Botany in the Tropics (4th ed.). Macmillan Publishers India.
2. Sambamurty, A. V. S. S. (2005). Textbook of Economic Botany. Wiley Eastern Ltd.
3. Rao, K. N., & Rao, G. R. (2012). A Textbook of Economic Botany. McGraw Hill Education.
4. Sundara Rajan, S. (2002). Introduction to Economic Botany. Popular Book Depot.

V. Reference Books:

1. Hill, A. F. (1952). Economic Botany: A Textbook of Useful Plants and Plant Products (2nd ed.). McGraw-Hill Book Company Inc.
2. Wickens, G. E. (2001). Economic Botany: Principles and Practices. Springer.
3. Simpson, B. B., & Ogorzaly, M. C. (2015). Economic Botany: Plants in Our World (4th ed.). McGraw Hill.
4. Jain, S. K., & DeFilipps, R. A. (1991). Medicinal Plants of India. Reference Publications Inc.
5. Heywood, V. H. (1999). Use and Potential of Wild Plants in Farm Households. FAO, Rome.

VI Suggested activities and evaluation methods:

Unit-1: Activity: A critical assignment on origin of crop plants.

Evaluation method: Evaluate the extent and quality of data collected to support the assignment's arguments.

Unit-2: Activity: Group discussion on various plant products and their source plants.

Evaluation method: Assess the logical flow and coherence of the group's discussion based on a grading scale.

Unit-3: Activity: A survey report on commercial plant products available in local markets.

Evaluation method: Evaluate the clarity and comprehensibility of the survey questions.

Unit-4: Activity: A case study report on phytomedicines used in human health care.

Evaluation method: Examine the depth and coherence of the discussion and interpretation based on a rubric.

Unit-5: Activity: A field trip to timber depots and silviculture plantations in their locality.

Evaluation method: Evaluate the level of student engagement and active participation during the trip based on a grading scale.



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III Semester

III Semester

COURSE 6: PLANT RESOURCES AND UTILIZATION

Practical

Credits: 1

2 hrs/week

I. Course Outcomes: On successful completion of this practical course, student shall be able to:

1. Characterize various plant products based on morphological and microscopic observations.
2. Identify economically valuable plants and their products.
3. Categorize distinct plant products utilized by humans.

II. Laboratory/field exercises:

1. Identification of following plant resources mentioned in the theory syllabus
 - a) Food crops
 - b) Oilseeds and Commercial field and horticultural crops
 - c) Fibre crops, Spices, Condiments; Beverages and Narcotics
 - d) Medicinal and aromatic plant products
 - e) Timber yielding plants and energy plantations
2. Collection of different types of locally available rice varieties
3. Submission of herbarium of any five economically important useful plant parts
4. Collection of different cereals and pulses.


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COURSE 6: PLANT RESOURCES AND UTILIZATION

Suggested Model Paper for Practical Examination

Max Time: 3 Hrs

Max. Marks: 50

- | | |
|---|--------------|
| 1. Identify and describe the given plant resource specimen 'A' | 15 M |
| 2. Study of the locally available rice varieties 'B' | 10 M |
| 3. Identify and comment on the given specimens/spotters/slides/photographs 4 x 3 = 12 M | |
| C. Cereals or Pulses | |
| D. Spices or Condiments | |
| E. Medicinal plant parts | |
| F. Timber or fiber yielding plants | |
| 4. Submit any five economically important useful plant parts | 05 M |
| 5. Record & Viva – voce | 5 + 3 = 08 M |


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III Semester

Suggested Model Question Paper for Theory Examinations

Common pattern of Theory Question Paper for Semester-End Examinations.

Max. Time: 3 Hrs.

Max.Marks:75M

Section–A

Answer any Five of the following questions. Draw labelled diagrams wherever necessary

5 x 3 = 15 M

- ✓ Two questions should be given from each Unit of the syllabus.

Section–B

Answer any Five of the following questions. Draw labelled diagrams wherever necessary

5 x 12 = 60 M

- ✓ Two questions (a and b) will be given from each unit in the syllabus, providing internal choice (a or b) within each unit. Students must answer a total of five questions, selecting one question from each unit.

Note: Questions should be framed to test the students' understanding, analytical, and creative skills. All questions must be set strictly within the prescribed syllabus framework.


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4- Year UG Honours, Major
Syllabus
(2026-27)
Semester-III

Model Question Paper

Time : 3hrs

Marks:75

Part-A

Answer any Five Questions. Each Question carries 3 Marks.

5x3=15

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Answer the following questions. Each question carries 12 Marks

5x12=60

11. a) Unit-I
(Or)
b) Unit-I

12. a) Unit-II
(Or)
b) Unit-II

13. a) Unit-III
(Or)
b) Unit-III

14. a) Unit-IV
(Or)
b) Unit-IV

15. a) Unit-V
(Or)
b) Unit-V