ST. JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS) VISAKHAPATNAM

B.SC.(HONORS) AGRICULTURE AND RURAL DEVELOPMENT WITH SINGLE MAJOR

# II SEMESTER AGRICULTURE AND RURAL DEVELOPMENT Time: 4 hrs/week

HORD182 (1)  **PRODUCTION TECHNOLOGY FOR MEDICINAL & AROMATIC PLANTS**Marks:100

w.e.f AK 2023-2024 (Admitted batch) **SYLLABUS**

**OBJECTIVES:**

* To Identify Medicinal and Aromatic Crops
* To prepare and planting of Medicinal and Aromatic Crops
* Learn to prepare  Essential oils .
* Benefits of Medicinal and Aromatic Crops.

**Course Outcomes**

**CO1:** Students will be able to understand the importance and research institutes in our country

**CO2:** Students will understand about Production technology of medicinal, aromatic & Crops.

**CO3:** Students will understand about processing in aromatic plants.

**CO4:** Uses and preparation of essential oils.

**THEORY**

**UNIT – 1:**1.Introduction History, importance, present status (export & import), future prospects and constraints in the cultivation of medicinal plants.

2. Research institutes working on medicinal and aromatic plants- National, AICRP, Directorates.

3. Aloe, Ashwagandha, Belladonna Importance and uses ,chemical composition, origin and distribution, description of plant, species and varieties, area and production, soil and climate, land preparation, propagation and nursery techniques, planting and after care, irrigation, nutrition, cultural operations, plant protection, harvesting and yield, processing.

4.Dioscorea,Isabgol, Kalmegh, Importance and uses ,chemical composition, origin and distribution, description of plant, species and varieties, area and production, soil and climate, land preparation, propagation and nursery techniques, planting and after care, irrigation, nutrition, cultural operations, intercropping, staking plant protection, harvesting and yield, processing and grading.

**UNIT – II:**5. *Opium poppy, Periwinkle, Rauvolfia,Senna* Importance and uses ,chemical composition, origin and distribution, description of plant, species and varieties, area and production, soil and climate, land preparation, propagation, planting and after care, irrigation, nutrition, cultural operations, lancing and latex collection, harvesting and yield of seed and crude opium, processing.

6.*Pyrethrum* Importance and uses ,chemical composition, origin and distribution, description of plant, species and varieties, area and production, soil and climate, land preparation, propagation and nursery techniques, planting and after care, irrigation, nutrition, cultural operations, plant protection, harvesting and yield, processing, pyrethrin content, extraction and storage.

  7. Datura, *Centella asiatica, Tinospora cardifolia,* Brahmi, Guggal, Glori lilly, *Phyllanthus amarus.* Common name, scientific name, family, economic part, uses.

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8. Introduction History, importance, present status (export & import),future prospects, opportunities and constraints in the cultivation of aromatic plants. Extraction methods Extraction methods for essential oil crops- distillation methodology, advantages and disadvantages of water distillation, water and steam distillation, steam distillation.

9. Ambrette {musk},Citronella, Importance and uses , origin and distribution, description of plant, species and varieties, area and production, soil and climate, land preparation, propagation and nursery techniques, planting and after care, irrigation, nutrition, cultural operations, plant protection, harvesting and yield.

**UNIT – III**:10.Lemongrass,Geranium, Khus grass, Palmarosa Importance and uses, origin and distribution, varieties, description of plant, area and production, soil and climate, land preparation, propagation, planting and after care, irrigation, nutrition, cultural operations, harvesting and yield of herb and oil.

11.Lavender Importance and uses, origin and distribution,varieties, description of plant, area and production, soil and climate, land preparation, propagation, planting and after care, irrigation, nutrition, cultural operations, harvesting and yield.

***REFERENCES TEXT BOOKS:***

* Atul, C.K. and Kapur, B.K. (1982). Cultivation and utilization of medicinal plants. RRL., CSIR, Jammu-Tawi.
* Chopra, R.N., Nayar, S.L. and Chopra, I.C. (1956). Glossary of Indian medicinal plants. CSIR, New Delhi.
* Cunningham, A. 2014. Applied Ethnobotany: "People, Wild Plant Use and Conservation". Taylor & Francis,
* EIRI Board. (2007). Handbook of Medicinal and Aromatic Plants: Cultivation, Utilisation and Extraction Ethnobotany. Principles and applications. (1997).
* C. M. Cotton. John Wiley and Sons Ltd. 424p. Gunther, E. (1975). The essential oils. Robert, K Krieger Pub. Co., New York. Jain, S.K. 2010. Manual of Ethnobotany (2nd Ed). Scientific Publishers, India, 242p.
* Maheshwari, J.K. 2000. Ethnobotany and medicinal plants of Indian subcontinent. Scientific Publishers, Jodhpur, India, 672p
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