

# Devi Ahilya Vishwavidyalaya Indore (M.P.)

Department of Higher Education, Govt. of M.P.

Post Graduate Semester wise Syllabus

As recommended and Approved by Board of Studies D.A.V.V.

उच्च शिक्षा विभाग, म.प्र. शासन

स्नातकोत्तर कक्षाओं के लिये सेमेस्टर अनुसार पाठ्यक्रम

अध्ययन मण्डल देवी अहिल्या विश्वविद्यालय द्वारा अनुशंसित तथा अनुमोदित

Session (सत्र) 2019-20

M. Sc. Botany (Semester System)

Second Semester

Course PG 204: Utilization and Conservation of Plant Resources 85+15

- UNIT I: Organization of Resources:** Utilization of Resources from forest, grassland and aquatic habitat; World centers of primary diversity of domesticated plants; Secondary centers of origin. Threats to quality and quantity of Resources to overexploitation.
- UNIT II: Food Plants:** Botany, cultivation and uses of Cereals(Golden Rice, Recent hybrid varieties of Wheat and Maize); Pulses (Gram and Pigeon pea);Vegetables; Fruits; Beverages (Coffee); Oil Yielding Plants(sunflower) and Sugarcane. A brief account of Spices and Condiments.
- UNIT III: Timber and Non-wood timber plant:** General account of Petro crops and Forage. Important timber yielding plants; Non-wood timber forest products (NWFPs): Paper, Pulp, Gums, Tannins, Resins and Dyes. Fibres and fibre yielding plants (Cotton and Sunn Hemp). Plants used as avenue for shade, pollution control and aesthetics.
- UNIT IV: Conservation of resources:** Principles of Conservation, *in-situ* conservation: Sanctuaries, National parks, Habitat conservation practices, conservation for forests, ranges, soil and water; Ex-situ conservation- Botanical gardens, gene banks, seed banks and cryo-banks.
- UNIT V: Resource monitoring:** Remote sensing concepts and basic biosensors, Tools, Satellite remote sensing, Visual and digital interpretation, EMR bands and their applications; Indian remote sensing programme; thematic mapping of resources. Application of remote sensing in Ecology and Forestry.GIS.

① 2000

② 11/11/19

③ 11/11/19

### Suggested Readings

1. Moldan, B. and Billharz, S. 1997. Sustainability Indicators. John Wiley and Sons, New York.
2. Treshow, M. 1985. Air Pollution and Plant Life. Wiley Interscience.
3. Heywood, V.H. and Watson, R.T. 1995. Global Biodiversity Assessment. Cambridge University Press.
4. Mason, C.F. 1991. Biology of Freshwater Pollution. Longman.
5. Hill, M.K. 1997. Understanding Environmental Pollution. Cambridge University Press.
6. Brady, N.C. 1990. The Nature and Properties of Soils. MacMillan.
7. Kothari, A. 1997. Understanding Biodiversity: Life Sustainability and Equity. Orient Longman.
8. Kohli, R., Arya, K.S., Singh, P.H. and Dhillon, H.S.; 1994. Tree Directory of Chandigarh. Lovedale Educational, New Delhi.
9. Nair, M.N.B. et. al (Eds) 1998. Sustainable Management of Non-wood Forest Products.
10. Faculty of Forestry, University Putra Malaysia. 434004 PM Serdang, Selangor, Malaysia.
11. Paroda, R.S. and Arora, R.K. 1991. Plant Genetic Resources Conservation and Management. IPGRI (Publication) South Asia Office, C/o NBPGR, Pusa Campus, New Delhi.
12. Pimentel, D. and Hall, C.W. (eds) 1989. Food and Natural Resources. Academic Press, London-New York. .

① S0002

② 11/06/3/19

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