

**SARDAR PATEL UNIVERSITY**  
**Programme: MSC (Botany)**  
**Semester: IV**  
**Syllabus with effect from: June 2011**

<b>Paper Code:</b> PS04EBOT01	<b>Total Credits: 4</b>
<b>Title Of Paper:</b> Phytoresource Utilization & Conservation	

Unit	Description in detail	Weightage (%)
<b>1</b>	<p><b>Plant Biodiversity:</b>            Concept, status in India, utilization and concerns.            Origin, evolution, botany, cultivation and uses of (i) Food, forage and fodder crops, (ii) fibre crops (iii) medicinal and aromatic plants, and (iv) vegetable oil – yielding crops            Ethnomedicobotany: Basic approaches to study traditional knowledge on herbal medicine; Scope and potential applications.            Collection methods of ethnomedicobotanical data: Field methods and scrutiny of Herbarium specimens and folklore; verification of data; collection of materials for voucher specimen and for phytochemical screening; application of ethnomedicobotany. Creating indigenous knowledge base of traditional medicines of plant origin.</p>	<b>50 %</b>
<b>2</b>	<p><b>Forest products:</b>            Important timber yielding planting.            Timber types, identification diagnostic features, structure &amp; quality            Important fire wood plants Non Timber forest products bamboos, rattans, fibers pulp; gums, resins, tanins, lotex, fruits &amp; tubers.            Innovations for meeting world food demands.            Plants used as avenue trees for shade, pollution control and aesthetics.            Principles of conservation; extincitons; environmental status of plants based on International Union for Conservation of Nature.            Strategies for conservation – in situ conservation:            International efforts and Indian initiatives; protected areas in India – sanctuaries, national parks, biosphere reserves, wetlands, mangroves and coral reefs for conservation of wild biodiversity ex situ conservation: Principles and practices; botanical gardens, fields gene banks, seed banks, in vitro repositories, cryobanks; general account of the activities of Botanical Survey of India (BSI), National Bureau of Plant Genetic Resources (NBPGR), Indian Council of Agricultural Research (ICAR), Council of Scientific &amp; Industrial Research (CSIR), and the Department of Biotechnology (DBT) for conservation, non-formal conservation efforts.</p>	<b>50 %</b>

**Basic Text & Reference Books:**

- Anonymous. National Gene Bank: Indian Heritage on Plant Genetic Resources (Booklet). National Bureau of Plant Genetic Resources, New Delhi.
- Arora, R. K. and Nayar, E. R. Wild Relatives of Crop Plants in India. NBPGR Science Monograph.
- Baker, H. G. Plants and Civilization. C. A. Wadsworth, Belmont.
- Bole, P. V. and Vaghani, Y. Field Guide to Common Indian Trees. Oxford University Press, Mumbai.



- Chandel, K. P. S., Shukla, G. and Sharma, N. Biodiversity in Medicinal and Aromatic
- Plants in India: Conservation and Utilization. National Bureau of Plant
- Genetic Resources, New Delhi.
- Cristi, B. R. CRC Handbook of Plant Sciences and Agriculture. Vol. I. In-situ conservation. CRC Press, Boca Raton, Florida, USA
- Council of Scientific & Industrial Research. The Useful Plants of India. Publications and Information Directorate, CSIR, New Delhi.
- Plant Wealth of India. Special Issue of Proceedings India National Science Academy B – 63 Rodgers, N. A. and Panwar, H. S. Planning a Wild life Protected Area Network in India. Vol. 1. The Report Wildlife Institute of India, Dehradun.
- Sahni, K. C. The Book of India Trees, Oxford University Press, Mumbai.
- Sharma, O. P. Hill's Economic Botany. Tata McGraw Hill Co. Ltd., New Delhi.
- Swaminathan, M. S. and Kocchar, S. L. Plants and Society. Macmillan Publication Ltd., London.
- Thakur, R. S., Puri, H. S. and Husain, A Major Medicinal Plants of India. Central Institute of Medicinal and Aromatic Plants, CSIR, Lucknow. S.K. Jain: A Manual of Ethnobotany
- S.K. Jain: Glimpses of Indian Ethnobotany
- S.K.Jain, B.K. Sinha and R.C.Gupta: Notable plants in Ethnomedicine of India
- J.K. Maheswari: Dictionary of Indian Folk medicine and Ethnobotany
- S.K. Jain: Useful plants of India
- Wiley Chichester, CIBA Foundation Symposium 185: Ethnobotany and the search for new drugs.

