

# **SANATAN DHARM COLLEGE MUZAFFARNAGAR- 251001(U.P.)**

*Maa Shakumbhari University, Saharanpur*

## **CRITERION 1**

### **CURRICULAR ASPECTS**

#### **1.3 CURRICULUM ENRICHMENT**

**1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum**

#### **ENVIRONMENT AND SUSTAINABILITY**

ISO 9001 : 2015, ISO 14001: 2015

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<b>S. NO.</b>	<b>CLASS / SUBJECT</b>	<b>COURSE / PAPER</b>	<b>UNIT / TOPIC</b>	<b>PAGE NO.</b>
1.	B.Sc. (Botany) (Sem. III)	<b>B040301T</b> Flowering Plants Identification and Aesthetic Characteristics	<b>Unit-VIII</b> Some Famous Gardens of India (Conservatory, Green Houses, Water Gardens)	01 - 02
2.	B.Sc. (Botany) (Sem. IV)	<b>B040401T</b> Economic Botany, Ethnomedicine and Phytochemistry	<b>Unit- I</b> Concepts of Sustainable Development  <b>Unit-V</b> Plant Conservation and Cultivation, Ethno- botanical Aspect of Conservation and Management of Plant Resources  <b>Unit-VI</b> Preservation of Primeval Forests in the form of Sacred Groves of Individual Species	03 - 05
3.	B.Sc. (Botany) (Sem. VI)	<b>B040602T</b> Ecology and Environment	<b>Unit- I</b> Natural Resources and Sustainable Utilization  <b>Unit- II</b> Ecology and Ecosystem  <b>Unit-III</b> Soil Formation, Properties, and Conservation  <b>Unit- IV</b> Bio Diversity and its Conservation  <b>Unit- VI</b> Environmental Audit and Sustainability, Pollution	06 - 07

			<p><b>Unit- VII</b> Waste Management and Circular Economy</p> <p><b>Unit-VIII</b> Environmental Ethics, Carbon credits</p>	
4.	Department of Botany	<b>Add on Course</b>	Certificate course in Organic Farming	08
5.	B.P. Ed. (I Year)	<b>CC-103</b> Health Education and Environment Studies	<p><b>Unit- III</b> Plastic recycling and probation of plastic bag/cover, Role of School in environmental conservation and sustainable development</p> <p><b>Unit-IV</b> Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution, Management of Environment and Govt. policies, Role of Pollution Control Board.</p>	09
6.	B.Voc. (IT) (Sem I)	<b>BVOC 105</b> Environmental Studies	<p><b>Unit- II</b> Natural Resources</p> <p><b>Unit- IV</b> Bio- Diversity and its Conservation.</p> <p><b>Unit-V</b> Environmental Pollution</p> <p><b>Unit-VI</b> Social Issues and Environment</p>	10
7.	M.Sc.(Chemistry) (IV Sem)	<b>CH-4507</b> Environmental Chemistry	<p><b>Unit- I</b> Environment</p> <p><b>Unit- II</b> Hydrosphere</p> <p><b>Unit- III</b> Soils</p>	11

			<p><b>Unit- IV</b> Atmosphere</p> <p><b>Unit- V</b> Industrial Pollution</p> <p><b>Unit-VI</b> Environmental Toxicology</p>	
8.	M.Com (Sem. IV)	<b>I: 4004</b> Marketing Management	<b>Unit- V</b> Green Marketing	12
9.	B.A.(Economics) (Sem. V)	<b>A080501T</b> Economic Growth and Development	<b>Unit-II</b> Development and Sustainability, Concept of Sustainable Development, Millennium Development Goals	13 - 14
10.	B.A. (Economics) (Sem. V)	<b>A080502T</b> Environmental Economics	<b>Unit-I to VIII</b> Introduction The Design and Implementation of Environmental Policy Environmental Valuation Methods and Applications Sustainable Development The Theory of Externality Social Limits to Growth Model Indian Constitution and the Environment Population and Environment	14 - 15
11.	B.A. (Economics) (Sem. VI)	<b>Paper-15</b> Agricultural Economics	<b>Unit- VI</b> Green Revolution and the need for Second Generation Green Revolution	16 - 17
12.	M.A.(Economics) (Sem. II)	<b>Paper- 6</b> Economics of Growth and Development	<b>Unit-IV</b> Sustainable Development Goals	18



13.	M.A.(Economics) <b>(Sem. III)</b>	<b>Paper-10</b> International Economics	<b>Unit –V</b> Effects of Trade (Liberalization and Globalization) on Environment	19
14.	M.A.(Economics) <b>(Sem. IV)</b>	<b>Paper-13</b> Indian Economy	<b>Unit–III</b> Sustainable Development Goals 2030, Environment Degradation and Economic Development, Evergreen Revolution	20
15.	MA (Economics) <b>(Sem IV)</b>	<b>Paper-14</b> Demography	<b>Unit-V</b> Population, Environment and Economic Development	21
16.	M.A.(Economics) <b>(Sem. IV)</b>	<b>Paper- 15</b> Environmental Economics	<b>Unit- I</b> Economy-Ecology and Environment Inter- linkages, Environmental Costs of Economic Growth, Limits to Growth, Natural resources: Renewable and Non-renewable resources, Equitable use of resources for sustainable lifestyles.  <b>Unit- II</b> Environmental Damages/Benefits  <b>Unit- III</b> Environment Management Techniques, Theory of Environmental Policy  <b>Unit- IV</b> Environmental Pollution, Sustainable Development	22
17.	B.A.(English) <b>(Sem. II)</b>	<b>A040201T</b> English Poetry	<b>Unit- V</b> The World is Too Much with Us: William	23 -24

			Wordsworth John Keats: Ode to a Nightingale  <b>Unit- VI</b> The Lake Isles of Innisfree: W.B.Yeats	
18.	<b>B.A.(English)</b> (Sem. VI)	<b>A040601T</b> Indian & New Literature in English	<b>Unit- VI</b> Voss by Patrick Wright	25 - 26
19.	M.A.(English) <b>(Sem. I)</b>	<b>Paper- II</b> Literary Theory and Cultural Studies	<b>Unit- II</b> Ecocriticism	27
20.	M.A.(English) (Sem. II)	Paper- VI Romantic Literature	<b>Unit- III</b> Ode to Autumn, Ode on Melancholy, Ode on a Grecian Urn: Keats, Lines Composed a Few Miles Above Abbey: Wordsworth Preface to Lyrical Ballads: Wordsworth	28
21.	M.A.(English) <b>(Sem. II)</b>	<b>Paper- VIII</b> American Literature	<b>Unit- II</b> Birches: Robert Frost	29
22.	M.A.(English) <b>(Sem. III)</b>	<b>Paper -X</b> 20 <sup>th</sup> -Century British Poetry	<b>Unit- II</b> The Shield of Achilles	30
23.	BA (Geography) <b>(Sem. I)</b>	<b>A110101T</b> Physical Geography	<b>Unit- VIII</b> Biosphere	31 - 32
24.	BA (Geography) <b>(Sem. II)</b>	<b>A110201T</b> Human Geography	<b>Unit- II</b> Man and Environment Relationship	33
25.	BA (Geography) <b>(Sem. III)</b>	<b>A110301T</b> Environment, Disaster Management, and Climate Change	<b>Unit-I</b> Concepts and components of Environment, Ecology and Ecosystem, Indian Traditional Knowledge in Environment and Disaster Management	34 - 35

			<p><b>Unit- II</b> Bio-Diversity and its Conservation, Sustainable Development</p> <p><b>Unit- III</b> Deforestation, Soil Erosion, Soil Exhaustion, Desertification, Air Pollution, water Pollution, Disposal of solid waste</p> <p><b>Unit- IV</b> Ganga Action Plan, Tiger Project, Tehri Dam and Narmada Valley Project</p> <p><b>Unit-V</b> Science of Climate Change, Understanding Climate Change, Green House Gases and Global Warming</p> <p><b>Unit-VI</b> Global Climatic Assessment-IPCC, Impacts of Climate Change, National Action Plan on Climate Change</p> <p><b>Unit- VII</b> Disasters, Hazards, Risk, Vulnerability, Type of Disasters, Disaster Management, Disaster Management Cycle</p> <p><b>Unit- VIII</b></p>	
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			Natural Disaster: Flood, Drought, Cyclone, Earthquake, Man-Made Disaster, Chemical and Nuclear Disasters, Do's and Don'ts during Disasters.	
26.	BA (Geography) (Sem. VI)	<b>A110601T</b> The Geography of India	<b>Unit- I</b> Physiographic Regions  <b>Unit- VII</b> Green Revolution and its Socio-economic and ecological implications	36 - 37
27.	M.A.(Geography) (Sem. I)	<b>Course III</b> Advanced Geography of India (Physical and Regional)	<b>Unit- III</b> Soil Resource and Conservation, Problem of Soil Erosion, Problem of Deforestation, Forest Resources and their Conservation, Types of Soils and Natural Vegetation, Resource Regions of India	38
28.	M.A. (Geography) (Sem.I)	<b>Course IV</b> Natural Resources Management	<b>Unit- III</b> Conservation and Management of Resources  <b>Unit- IV</b> Resource Appraisal and Policy Making  <b>Unit-V</b> Resource Development	39
29.	M.A. (Geography) (Sem. II)	<b>Course VI</b> Climatology and Oceanography	<b>Unit- I</b> Green House Effect  <b>Unit- II</b> Acid Rain	40
30.	M.A. (Geography) (Sem.II)	<b>Course VIII</b> Advanced Geography of India (Socio-Economic)	<b>Unit- I</b> Green Revolution achievements and shortcomings	41

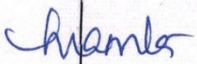
			<b>Unit- II</b> Govt. Policies and Conservation of Energy Resources	
31.	M.A. (Geography) <b>(Sem. III)</b>	<b>Course XIII</b> Ecology and Environment	<b>Unit-I</b> Ecology and Environment, Geography as Human Ecology Conceptual Background  <b>Unit- II</b> Ecology, Ecosystem, Structure and trophic levels, Energy Flow and nutrient cycle Major Biomes  <b>Unit-III</b> Geographical aspects of Major environmental problems  <b>Unit-IV</b> Environmental Pollution, Ecological Impact of Pollution, Environmental Policy and Legislation  <b>Unit-V</b> Ecological Basis of Environmental Management	42
32.	M.A. (Geography) <b>(Sem. III)</b>	<b>Course XIV</b> Advanced Geography of Uttar Pradesh	<b>Unit-II</b> Problems Related to Over-Utilization of Natural Resources in Uttar Pradesh  <b>Unit-V</b> Planning for Balanced Development	43
33.	M.A.(Geography) <b>(Sem. IV)</b>	<b>Course XVI</b> Population Geography	<b>Unit-V</b> Population and Environment, Implications for the	44

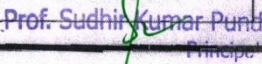
			Future	
34.	M.A.(Geography) (Sem. IV)	<b>Course XVII</b> Agricultural Geography	<b>Unit-II</b> Organic Farming, Zero Budget Natural Farming  <b>Unit- V</b> Green Revolution- Its Impact and Consequences, Environmental Degradation	45
35.	M.A.(Geography) (Sem. IV)	<b>Course XVIII</b> Urban Geography	<b>Unit-IV</b> Environmental Pollution, Air, Water, Noise, and Solid waste  <b>Unit-V</b> Green Belts and Garden Cities	46
36.	M.A. (Geography) (Sem. IV)	<b>Course XIX(B)</b> Geography of Rural Settlements	<b>Unit- IV</b> Environmental Issues in Rural Settlements	47
37.	B.Sc. (Home Science) (Sem. III)	<b>Paper VI</b> Applied Life Science	<b>Unit- I</b> Methods of Making Soil More Fertile and Conservation of Soil	48 -49
38.	BA (Political Science) (Sem. VI)	<b>A060602T</b> International Relations and Politics	<b>Unit-VIII</b> Politics of Environment	50
39.	M.A. (Political Science) (Sem. I)	<b>Paper IV</b> International Relations	<b>Unit-VI</b> Contemporary Challenges: Climate Change	51
40.	M.A. (Political Science) (Sem. II)	<b>Paper VII</b> Contemporary Political Theory	<b>Unit-IV</b> Debates and Discourses- I Environmentalism	52
41.	M.Sc. Zoology (Sem. III)	<b>Course XI</b> <b>Ch-3064</b> Environmental Biology	<b>Unit-IV</b> Environmental Pollution Ecology <b>Unit-V</b> Conservation Biology	53



# DEPARTMENT OF BOTANY

<b>Diploma in Plant Identification, Utilization &amp; Ethnomedicine</b>		
Programme/Class: <i>Diploma in Plant Identification, Utilization &amp; Ethnomedicine</i>		Year: II
Subject: Botany		Semester: III Paper-I
Course Code: B040301T	Course Title: Flowering Plants Identification & Aesthetic Characteristics	
<b>Course outcomes:</b> After the completion of the course the students will be able to: <ol style="list-style-type: none"> <li>1. To gain an understanding of the history and concepts underlying various approaches to plant taxonomy and classification.</li> <li>2. To learn the major patterns of diversity among plants, and the characters and types of data used to classify plants.</li> <li>3. To compare the different approaches to classification with regard to the analysis of data.</li> <li>4. To become familiar with major taxa and their identifying characteristics, and to develop in depth knowledge of the current taxonomy of a major plant family.</li> <li>5. To discover and use diverse taxonomic resources, reference materials, herbarium collections, publications.</li> <li>6. For the entrepreneur career in plants, one can establish a nursery, Start a landscaping business, Set up a farm or Run a plantation consultancy firm</li> </ol>		
Credits: 4	<b>Core Compulsory</b>	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0		
Unit	Topic	No. of Lectures (60hrs)
I	<b>Taxonomic Resources &amp; Nomenclature</b> Components of taxonomy (identification, nomenclature, classification); Taxonomic resources: Herbarium- functions & important herbaria, Botanical gardens, Flora, Artificial Keys. Binomial Nomenclature: Principles and rules of Botanical Nomenclature according to ICBN (ranks and authority: principle of priority, type method, author citation, valid publication).	7
II	<b>Types of classification &amp; Evidences</b> Artificial, natural and phylogenetic. Bentham and Hooker (upto series), Takhtajan, Angiosperm Phylogeny Group (APGIV) classification. Introduction to taxonomic evidences from cytology, phytochemistry & Molecular biology data (Protein and Nucleic acid homology).	8
III	<b>Identification of Angiospermic families-</b> <b>I: (Families can be chosen University wise as per local available flora)</b> A comparative study of the following families with emphasis on the morphological peculiarities and economic importance of its members (based on Bentham & Hooker's system) Ranunculaceae, Papaveraceae, Malvaceae, Rutaceae, Fabaceae, Myrtaceae, Cucurbitaceae, Apiaceae, Rubiaceae, Asteraceae.	8
IV	<b>Identification of Angiospermic families-</b> <b>II: (Families can be chosen University wise as per local available flora)</b> A comparative study of the following families with emphasis on the morphological peculiarities and economic importance of its members (based on Bentham & Hooker's system) - Apocynaceae, Asclepiadaceae, Solanaceae, Acanthaceae, Lamiaceae, Amaranthaceae, Euphorbiaceae, Liliaceae, Musaceae, Poaceae.	7

  
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V	<b>Phylogenetic systematics:</b> BriefideaonPhenetics,Biometrics (Neighbour joining),Cladistics: Basics and Methodology;Supraspecific taxa(Monophyletic,polyphyleticandparaphyleticgroups);Plesiomorphyand Apomorphy).	87
VII	<b>TOOLS &amp; SOFTWARES IN PLANT IDENTIFICATION-</b> GIS(Mappingof(i)Patterns(ii)Features(iii)QuantitiesFree PhylogeneticSoftware: PAUP and MESQUITE Digital Taxonomy (e-flora), Description Language for Taxonomy – DELTAInternetdirectoryfor Botany.	78
VII	<b>Computer usage, Android Applications &amp; Character Analysis</b> MSOffice:PPT,MicrosoftExcel,dataentry,graphs,- GPStagging,PlantIdentificationApps. Concept of Character, Selection of characters, Character coding, Character step matrix, Character x Taxon Matrix	7
VIII	<b>Aesthetic Characteristics of Plants:</b> Elementary knowledge of Aestheticcharacteristicsofplants,English,Italian,French,Persian,MughalandJapanese;Feat uresofagarden(Gardenwall,Fencing,Steps,Hedge,Edging,Lawn,Trees,shrubsandshrubber ies,climbersandcreepers,rockery,Flowerbeds,Shrubbery,Borders, Water garden). Some Famous gardens of India. Conservatory, green houses, Indoorgarden,Roofgarden, Topiary,Bonsai.	8

**Suggested Readings:**

**Course Books published in Hindi/English**

1. आवृतबीजीवनस्पतिविज्ञान (टैक्सोनॉमी, एनाटॉमी, एंब्रियोलॉजी तथा इकोनामिक बॉटनी) लेखक- सिंह, पांडे व जैन प्रकाशन : रस्तोगी प्रकाशन, मेरठ।
2. भारत की संपदा, विज्ञान संचार भवन डू.क.स. कृष्णमार्ग पूसा कैंपस
3. Propagation And Nursery Management (hindi) (hb) ISBN : 9788177546200 Edition : 01 Year : 2016 Author : Pandey S.K. , Soni N. Publisher : Agrobios (India)
4. Dr. Amar Singh. पादपवर्गिकी- Plant Taxonomy (An Old and Rare Book) from the category Ayurveda in our Books collection. Uttar Pradesh Hindi Sansthan, Lucknow

1. Plant Systematics. Arun K. Pandey & Shruti Kansana. 2020. Jaya Publishing House.
2. Bole, P.V. and Vaghani, Y. (1986) Field guide to the common trees of India. Oxford University Press; Bombay.
3. Brandis, D. (1906) Indian Trees (London, 5th edition. 1971). International Book Distributors; Dehra Dun.
4. Dallwitz, M.J., Paine, T.A. and Zurcher, E.J. (2003). Principles of interactive keys. <http://delta-intkey.com>
5. <https://www.naace.co.uk/school-improvement/ict-mark/>
6. <https://www.socitm.gov.uk>, (2002) Learning in the 21st century Executive briefing A Socitm Insight publication, July 2002 Socitm.
7. K.B. Anjaria, (2015) "Electronic Herbarium and Digital Database Preparation of Common Trees of Anand District, Gujarat" MRP submitted to UGC, WRO, Pune 2015 (unpublished)
8. Lizeron Eremias and R. Subash. (2013) "E-Content Development: A Milestone In The Dynamic Progress Of E-Learning" International Journal of Teacher Educational Research (IJTER) Vol. 2 No. 1 January, 2013 ISSN: 2319-4642
9. Pandey, B.P. 2007. Botany for Degree Students: Diversity of Seed Plants and their Systematics, Structure, Development and Reproduction in Flowering Plants. S. Chand & Company Ltd, New Delhi.
10. Stace, C. A. 1989. Plant Taxonomy and Biostatistics (2nd Ed.). Edward Arnold, London.
11. Singh, G. 1999. Plant Systematics: Theory and Practice. Oxford and IBH, New Delhi.
12. Dutta A. C. 2016. Botany for Degree Students. Oxford University Press.
13. Davis, P. H. and V. H. Heywood. 1963. Principles of Angiosperm Taxonomy. Oliver and Boyd, London.
14. Heywood, V. H. and D. M. Moore (Eds). 1984. Current Concepts in Plant Taxonomy. Academic Press, London.
15. St. Augustin, R. 2002. Elements of planting design. New York: John Wiley & Sons.
16. Berjauski, T. 2005. Designing the landscape: An introductory guide for the landscape designer. Upper Saddle River, NJ: Pears on Prentice Hall.
17. Thomas, H., and S. Wooster. 2008. The complete planting design course: Plans and styles for every garden. London: Octopus Publishing Group.
18. Scarfone, S. 2007. Professional planting design: An architectural and horticultural approach for creating mixed bed planting. New York: John Wiley & Sons.
19. Randhawa, G. S. and Mukhopadhyay, A. 1986. Floriculture in India. Allied Publishers.

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<p>A projects supported along with photograph taken during field study to be submitted giving comprehensive idea about different types of inflorescence, flowers and fruits/          At least three field excursions at hills/Oceans/Deserts including one Compulsory excursion to Botanical Garden, FR/BS and Central National Herbarium (CNH), Central Research Institutes/Hot Spots</p>		
<p>Programme /Class: <b>Diploma in Plant Identification, Utilization &amp; Ethnomedicine</b></p>	<p>Year: <b>II</b></p>	<p>Semester: <b>IV Paper-I</b></p>
<p>Subject: <b>Botany</b></p>		
<p>Course Code: <b>B040401T</b></p>	<p>Course Title: <b>Economic Botany, Ethnomedicine and Phytochemistry</b></p>	
<p><b>Course outcomes:</b>          After the completion of the course the students will be able to:          1. Understand about the uses of plants – will know one plant – one employment          2. Understand phytochemical analysis related to medicinally important plants and economic products produced by the plants          3. Know about the importance of Medicinal plants and its useful parts, economically important plants in our daily life and also about the traditional medicines and herbs, and its relevance in modern times.</p>		
<p>Credits: <b>4</b></p>		<p><b>Core Compulsory</b></p>
<p>Max. Marks: <b>25+75</b></p>		<p>Min. Passing Marks:</p>
<p>Total No. of Lectures-Tutorials-Practical (in hours per week): <b>4-0-0</b></p>		
Unit	Topic	No. of Lectures (60hrs)
I	<p><b>Origin and domestication of cultivated plants</b>            Centers of diversity of plants, origin of crop plants. Domestication and introduction of crop plants. Concepts of sustainable development; cultivation, production and uses of Cereals, legumes, Spices &amp; beverages.</p>	7
II	<p><b>Botany of oils, Fibers, timber yielding plants &amp; dyes</b>            Study of the plants with Botanical names, Family, part used, and economic uses yielding Edible &amp; essential oils; Sugar, Starch; Fibers; Paper, Fumigatories &amp; Masticatories, Rubber, Dyes, Timber, biofuel crops.</p>	7
III	<p><b>Commercial production of Flowers, Vegetables, and fruits (To be Chosen area wise)</b>            Commercial greenhouse cultivation of rose, <i>Gerbera</i>, <i>Gladiolus</i>, <i>Anthurium</i>, <i>Lilium</i>, <i>Lily</i>, tomato, bell pepper, cucumber, strawberry &amp; Exotic leafy vegetables using Hydroponics.</p>	7
IV	<p><b>IPR &amp; Traditional Knowledge</b>            IPR and WTO (TRIPS, WIPO), Patent Act 1970 and its amendments, TIFAC, NRDC, Rights, Procedure of obtaining patents, Working of patents, Infringement, Copyrights, Trademarks, Geographical Indications, Digital Library, Protection of Traditional Knowledge &amp; Protection of Plant Varieties and Biotechnical Inventions.</p>	8
	<p><b>Ethnobotany</b>            Methodologies of ethnobotanical research: Field work, Literature, Herbaria and Museum and other aspects of ethnobotany. Importance of ethnobotany in Indian systems of medicine (Ayurveda and Unani), Role of AYUSH, NMPB, CIMAP and CARI.            Tribal knowledge towards disease diagnosis, treatment, medicinal plants, plant conservation and cultivation.</p>	8


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VI	<b>Medicinal aspects</b> Study of common plants used by tribes ( <i>Aegle marmelos</i> , <i>Ficus religiosa</i> , <i>Emblica officinalis</i> , <i>Eclipta alba</i> , <i>Rauwolfia serpentina</i> , <i>Oxalis</i> and <i>Ocimum sanctum</i> ) Ethnobotanical aspect of conservation and management of plant resources, Preservation of primeval forests in the form of sacred groves of individual species and Botanical uses depicted in our epics.	8
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	Plants in primary healthcare: common medicinal plants: <i>Tinospora, Acorus, Ocimum, Turmeric</i> and <i>Aloe</i> . Indian Pharmacopeia, Quality Evaluation of crude drugs & adulteration	
VII	Pharmacognosy Preparation of drugs for commercial market - Organoleptic evaluation of drugs - Microscopic evaluation of drugs - Physical evaluation of drugs - Active and inert constituents of drugs - Classification of drug plants - individual drugs - drug adulteration. Sources of crude drugs - roots, rhizome, bulb, corm, leaves, stems, flowers, fruits and seeds; organoleptic study of <i>Adhatodavastica, Andrographispaniculata, Azadirachtaindica, Coriandrum sativum, Daturametel, Ecliptaalba, Emblicaofficinalis, Ocimumsanctum, Phyllanthusamarus, Ricinuscommunis, Catharanthus roseus</i> and <i>Zingiberofficinale</i> .	8
VIII	Herbal Preparations & Phytochemistry: Collection of wild herbs - Capsules - compresses - Elixirs - Glycerites - Hydrotherapy or Herbal bath - Herbal oils - Liquid extracts or Tincture - Poultices - Salves - Slippery elm slurry and gruel - Suppositories - Teas. Plant natural products, general detection, extraction and characterization procedures. Glycosides and Flavonoids and their therapeutic applications. Anthocyanins and Coumarins and their therapeutic applications, Lignans, Terpenes, Volatile oils and Saponins, Carotenoids, Alkaloids and pharmacological activities.	7

**Suggested Readings:**

**Course Books published in Hindi <sup>English</sup> may be prescribed by the Universities.**

1. आवृतबीजीवनस्पतिविज्ञान (टैक्सोनीमी, एनाटॉमी, एंब्रियोलॉजी तथा इकोनामिक बॉटनी) लेखक- सिंह, पांडे व जैन प्रकाशन : रस्तोगी प्रकाशन, मेरठ।
2. भारत की संपदा, विज्ञान संचार भवन इ.क.स. कृष्णनमार्ग पूसाकैंपस
3. पारिस्थितिकी एवं आर्थिक वनस्पतिविज्ञान- Dhankar - Sharma - Trivedi
4. Aushdhiye Poudbe (Hindi) by R.P. Sharma | 1 January 2013 YKING BOOKS
1. Kochhar, S.L. (2011). Economic Botany in the Tropics, MacMillan Publishers India Ltd., New Delhi. 4th edition.
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4. Reddy P. Parvatha. 2016. Sustainable crop protection under protected cultivation. Springer, Singapore.
5. Amit Deogirikar. 2019. A Text Book on Protected Cultivation and Secondary Agriculture. Rajlaxmi Prakashan, Aurangabad, India.
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13. Arthur Raphael Miller, Micheal H. Davis; Intellectual Property: Patents, Trademarks and Copyright in a Nutshell, West Group Publishers (2000).
14. Jayashree Watal, Intellectual property rights in the WTO and developing countries, Oxford University Press, Oxford.
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20. Lewis, W.H. and M.P.F. Elwin Lewis. 1976. Medical Botany. Plants Affecting Man's Health. A Wiley Inter science Publication. John Wiley and Sons, New York.
21. Farooqui, A. A. and Sreeraman, B.S. 2001. Cultivation of medicinal and aromatic crops. Universities Press.
22. Harborne, J.B. 1998. Phytochemical methods - a guide to modern techniques of plant analysis 3rd edition, Chapman and Hall.
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24. Kalsi, P.S. and Jagtap, S., 2012. Pharmaceutical medicinal and natural product chemistry. N.K. Mehra for Narosa Publishing House Pvt. Ltd. New Delhi.
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S.D. COLLEGE - 2020 Page 34

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Programme/Class: <i>Bachelor of Science</i>		Year: III	Semester: VI Paper-II
Subject: <b>Botany</b>			
Course Code: B040602T		Course Title: <b>Ecology &amp; Environment</b>	
<b>Course outcomes:</b>			
<ol style="list-style-type: none"> <li>1. acquaint the students with complex interrelationship between organisms and environment;</li> <li>2. make them understand methods for studying vegetation, community patterns and processes, ecosystem functions, and principles of phytogeography.</li> <li>3. This knowledge is critical in evolving strategies for sustainable natural resource management and biodiversity conservation.</li> </ol>			
Credits: 4		Core Compulsory/Elective	
Max. Marks: 25+75		Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0			
Unit	Topic	No. of Lectures (60 hrs)	
I	<b>Natural resources &amp; Sustainable utilization:</b> Land Utilization, Soil degradation and management strategies; Restoration of degraded lands. Water, Wetlands; Threats and management strategies, Ramsar sites, Forests: Major and minor forest products; Depletion, Biological Invasion, Energy: Renewable and non-renewable sources of energy, Contemporary practices in resource management: EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting.	7	
II	<b>Ecology &amp; Ecosystem</b> Definition of Ecology, Ecological Factors, Positive and negative interactions. Ecosystem - Concept of an ecosystem - structure and function of an ecosystem. Abiotic and biotic components and their interrelationship- Biogeochemical and hydrological cycles, and Energy flow in an ecosystem <b>Ecological Succession-</b> Definition & types. Processes and types (autogenic, allogenic, autotrophic, heterotrophic, primary & secondary), Hydrosere and Xerosere. Food chains and food webs, Concept of Ecological perturbations and balance, Ecological pyramids, Primary and Secondary Production and Productivity; Types of ecosystems: Natural and Man-made- Forest Grassland, Aquatic and Agro- Ecosystems. Ecological Adaptations - Hydrophytes, Xerophytes, Halophytes, Epiphytes and Parasites.	8	
III	<b>Soil Formation, Properties &amp; Conservation</b> Soil: Origin, Formation, composition, Soil types, Soil Profile, Soil Microorganisms, soil processes, Soil Erosion, Biogeochemical cycles, Soil Conservation: Biological- Contour farming, Mulching, Strip cropping, Terracing and Croprotation. Mechanical- Basin Listing, Construction of dams, Watershed Management, Soil reclamation	7	
IV	<b>Biodiversity and its conservation:</b> Definition-genetic, species, and ecosystem diversity. Value of biodiversity: Indian socio-cultural, ethical and aesthetic values; hotspots of Biodiversity threat to biodiversity, Biotic communities and populations, their characteristics and dynamics. Endemic and endangered species of plants in India. Ecological niche, ecade, ecotypes, ecological indicators. Conservation of Biodiversity: <i>Ex-situ</i> and <i>In-situ</i> conservation, Red data book, botanical gardens, National park, Sanctuaries, hot & hottest spots and Biosphere reserves. Role of Seed Bank and Gene Bank Valuing plant resources, ecotourism, Role of NBPGR, FAO, BSI, Indian value system	7	

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V	<p><b>Phytogeography</b> Biogeographic regions of India &amp; world, Agroecological &amp; Floristic zones of India. Natural vegetation of India, static and dynamic plant geography, basic principles governing geographical distribution of plants, Phytogeographical regions of India, Vegetational types in Uttar Pradesh.</p>	7
VI	<p><b>Environmental audit &amp; Sustainability</b> Elementary knowledge: Concept of environmental audit; Guidelines of environmental audit; Methodologies adopted along with some industrial case studies; Environmental standards: ISO 14000 series; Scheme of labelling of environment friendly products (Ecomark); Life cycle analysis; Concept of energy and green audit, Strategies and debates on sustainable development; Concept of Sustainable Agriculture; India's environment action programme: issues, approaches and initiatives towards Sustainability; Sustainable development in practice.</p>	8
VII	<p><b>Pollution, Waste management &amp; Circular Economy</b> Environmental pollution, Environmental protection laws, Bioremediation, Activated Sludge Process (ASP) - Trickling Filters - oxidation ponds, fluidized bed reactors, membrane bioreactor, neutralization, ETP sludge management; digesters, upflow anaerobic sludge blanket reactor, fixed film reactors, sequencing batch reactors, hybrid reactors, bioscrubbers, biotrickling filters; regulatory framework for pollution monitoring and control; case study: Ganga Action Plan; Yamuna Action Plan; implementation of CNG; Waste- Types, collection and disposal, Recycling of solid wastes (hazardous &amp; non-hazardous)-classification, collection and segregation, Incineration, Pyrolysis and gasification, Sanitary landfilling; composting, Biogas production, Circular Economy &amp; sustainability.</p>	8
VIII	<p><b>Environmental ethics, Carbon Credits &amp; Role of GIS</b> Carbon credit: concept, exchange of carbon credits. Carbon sequestration, importance, meaning and ways. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust  Wasteland reclamation. Consumerism and waste products. Clean development mechanism. Geographical Information Systems: definitions and components; spatial and non-spatial data; GIS software packages; GPS survey, data import, processing, and mapping. Applications and case studies of remote sensing and GIS in land use planning, forest resources &amp; agriculture studies.</p>	8

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## Minutes of Meeting

**Dated:-29.10.2021**

A meeting of the Board of Studies for the Add-on course “Organic Farming” was conducted on 29.10.2021 at 12:30 pm and all the members unanimously agreed on the following topics:-

### (1) Contents of the Course:-

#### Unit-I

Introduction to organic farming.

Concepts of Organic Farming.

#### Unit-II

Organic production requirements.

Green manuring.

Soil improvement and soil amendments.

#### Unit-III

Crop planning and management.

Propagation methods.

#### Unit-IV

Organic food quality.

Related marketing economics.

- (2) **Duration of the Course:-** 30 hours
- (3) **Time of the Class:-** 10 am to 01 pm  
(Every Sunday from 21.11.2021)
- (4) **Evaluation Date:-** 15.05.2022
- (5) **Distribution of Certificates:-** 25.05.2022

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*Aakansha*

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# DEPARTMENT OF PHYSICAL EDUCATION

1<sup>st</sup> Year

Theory courses

## CC-103 HEALTH EDUCATION AND ENVIRONMENTAL STUDIES

### Unit – I Health Education

- o Concept, Dimensions, Spectrum and Determinants of Health
- o Definition of Health, Health Education, Health Instruction, Health Supervision
- o Aim, objective and Principles of Health Education
- o Health Service and guidance instruction in personal hygiene

### Unit – II Health Problems in India

- o Communicable and Non Communicable Diseases
- o Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive Population,
- o Personal and Environmental Hygiene for schools
- o Objective of school health service, Role of health education in schools
- o Health Services – Care of skin, Nails, Eye health service, Nutritional service, Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

### Unit – III Environmental Science

- o Definition, Scope, Need and Importance of environmental studies.
- o Concept of environmental education, Historical background of environmental education,
- o Celebration of various days in relation with environment.
- o Plastic recycling & probation of plastic bag / cover.
- o Role of school in environmental conservation and sustainable development.

### Unit – IV Natural Resources and related environmental issues:

- o Water resources, food resources and Land resources
- o Definition, effects and control measures of:
- o Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution
- o Management of environment and Govt. policies , Role of pollution control board.

### References:

- Agrawal, K.C. (2001). *Environmental biology*. Bikaner: Nidhi publishers Ltd.
- Frank, H. & Walter, H., (1976). *Turners school health education*. Saint Louis: The C.V. Mosby Company.
- Nemir, A. (n.d.). *The school health education*. New York: Harber and Brothers.
- Odum, E.P. (1971). *Fundamental of ecology*. U.S.A.: W.B. Saunders Co.

*Ananda*

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## DEPARTMENT OF B.VOC. (IT)

### BVOC 105

#### Environmental Studies

- **Unit - I: Introduction: (1 Credit) 05**
- Definition, Different factors of Environment, Global Environment and its segments atmosphere, hydrosphere, lithosphere and biosphere, Scope and importance.
- **Unit-II: Natural Resources: (2Credits) 10**
- Definition and types of Natural Resources, Renewable and non-renewable resources. Natural resources and associated problems.
- (a) Forest Resources: Use and Over-exploitation, deforestation, Timber extraction, mining, and their effects on forests and tribal people.
- (b) Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems.
- (c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- (d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer, pesticides problems, water logging.
- (e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
- (f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification, Role of an individual in conservation of natural resources.
- **Unit - III: Ecosystems(2 Credits) 10**
- Concept of an ecosystem, Structure and function of an ecosystem - producers, consumers and decomposers, Energy flow in the ecosystem, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the following Ecosystem-(a) Forest ecosystem, (b) Grass land ecosystem and (c) Aquatic ecosystems (ponds, streams, lakes, rivers, and oceans).
- **Unit - IV: Bio-diversity and its Conservation (1 Credit) 10**
- Introduction-Definition: Biogeographical classification of India, Biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity, Threats of biodiversity: habitat loss, poaching of wildlife, man - wildlife conflicts. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
- **Unit - V: Environmental Pollution (1Credit) 10**
- Definition, causes, effect and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution, Solid waste management, Role of an individual in prevention of pollution.
- **Unit - VI: Social Issues and the Environment (1 Credit) 05**
- Sustainable development, water conservation, rain water harvesting, watershed management, urban problems related to energy, Resettlement and rehabilitation of people: its problems and concerns.
- \*Library Assignment (1 Credit) 05
- \*Home Assignment (1Credit) 05
- \*Field report (2 Credits) 15

#### Suggested Books:

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# DEPARTMENT OF CHEMISTRY

## FOURTH SEMESTER ENVIRONMENTAL CHEMISTRY

CH-4507

### 1. Environment

Introduction. Composition of atmosphere, vertical temperature, heat budget of the earth atmospheric system, vertical stability atmosphere. Biogeochemical cycles of C, N, P, S and O. Biodistribution of elements.

### 2. Hydrosphere

Chemical composition of water bodies-lakes, streams, rivers and wet lands etc. Hydrological cycle. Aquatic pollution - inorganic, organic, pesticide, agricultural, industrial and sewage, detergents, oil spills and oil pollutants. Water quality parameters - dissolved oxygen, biochemical oxygen demand, solids, metals, content of chloride, sulphate, phosphate, nitrate and micro-organisms. Water quality standards.

Analytical methods for measuring BOD, DO, COD, F, Oils, metals (As, Cd, Cr, Hg, Pb, Se etc.), residual chloride and chlorine demand. Purification and treatment of water.

### 3. Soils

Composition, micro and macro nutrients, Pollution - fertilizers, pesticides, plastics and metals: Waste treatment.

### 4. Atmosphere

Chemical composition of atmosphere-particles, ions and radicals and their formation. Chemical and photochemical reactions in atmosphere, smog formation, oxides of N, C, S, O and their effect, pollution by chemicals, petroleum, minerals, chlorofluorohydrocarbons. Green house effect, acid rain, air pollution controls and their chemistry.

Analytical methods for measuring air pollutants. Continuous monitoring instruments.

### 5. Industrial Pollution

Cement, sugar, distillery, drug, paper and pulp, thermal power plants, nuclear power plants, metallurgy. Polymers, drugs etc. Radionuclide analysis. Disposal of wastes and their management.

### 6. Environmental Toxicology

Chemical solutions to environmental problems, biodegradability, principles of decomposition, better industrial processes. Bhopal gas tragedy, Chernobyl, Three Mile Island, Sewal D and Minamata disasters.

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# DEPARTMENT OF COMMERCE

## MARKETING MANAGEMENT I 4004

**Learning Objective:** The objective of this course is to facilitate understanding of the conceptual framework of marketing and its application in decision making under various environmental constraints.

- Unit I:** **Introduction:** Concept, nature, Scope and importance of marketing concept and its evolution, Marketing mix, Strategic marketing planning –an overview.  
Market analysis and selection: marketing environment –macro components and their organizational buyers, Consumer decision-making process.
- Unit II:** **Product decision :** concept of a product, Classification of product, Major product decisions, Product line and product mix, Branding, Packaging and labeling product life cycle, Strategic implications, New product development and consumer adoption process.
- Unit III:** **Pricing decisions:** factors affecting price determination, Pricing policies and strategies, Discount and rebates. Distribution channels and physical distribution decisions: nature, Functions and types of distribution channels, Distribution channel intermediaries, Channel management decisions, Retailing and wholesaling
- Unit IV:** **Promotion decision :** communication process, Promotion-mix-advertising, Personal selling, Sales promotion, Publicity and public relations, Determining advertising budget, Copy designing and its testing, Media selection, Advertising effectiveness, Sales promotion-tools and controlling techniques. Marketing research : meaning , Scope and process.
- Unit V:** **Marketing organization and control:** social , Ethical and legal aspect of marketing, Marketing of services, Green marketing, Cyber marketing, Relationship marketing and other development in marketing .

  
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# DEPARTMENT OF ECONOMICS

## BA 3<sup>rd</sup> Year, Sem. V Course I (Theory)

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Economics		
Course Code: A080501T	Course Title: Economic Growth and Development	
Course outcomes:		
<ul style="list-style-type: none"> <li>• Students should be able to comprehend the concept and meaning of economic growth and economic development.</li> <li>• Students should be able to distinguish between economic growth and economic development.</li> <li>• Students should be able to comprehend the issues and challenges in economic growth and development.</li> <li>• Students should be able to comprehend and explain the concept of poverty and human development &amp; the related concepts.</li> <li>• Students should be familiar with the approaches to development.</li> <li>• Students should be able to understand and explain the factors and variable of economic development.</li> <li>• Students are able to understand how international factors facilitate and impede economic development.</li> </ul>		
Credits: 5		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): P- 2/w		
Unit	Topics	No. of Lectures
I	Meaning and Measurement of Economic Growth and Development- Measuring Development and Development Gap, GDP, GNP, Per Capita Income, Factors affecting Economic growth and Development.	10
II	Concept of Poverty and Inequality, Vicious cycle of poverty, Lorenz Curve, Gini Coefficient Concept of Human Development, Human Development Index, Physical Quality of Life Index, Quality of Life Indices. Hunger Index, Happiness Index, Development and Sustainability. Concept of Sustainable Development. Millennium Development goals.	10
III	Lewis model of labour surplus economy, Rosentain Rodan's theory of Big Push, Nelson's Level equilibrium trap, balanced vs Un-balanced growth, Rostow's stages of growth, Harrod and Domar Growth models.	10
IV	Theory of Demographic Transition, Population as Limits to Growth The Concept of Inclusive Growth- with Reference to India. Market Failure and Government Failure, Food Security, Education, Health and Nutrition, Gender and Development.	10
V	Development & Underdevelopment: an Overview; The Characteristics and Explanations Of Underdevelopment- Vicious Circle of Poverty, Circular Causation, Dualism-Social, Technological, Financial, Organizational, Model of Dual Economy, Lewis, Ranis-Fei, Jorgenson, Dependency Theories of Underdevelopment.	10
VI	Models of Technical Progress, Embodied and Disembodied Technical Progress, Neutral Technical Progress- Hicks, Harrod, Solow, Kaldor, Mirrlees Technical Progress Function, Arrow's Learning by Doing Approach to Economic Growth.	10
VII	Accumulation Endogenous growth, Intellectual capital, Role of Learning, Education and Research, Explanations of Cross country Differentials in Economic Growth, Information Paradigm-Stiglitz	8
VIII	International Trade, Aid and Finance in the Development of Developing Countries-with special reference to India. FDI & FII, Role of Technology Transfer and Multinational Corporations in promoting development in development of developing countries-with Special Reference to India.	7

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**Suggested Readings:**

- ❖ Barro, Robert J and Xavier Sala-i- Martin, Economic Growth, The MIT Press, Cambridge, Latest Edition.
- ❖ Basu, Kaushik (2010): Analytical Development Economics: The Less Developed Economy, Oxford University Press.
- ❖ Dasgupta, Dipankar: Growth Theory, Oxford University Press, 2007
- ❖ Ghatak, S., An Introduction to Development Economics. Allen and Unwin London, latest edition.
- ❖ Hayami, Y., Development Economics, Oxford University Press, New York, 2010 (5th Impression)
- ❖ Hayami, Yujiro&Godo,Yoshihisa (2005) : Development Economics: From the Poverty to the Wealth of Nations, Oxford University Press.
- ❖ Hendrik Van Den Berg, Economic Growth and Development, McGraw-Hill International Edition, 2005
- ❖ Jhingan ,M.L (2013): Economics of Development and Planning, Vrinda Publications, NewDelhi.
- ❖ Jhingan ,M.L (2013): Vikas Ka ArthshastraAwamNiyojan, Vrinda Publications, NewDelhi.
- ❖ Lal ,S.N (2012):Vikas, Niyojan Awam Paryavaran, Shiva Publishing House,Allahabad.
- ❖ Lekhi, R.K (2013): Economics of Development and Planning, Kalyani Publishers, New Delhi.
- ❖ Meier, G.M., Leading Issues in Economics Development, Oxford University Press, New Delhi, Latest edition.
- ❖ Mishra,S.K&Puri,V.K (2012): Economics of Development and Planning, Himalaya Publishers, Mumbai.
- ❖ Ray Debraj, Development Economics, Oxford University Press, Latest Edition.
- ❖ Singh, Kartar&Shishodia (2007): Environmental Economics: Theory andApplications, SageIndia.
- ❖ Singh,S.R.(2012):EnvironmentalEconomics,APHPublishingCorporation,Delhi.
- ❖ Somashekar, NT: Developmental Economics, New Age Publication (Latest edition)
- ❖ Taneja,M.L&Myer,R.M (2011): Arthshastra Ki YojnayeAwamVistaar, Visha PublishingCom pany,Jalandhar (New Delhi).
- ❖ Thirlwall, A.P., Growth and Development with Special Reference to Developing Economies, Macmillan, UK, 1999.
- ❖ Todaro,Michael.P&Smith,Stephen.C (2011) : Economic Development, Pearson.

**BA 3<sup>rd</sup> Year, Sem. V  
Course II (Optional)  
(Theory)**

Programme/Class: Degree/BA	Year: Third	Semester: Fifth
Subject: Economics		
Course Code: A080502T	Course Title: Environmental Economics	
<b>Course outcomes:</b>		
<ul style="list-style-type: none"> <li>• Students should be familiar with the basic concepts of ecology environment and economy.</li> <li>• Students to understand the solution to environmental problems- the command and control approach, market based methods, tax tradable pollution permit, etc, carbon trading</li> <li>• Students should be familiar with the concept of Sustainable development, environmental impact assessment CO 5: Global and local environmental concerns.</li> <li>• Students should be comprehend the Local Issues of Economic Bearing related to environment &amp; Development.</li> <li>• Students should realize the importance and influence of environment on the economy including the quality of manpower.</li> <li>• Students should realize the importance to make cleaner environment so as to achieve harmonious</li> </ul>		

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development. <ul style="list-style-type: none"> <li>Students should comprehend that environmental problem is not the problem of a single country or region but a global problem/issue.</li> <li>Demonstrate an awareness of economic growth problems, issues in globalisation, and provide grounding in major growth strategies and development.</li> </ul>		
Credits: 5		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Topics	No. of Lectures
I	Introduction: Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights and other approaches.	10
II	The Design and Implementation of Environmental Policy: Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; trans-boundary environmental problems; economics of climate change, <b>Kuznets Curve.(added)</b>	10
III	Environmental Valuation Methods and Applications: Valuation of non-market goods and services--theory and practice; measurement methods; cost-benefit analysis of environmental policies and regulations.	10
IV	Sustainable Development: Concepts; measurement; perspectives from Indian experience.	7
V	The Theory of Externality- Positive & Negative Externality; Public Goods, Private Goods, Public Bads; Market Failure and Pigouvian Solution- Pigouvian Tax.; Coase's Theorem And Property Rights; Eco- Labelling; Eco-Efficiency.	8
VI	Social Limits to Growth Model; Green Accounting; Environmental Valuation- Meaning, Need for Environmental Valuation, Methods of Environmental Valuation; Difficulty in Measuring Environmental Values, Environmental Damages and Its Valuation.	10
VII	Indian Constitution and the Environment; Environmental Management- Meaning and Concept, Objectives and Goals, Obstacles; Environmental Impact Assessment; Environmental Education and Awareness- Dilemma of Environmental Ethics and Practical Problems, Environmental Education in India.	10
VIII	Population and Environment; Trade and Environment in the WTO Regime; Climate Change- Meaning and Concept, Ozone Depletion, Acid Rain, Global Warming and Greenhouse Effect; Indian Environmental Issues and Legislations; Role of Judiciary in Environmental Protection and Conservation; International Environmental Issues and Legislations, Carbon Trading.	10
<b>Suggested Readings:</b> <ul style="list-style-type: none"> <li>Bharucha, Erach : Paryavaran Adhyann, Orient Blackswan.</li> <li>Bhattacharya, Rabindra Nath (2002): Environmental Economics – An Indian Perspective, Oxford University Press.</li> <li>Eugine, T (2005) : Environmental Economics, Vrinda publications, Delhi.</li> <li>Jhingan, M.L &amp; Sharma, C.K (2009) : Environmental Economics Theory Mgt &amp; Policy, Vrinda publications, Delhi.</li> </ul>		

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6. Indian Economy by Mishra & Puri. Himalaya Publishing House (Hindi /English)
7. Indian Economy by Uma Kapila, Academic Foundation
8. Indian Economy. Rudra Dutt & Sunderam. S. Chand & Company (Hindi /English)
9. Mishra, Arvind Narayan & Atul Chandra (2018):The Economy of Uttar Pradesh. Gutenberg Publication ISBN: 9789386240224, 9789386240224
10. Mishra, Arvind Narayan & Atul Chandra (2018):The Economy of Uttar Pradesh. Gutenberg Publication ISBN: 9789386240224, 9789386240224
11. Publications of the Government of Uttar Pradesh.
12. Publications of the Government of Uttar Pradesh.
13. Uttar Pradesh Human Development Report, UNDP, 2008.
14. Uttar Pradesh Human Development Report, UNDP, 2008.
15. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission, Government of India, 2014.
16. Uttar Pradesh State Development Report, Volume I & II, State Plan Division, Planning Commission, Government of India, 2014.
Suggested Continuous Evaluation Methods:
Assignment / test / Quiz( MCQ) / Seminar/ Presentations/ Research orientation of students
Suggested equivalent online :
Swayam

**BA 3<sup>rd</sup> Year**  
**Sem. VI**  
**Course II (Optional)**  
**(Theory)**

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Economics		
Course Code: A080602T	Course Title: Agriculture Economics	
<b>Course Outcome</b>		
<ul style="list-style-type: none"> <li>• Students should be able to comprehend and explain the approaches to economic development with respect to dualistic development.</li> <li>• Students should be able to understand and explain the basics of agriculture economics.</li> <li>• Students should be familiar with labour issues in agriculture sector.</li> <li>• Students should be able to explain the significance of agriculture in the economic growth and economic development of an economy and in case of Indian Economy.</li> <li>• Students should be familiar with the institutional initiatives to strengthen the rural and agricultural development to achieve self sufficiency.</li> <li>• Students should be able to comprehend the role of credit in the development of agriculture in a country like India and the significance of institutional mechanism in this regard.</li> </ul>		
Credits: 5		Core Compulsory
Max. Marks: 25+75		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Topics	No. of Lectures
Part I		
I	Models of Agricultural Development: Physiocrats approach, W. A. Lewis model, Fei & Ranis Model, Schultz Theory of Agricultural Development, Jorgenson's Dual Economy Model	10

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II	Agricultural Production Function, Supply Response, Farm Size, Returns to Scale and Productivity. Cobweb Theorems. Farm Size and Productivity Debate; Theoretical And Empirical Findings. Agricultural Price Policy in India.	10
III	Labour in Agriculture- Interlocking of Factor Markets, Labour and Work Force in Rural Farm and Non-Farm Sectors. Agricultural Labour- Problem and Policy. Concept and Measurement of Rural Poverty & Employment, Poverty Alleviation Programmes (in brief-the Objectives, Achievements & the Shortcomings).	10
IV	Current Issues in Indian Agriculture- Poverty & Food Security in India, Agro- Subsidies in India, Subsidy Vs Public Investment. Export and Imports of Agricultural Commodities, Terms of Trade in Indian Agriculture, WTO and Indian Agriculture-Bali Negotiations	10
V	Role Of Agriculture in Economic Growth and Development in India. Backward, Forward Linkage between Agriculture and Industry, Approaches towards Agriculture And Allocation of Resources under Different Plans in India. Employment Elasticity in Indian Agriculture, Challenges & Issues Regarding Agricultural Area Expansion, Production and Productivity in India (With Focus On Post Reform (Post 1991 & 1995) Period.	10
VI	Land Reforms in India & Its Contemporary Relevance, Green Revolution and the Need for Second Generation, Green Revolution, Role of Infrastructural Support-Irrigation, Power, Seeds Fertilizers, Marketing Support System and Roads in Agricultural Development in India..	10
VII	Role of Credit in Agricultural Development, Institutional & Non-Institutional Sources of Credit in India, Cooperative Movement in India (In Brief). Role of Schedule Commercial Banks, Lead Banks, Regional Rural Banks and NARBAD to Promote Agricultural Development.	8
VIII	Agricultural Marketing: Meaning and Concept. Structure of Agricultural Markets in India, Issues and Challenges in the Marketing of Agricultural Products in India (With Focus On The Post Reform Period-Post 1991). Agricultural Diversification: Meaning, Concept & Issues. Crop Diversification: Meaning, Concept and Issues. Farm Incomes and Employment in Indian Agriculture.	7

**Suggested Readings:**

- Bardhan, P. (1984) Land, Labour and Poverty; Essays in Economic Development, OIIP, New Delhi.
- Bhaduri, A. (1984), The Economic Structure of Backward Agriculture; Macmillan, Delhi.
- Bhalla, G.S., (2007) Indian Agriculture since Independence, National Book Trust, India
- Bharadwaj, K. (1974), Production Condition in India Agriculture; OUP, Cambridge.
- Black, J.D. (1953) Introduction to Economics for Agriculture, Macmillan.
- Dantawala, M.L. et al. (1991): Indian Agricultural Development since Independence, Oxford & IBH, New Delhi.
- Dash, Mrutyunjay (2013): Agricultural Economics, Anmol Publications.
- Ghatak, Sand K. Ingerscant(1984), Agriculture and Economic Development; Select Books, New Delhi.
- Griffin, K.(1973): Political Economy of Agrarian Change.
- Gupta, P.K (2012) : Agricultural Economics, Vrinda Publications, Delhi.
- Gupta, P.K (2012) : Krishi Arthsastra , Vrinda Publications, Delhi.
- Khusro, A.M.(1973), The Economics of Land Reforms and Farm Size in India, MacMillan.
- Kumar, N.S.Ravi (2010) : Agricultural Economics, Neha Publishers.
- Lekhi, R.K(2013) : Agricultural Economics, Kalyani Publishers.
- Lekhi, R.K(2013) : Krishi Arthsastra, Kalyani Publishers.

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**SEMESTER II**  
**PAPER 6**  
**ECONOMICS OF GROWTH AND DEVELOPMENT**

**PREAMBLE**-Growth and Development is the first requisite of any underdeveloped economy to come into category of Developed nations and provide employment to its vast population. The objective of this paper is to familiar the students with various concepts and theories of Growth and Development and also various measurement of development at world level with special reference to India.

**UNIT I**

**Introduction:** Concepts of Economic Growth & Economic Development, Measurement of Economic Growth; Stationary State and Steady State Growth; Determinants of Economic Growth; Basic Requirements for Economic Growth; Vicious Circle of Poverty, Circular causation, Changing Notions of Development: Traditional Economic Measures, The New Economic View of Development, Amartya Sen's "Capability" Approach, Development and Happiness, Three Core Values of Development.

**UNIT II**

**Theories of Economic Growth:** Classical growth theory- Adam Smith, Ricardo, Marxian model; Schumpeter's Theory; The Harrod-Domar analysis and Mahalonobis growth model. (4-sector)  
**Neo-classical growth theories:** Models of Solow, Meade, Mrs Joan Robinson and N. Kaldor; Rostow's stages of Economic Growth, Balanced verses Unbalanced Growth.

**UNIT III**

**Theories of Development:** Lewis' Theory of Unlimited Supply of Labour, Ranis-Fie Model; Nelson's Lowlevel Equilibrium Trap; Rosenstein Rodan's Theory of Big-Push; Leibenstein's Critical Minimum Effort Thesis, dependency theories, Models with Endogenous Growth: One sector growth models- The AK model, learning by doing and knowledge spillover.

**UNIT IV**

**Measuring Development:** Physical Quality Life Index (PQLI), Human Development Index (HDI), Gender Development Index (GDI), Inequality Adjusted HDI, Gender Inequality Index, Human Capital Index, Human Happiness index; Sustainable Development Goals (SDG).

**UNIT V**

**Poverty, Inequality and Sustainable Development:**  
**Poverty Measurement-** Head Count, poverty gap, poverty line, Multi-dimensional poverty index; **Inequality-** Concept, measurement- Gini Coefficient, Lorenz Curve, decile ratios.  
**Sustainable Development:** Meaning; objectives and issues -environmental, natural resources and other related issues; Natural capital and equity.

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## PAPER 13

### INDIAN ECONOMY

**PREAMBLE-** The basic objective of this paper is not only to orient the students about basic features and indicators of Indian Economy but to orient them with the current problems of the Indian Economy and also future challenges so that they may be able to find out the solutions to solve these problems and challenges to bring the country to the path of development.

#### UNIT I

**Structure of Indian Economy:** Basic Features of Indian Economy, Basic Economic Indicators and their Importance, Economic Growth in India: Pattern and Structure, Resource Utilization: Natural and Human, Infrastructure Development: Physical-Energy, Transport, Communication; Social- Education, Health, Sanitation

#### UNIT II

**Problems of Indian Economy:** Poverty and Income Inequalities in India, Multi-dimensional Poverty Index, Unemployment: Changing Nature and Dimensions, Current employment Programmes of Government of India, Human Development Index, Gender Development Index, Sustainable Development Goals 2030, Environment Degradation and Economic Development

#### UNIT III

**Agriculture and Rural Development:** Agriculture: Pattern and Structure of Growth, Major Challenges and Policy Responses, New Agricultural policy, Evergreen Revolution: Concept and Strategies, New Age Farming, Doubling Income of Farmers: Major Challenges and Policies, Role of International Agencies in Agriculture

**Rural Development:** Issues, Challenges and Policy Responses; Recent Rural Development Programmes of India


#### UNIT IV


**Industry and Service Sector:** Industry: Structure and Pattern of Growth, Major Challenges, Policy Responses; New industrial policy, Industrial Development Programmes in India, Industrial Finance, Private Sector Industries: their Performance and Problems

**Service Sector:** Structure, Contribution and pattern of Growth, Major Challenges and Policy Responses

#### UNIT V

**Other Issues:** Urban Development: Issues, Challenges and Policy Responses, Post-Liberalisation Reforms of Indian Economy: Banking, industrial, Labour and Capital Markets, MNCs and Their Impact on Various Sectors, Issue of Universal Basic Income (UBI), Regional Imbalances in India: Causes and policy Measures

  
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**PAPER 14**  
**DEMOGRAPHY**

**PREAMBLE-** Now-a-days population is considered to be a resource rather than a burden provided a country does appropriate man power planning converting its population into a human resource. For this it applies various techniques. The main objective of this paper is to orient the students with the positive aspect of the population how it can help economic development of a country provided it is converted into human resource. This paper not only orients the students with various concepts of population but the quantitative and qualitative aspect of population along with various demographic techniques. The paper exposes the students with the recent concepts and developments in demography.

**UNIT I**

**Demography: Meaning, scope and importance, Components of population growth and their inter-dependence, Population and Economic Development, Theories of Population: Malthusian Theory, Optimum Theory, Stages of Demographic Transition**

**UNIT II**

**Demographic Measurements: Concept, importance and Measurement of Fertility, Mortality, Morbidity and Nuptiality**

**UNIT III**

**Population Projection: Types and Methods, Concept of Stationary, Stable and Quasi - Stationary Population; Ageing of Population; Changes in Family Structure and Old Age Security; Population Pyramids, Life Table: construction and uses; International aspects of population growth and distribution, Migration: measures, types, causes and consequences, Urbanisation in India**


**UNIT IV**

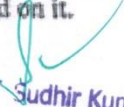
**Demographic Profile of India: Sources of Demographic data, Census 2011, Growth and Distribution of population in India, Fertility Patterns, Mortality Rates, Birth and Death Rates, Age Structure and Sex Structure, life expectancy, rural-urban ratio, literacy rates, density, Migration trends, Growth of population in India: Inter-state variations, India's current population policy, Family welfare programmes in India, Demographic Profile of students City/Village/District**

**UNIT V**

**Latest Issues in Demography: Qualitative Demography; Man power planning; Population and Human capital Formation; Demographic Dividends; Population, Environment and Economic Development, Population Education and Health education.**

**Note-** Regarding demographic profile of student's own city/village/district questions will be asked in internal examination and assignments can also be prepared on it.

  
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## PAPER 15

### ENVIRONMENTAL ECONOMICS

**PREAMBLE-**The objective of the Environmental Economics is to provide students with the necessary training for the application of economic theory and analysis to natural resource and environmental management issues. The subject will impart understanding on the environmental regulatory approaches for correcting market failures, and making use of economic evaluation techniques to assess environmental issues and policies.

#### UNIT I

**Environmental Economics:** Meaning, Nature, Scope and Significance; Economy – ecology and environment inter – linkages; Environmental Costs of Economic Growth, Limits to Growth; Environmental Kuznets Curve; Natural Resources: Renewable and non-renewable resources, Theories of Optimal Use of Exhaustible and Renewable Resources; Resource Taxonomy, Equitable use of resources for sustainable lifestyles

#### UNIT II

**Welfare Economics and Environment Valuation:** Pareto optimality and competitive equilibrium; Market failures; Theories of Externality and Public Goods, Solutions to Externality, Coase's Theorem, Property Rights and Transaction Costs; Free Rider's Problem, Optimal Provision of Public Goods — Lindahl's Equilibrium; Common Property Resources – Tragedy of Commons.

**Environment Valuation:** Meaning and Types; Environmental Damages/Benefits, Social Cost Benefit Analysis; Valuation Techniques – Market and Non-Market: - Scientific, Behavioural and Technological - Production Based, Contingent Valuation, Hedonic-Pricing, Travel Cost Method, Risk Assessment,

#### UNIT III

**Environment Management Techniques:** Cost Benefit Analysis, Environmental Impact Assessment, Environmental Audit

**Theory of Environmental Policy** Environmental regulations- promoting Coasian markets; Pigouvian taxes; command and control verses market based instruments; Effluent and emission taxes verses tradable permits; The tools in practice; Micro planning for environment and eco-preservation—water sheds, joint forest management and self- help groups.

#### UNIT IV

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**Environmental Pollution:** Definition, Cause, effects and control measures, Climate change, global warming, acid rain, ozone layer depletion, Green House Effect, nuclear accidents and holocaust; Consumerism and waste products, Role of an individual in prevention of pollution.  
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**Sustainable Development:** Concept, indicators, Measurement and Strategies for Sustainable Development; current issues in Sustainable Development; Green Economy; Green Manufacturing, Green Finance and Green Tourism.

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# DEPARTMENT OF ENGLISH

Common Minimum Syllabus - ENGLISH

Programme/Class: <b>CERTIFICATE</b>	Year: <b>FIRST</b>	Semester: <b>SECOND</b>
Subject: <b>ENGLISH</b>		
Course Code: - <b>A040201T</b>	Course Title: <b>English Poetry</b>	
<p><b>Course Outcomes:</b> After completing this course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the basic terminology and practical elements of poetry</li> <li>• Comprehend the meaning of words, phrases and sentences in a given context</li> <li>• Analyse the underlying meaning of a poem by using the elements of poetry</li> <li>• Identify the representative poets and writers of 16th, 17th, 18th and 19th and 20th century</li> <li>• Identify the devices used by the poet, the mood, the atmosphere, the voice, the stanzaic form, rhyme pattern and metre scheme</li> <li>• Examine the difference between Shakespearean and Miltonic sonnet forms</li> <li>• Comprehend the experimental poetry of Metaphysical age and the characteristics of Neo-classical poetry</li> <li>• Reflect on didactic human values as virtually mirrored in Thomas Gray's poem</li> <li>• Understand the concept of nature as stated by the romantic poets in literature</li> <li>• Appreciate the simplicity and lucidity of expression of poets in romantic literature</li> <li>• Understand the literary terms used by the Victorian poets</li> <li>• Analyse the existing conflict between faith and doubt in Victorian society</li> <li>• Discuss the significance of the literary period of the text by analysing the effects of the major events of that period</li> <li>• Understand the difference between reason and imagination, literature and revolution</li> <li>• Exposed to the trends in 20th century poetry of Eliot, Yeats and Larkin</li> </ul>		
Credits: <b>06</b>	Paper: <b>Core Compulsory</b>	
Max. Marks: <b>25+75</b>	Min. Pass Marks: .....	
Total No. of Lectures-Tutorials-Practical (in hours per week): <b>6-0-0.</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures</b>
	<b>Forms of Poetry (Definition &amp; Main features)</b> 1. The Sonnet 2. The Elegy 3. The Ode 4. The Epic 5. The Ballad 6. The Lyric 7. The Dramatic Monologue 8. Allegory	<b>11</b>

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II	<b>Stanza Forms</b> 1. The Heroic Couplet 2. Blank Verse 3. The Spenserian Stanza 4. Terza Rima	11
III	<b>Poetic Device</b> Structure: Tone: Theme: Rhythm: Rhyme Scheme. Kinds of Metre: Stressed & Unstressed Syllables; Figures of Speech; Irony;	11
IV	1. William Shakespeare - * <i>Let Me Not to the Marriage of True Minds</i> (Sonnet No. 116) Or John Milton - * <i>On His Blindness</i> 2. John Donne - * <i>A Valediction: Forbidding Mourning</i> 3. Alexander Pope - * <i>Ode on Solitude</i>	
V	1. Thomas Gray- * <i>Elegy Written in a Country Churchyard</i> 2. William Wordsworth- * <i>The World is Too Much with Us</i> 3. John Keats- * <i>Ode to a Nightingale</i>	12
VI	1. Alfred Lord Tennyson- * <i>Break, Break, Break</i> Or Elizabeth Barret Browning- * <i>How Do I Love Thee?</i> 2. Matthew Arnold- * <i>Dover Beach</i> 3. Robert Browning- * <i>The Last Ride Together</i>	11
VII	1. T.S. Eliot- * <i>Son of Man</i> (from the <i>Wasteland</i> ) 2. W.B. Yeats- * <i>The Lake Isle of Innisfree</i> 3. Philip Larkin- * <i>Church Going</i>	11
VIII	<b>Rhetoric &amp; Prosody</b> <b>Practical Criticism</b> Introduction to Practical Criticism One Stanza from Poetry for Practical Criticism	11

**Suggested Readings:**

- Abrams, M.H. & Harpham, G.G., "A Glossary of Literary Terms", Cengage Learning, Delhi, 2015.
- Ford, B., "The New Pelican Guide to English Literature 4: From Dryden to Johnson", Penguin, 2000.
- Daiches, D., "A Critical History of English Literature", Supernova Publishers, 2010.
- Compton-Rickett, A., "A History of English Literature" Nabu Press, 2010.
- Abrams, M.H., "English Romantic Poets", Oxford University Press, New York, 1975.
- Bhattacharyya, A., "Studies in English Rhetoric and Prosody", Books Way, New Delhi, 2014.
- Boulton, M., "The Anatomy of Poetry", Kalyani, New Delhi, 1979.
- Bowra, C.M., "The Romantic Imagination", Oxford University Press, Delhi, 1961.
- Chandler, J. (ed.), "The Cambridge History of English Romantic Literature", Cambridge University Press, Cambridge, 2009.
- Gardener, H., "The Metaphysical Poets", Penguin Classics, Delhi, 1960.

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Programme/Class: <b>DEGREE</b>	Year: <b>THIRD</b>	Semester: <b>SIXTH</b>
Subject: <b>ENGLISH</b>		
Course Code: - <b>A040601T</b>	Course Title: <b>Indian &amp; New Literatures in English</b>	

**Course Outcomes:**

After completing this course, the students will be able to:

- Develop an understanding of the Indian freedom struggle, the contemporary political, social and economic scenario and the also the trauma of the partition
- Develop an understanding of the themes, styles and poetic sensibilities of poets like Toru Dutt, Nissim Ezekiel, Jayant Mahapatra and Keki N. Daruwala
- Critically analyse the drama as a medium of exploration of existing social issues and prejudices through the work of dramatists like Mahesh Dattani and Asif Currimbhoy
- Understand the socio-cultural-political conditions of the contemporary India as explored in the fiction of writers like Kamala Markandaya
- Analyse and evaluate the difference in the theme and background of the works of Indian writers in English and the English writers already studied in the previous years
- Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian English literature
- Appraise the values and issues arising from colonialism
- Familiarize themselves with the similar (yet different) socio-historic conditions reflected in the literature of the various colonies
- Comprehend how 'New Literatures' incorporates very different literary products, each with its own cultural, social and geographical specificity
- Comprehend and analyse the poetic discourses of poets like Pablo Neruda, Margaret Atwood, Judith Wright, Patrick White and Sujata Bhatt and the variations in their themes, styles and responsiveness
- Address the identity issues and marginalization through a study of the works of Indira Goswami and Naipaul

Credits: 05	Paper: <b>Core Compulsory</b>
Max. Marks: 25+75	Min. Pass Marks: .....
Total No. of Lectures-Tutorials-Practical (in hours per week): <b>5-0-0</b>	

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Unit	Topic	No. of Lectures
1	Prose • Mahatma Gandhi- <i>Hind Swaraj</i> : XVII- Passive Resistance, XVIII- Education Or Swami Vivekanand's Chicago Speech, 11 Sept, 27 Sept, 1893	10

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II	<b>Poetry</b> Toru Dutt: *Lakshman Nissim Ezekiel: *The Poet, Lover and Bird Watcher Kamla Das: *An Introduction Rabindra Nath Tagore: *Song 1 (from Gitanjali)	
III	<b>Drama</b> Maresh Dattani- <b>The Moring Rag</b> Asif Currimbhoy- <b>The Doldrummers</b>	9
IV	<b>Fiction</b> Kamala Markandaya- <i>Nectar in a Sieve</i> Mulk Raj Anand: <i>A Guest of Honour</i>	10
V	<b>Prose</b> Frantz Fanon- <i>Black Skin, White Masks</i> Chapter 4 Or Nivedita Menon- <i>Seeing Like a Feminist</i> Chapter 2	10
VI	<b>Poetry</b> Pablo Neruda: *If You Forget Me Margaret Atwood: *Spellings Patrick White: *Voss Judith Wright: *The Company of Lovers	9
VII	<b>Fiction</b> 1. Nadine Gordimer- <i>A Guest of Honour</i> 2. V.S. Naipaul- <i>A House for Mr. Biswas</i> <b>OR</b> Indira Goswami- <i>The Moth-Eaten Howdah of the Tusker</i>	9
VIII	<b>Drama</b> Wole Soyinka- <i>The Lion and the Jewel</i> <b>OR</b> Trey Anthony- <i>'da Kink in My Hair</i>	9

Nadine Gordimer  
V.S. Naipaul

**Suggested Readings:**

- Butalia, Urvashi., "The Other Side of Silence: Voices from the Partition of India", Penguin, Random House India, 2017.
- Boehmer, E., "Empire Writing: An Anthology of Colonial Literature 1870-1918", Oxford University Press, Oxford, 1998.
- Chinweizu, I., "Decolonising the African Mind", Pero, Lagos, 1987.
- Ngugi wa, T., "Homecoming: Essays on African and Caribbean Literature, Culture and Politics", Heinemann Educational Books, London, 1972.
- Fanon, Frantz, "Black Skin, White Masks", Perseus Books Group, Revised edition, 2007.
- Menon, Nivedita., "Seeing Like a Feminist", Penguin India, 2012.
- Rowland, S.W., "Postcolonizing the Commonwealth: Studies in Literature and Culture", Laurier University Press, Ontario, 2000.
- Rao, A.V. Krishna and Menon, M., "Kamala Markandaya: A Critical Study of Her Novels 1954-1982 (Indian Writers Series)", BR Publishing Corporation, 1997.

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Chaudhary Charan Singh University, Meerut  
M.A. English Syllabus  
(Regular and Private Students of Affiliated Colleges)  
Semester One  
Paper Two  
Literary Theory and Cultural Studies

Unit 1: Very Short questions

Liberal Humanism  
Structuralism  
Post structuralism and Deconstruction  
Post Modernism

Unit 2: Short questions

Psychoanalytical Criticism  
Feminism  
Marxism  
Ecocriticism

Unit 3: Long questions

The following essays are available in the book:

During, Simon, edited, *The Cultural Studies Reader* 2<sup>nd</sup> Ed. (London: Routledge, 2001)

This book can be downloaded free from internet

T. Adorno, and Max Horkheimer, *Cultural Industry: Enlightenment as Mass Deception*

Michel Foucault, *Space, Power and Knowledge*

Jean Francois Lyotard, *Defining the Post Modern*

Dick Hebdige, *The Function of Subculture*

Raymond Williams, *Advertisement: The Magic System*

Reference Books

Barry, Peter, *Beginning Theory* for Unit one and Unit two

Guerin, Wilfred L. and others, *A Handbook of Critical Approaches to Literature*, (Oxford: O. U. P., 20006) for Unit 3

Ryan, Michael, *Literary Theory A Practical Introduction*, 3<sup>rd</sup> ed. (U.K.: Wiley Blackwell, 2017) for Unit 3

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Anita  
Dr. Anurag Aggarwal  
D. M. P.

Chaudhary Charan Singh University, Meerut  
M.A. English Syllabus  
(Regular and Private Students of Affiliated Colleges)  
Semester two  
Paper Six  
Romantic Literature

Unit one: Very short questions

Context: Context of Romanticism, French revolution, Romantic poetry, the novel of Romantic period, Romantic prose, the growth of industry in England, the condition of working class in industrial England, urbanisation

Choudhary, Bibhash, *English Social and Cultural History*, (Delhi: PHI Learning Pvt. Limited, 2114)

Unit two: Short questions

S.T. Coleridge	The Rime of Ancient Mariner Christabel
P.B. Shelley	Adonais,
Charles Lamb	Dream Children, Poor Relations,

Unit Three: Long questions

John Keats	Ode to autumn, Ode on Melancholy, Ode on a Grecian Urn,
Jane Austen	Emma
William Wordsworth	Lines composed a Few Miles Above Abbey
William Wordsworth	Preface to Lyrical Ballads

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*(Dr. Vikash Chandra) (Bela)*

*P. Tyagi  
(Prof. Tyagi)*

Prof. Sudhir Kumar Pund  
Principal

*Arif  
(Dr. Arif Aggarwal)*

*Prince  
(N. Prince)*

Chaudhary Charan Singh University, Meerut  
M.A. English Syllabus  
(Regular and Private Students of Affiliated Colleges)

Semester Two  
Paper Eight  
American Literature

Unit one: Very short questions

Walt Whitman                      Song of Myself (1, 10, 14, 24, )  
Out of Cradle,

Emily Dickenson                      Because I Could Not Stop for Death, Success is  
Counted Sweetest,  
I Cannot Live With You,

Unit two: Short questions

Robert Frost                      Mending Wall, Birches,

Death of a Hired Man

Arthur Miller                      Death of a Salesman

Emerson                      Brahma, Self Reliance

Unit three: Long questions

Ernest Hemingway                      Old Man and the Sea

Toni Morrison                      The Bluest Eye

Henry David Thoreau                      Civil Disobedience

Eugene O'Neill                      Desire Under the Elms

*(Dr. Vikas Singh)*  
*(Dr. Anil Chakraborty)*  
*Anamika*  
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*(Prof. P. Tyagi)*

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Prof. Sudhir Kumar Pundir  
Principal  
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*(Dr. Anil Chakraborty)*  
*Anamika*  
*Dr. Mamta Sharma*  
*(Prof. P. Tyagi)*



Chaudhary Charan Singh University, Meerut  
M.A. English Syllabus  
(Regular and Private Students of Affiliated Colleges)  
Semester Three  
Paper Ten  
20<sup>th</sup> Century British Poetry

Unit one: Very short questions

Context: The crisis in empire and decolonisation, Modernism, the context of modernism, modern poetry, Literature and culture in the Post modern world, post-war English poetry, aspects of contemporary culture and society, popular culture, globalization, terrorism and the new world order, immigration, Feminism and gender studies.

Choudhary, Bibhash, *English Social and Cultural History*, (Delhi: PHI Learning Pvt. Limited, 2114)

Unit two: Short questions

W.H. Auden	Musee des Beaux Arts, The Shield of Achilles
Phillip Larkin	Church Going, Cut Grass, Ambulances
Seamus Heaney	Digging, Churning Day, Poor Woman in a City Church

Unit three: Long questions

T.S. Eliot	The Waste Land, The Love Song of J. Alfred Prufrock
W.B. Yeats	Leda and Swan, The Second Coming, No Second Troy, Sailing to Byzantium
Dylan Thomas	Do Not Go Gentle into That Good Night, Of a child In London
Stephen Spender	The Landscape near an aerodrome, The Express
Thomas Hardy	After a Journey, The Breaking of Nations

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*(Dr. Vikas Shrivastava)*

*P. Tyagi*  
*(P. Tyagi)*

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Principal

*Anamla*  
*Dr. Anamla Aggarwal*

*M. Prasad*  
*(Prof. M. Prasad)*

# DEPARTMENT OF GEOGRAPHY

BA 1<sup>st</sup> Year, Sem. I,  
Course I  
(Theory)

Programme/Class: Certificate/ BA	Year: First	Semester: First
Subject: Geography		
Course Code: A110101T	Course Title: Physical Geography	
Course outcomes: Students will be able to understand <ul style="list-style-type: none"> <li>• The Earth geomorphic transition from beginning to present day.</li> <li>• Plate tectonics and related movements</li> <li>• Landforms carved by various agents of erosion</li> <li>• Earth's climate and that factors that influence it</li> <li>• Oceans system and biogeography of the world.</li> </ul>		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Topics	No. of Lectures
I	Nature and Scope of Physical Geography, Origin of Universe, solar system and Earth (Big Bang Theory and Indian Concepts). Geological Time Scale (with special reference to evidences from India), Interior of the Earth.	8
II	Origin of Continents and Oceans, Isostasy, Earthquakes and Volcanoes, Geosynclines, Continental Drift theory, Concept of Plate Tectonics.	8
III	Rocks, Folding, Faulting, Weathering, Erosion, Cycle of Erosion by Davis and Penck, Drainage Pattern.	8
IV	Fluvial, Karst, Aeolian, Glacial, and Coastal Landforms	8
V	Composition and Structure of atmosphere: Insolation, Atmospheric pressure and winds.	8
VI	Airmasses and Fronts, cyclones and anti-cyclones, Humidity, precipitation and rainfall types.	7
	Ocean Bottoms, composition of marine water-temperature and salinity. Circulation of Ocean water Waves, Currents and Tides, Ocean deposits, Corals reefs and it's type.	7

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VIII	Biosphere: Meaning and Concept, components Of Biosphere, concept Of Biotic succession, Biome: Tropical evergreen rainforest biome, Savanna biome, Temperate grassland biome, Tundra biome, Hot desert and semi desert biome.	6
<b>Suggested Readings:</b>		
<ol style="list-style-type: none"> <li>1. Singh, Savindra (2018), Physical Geography (Eng./Hindi) Allahabad, India: Prayag Pustak</li> <li>2. Huggett, R.J. (2007): <i>Fundamentals of Geomorphology</i>. New York, U.S.A.: Routledge.</li> <li>3. Khullar, D.R. (2012). <i>Physical Geography</i>. New Delhi, India: Kalyani Publishers.</li> <li>4. Strahler, A. H. and Strahler, A N. (2001): <i>Modern Physical Geography (4/E)</i>. New York, U.S.A.: John Wiley and Sons, Inc.</li> <li>5. Thornbury, W. D. (2004): <i>Principal of Geomorphology</i>. New York, U.S.A.: Wiley.</li> <li>6. Bloom, A. L. (2003). <i>Geomorphology: A Systematic Analysis of Late Cenozoic Landforms</i>, New Delhi, India: Prentice-Hall of India</li> <li>7. Dr. Alka Gautam: Bhautik Bhugol, Rastogi Publication, Meerut</li> <li>8. Majid Husain: Bhautik Bhugol, Rawat Publication, New Delhi</li> </ol>		
This course can be opted as an elective by the students of following subjects: Open for all		
<b>Suggested Continuous Evaluation Methods:</b> Assignment / Test / Quiz (MCQ) / Seminar/ Presentations		
<b>Suggested equivalent online courses:</b> <a href="https://onlinecourses.swayam2.ac.in/cec21_hs03/preview">https://onlinecourses.swayam2.ac.in/cec21_hs03/preview</a> <a href="https://onlinecourses.swayam2.ac.in/nos20_sc25/preview">https://onlinecourses.swayam2.ac.in/nos20_sc25/preview</a>		

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**BA 1<sup>st</sup> Year, Sem. II  
Course I  
(Theory)**

Program/Class: Certificate/BA	Year: First	Semester: Second
Subject: Geography		
Course Code:A110201T	Course Title: Human Geography	
<b>Course Learning Outcomes</b> On completion of this course, learners will be able to: <ul style="list-style-type: none"> <li>• To understand the Concept, Nature, Meaning and Scope of Human Geography</li> <li>• To understand the natural and Cultural Changes in and around the Human Environs and their Interrelationship.</li> </ul>		
Credits: 4	Core Compulsory	
Max. Marks: -25+75	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Topics	No. of Lectures
I	Concept and Nature, Meaning and Scope of Human Geography. Development of Geographical understanding in India with special reference to Puranas.	7
II	Man and Environment relationship - Determinism, Possibilism, and Neo-determinism	7
III	Population- Distribution and pattern, global migration - causes and consequences, concept of over population and under population.	7
IV	Human Settlements: Origin, types and pattern (Rural-Urban) characteristics, House types and their distribution with special reference to India.	7
V	Primitive Economies-Food gathering, Hunting, Pastoral herding, Fishing, Lumbering and Primitive agriculture.	8
VI	Cultural Regions, Race, Religion and Language, Cultural Diffusion.	8
VII	World Tribes: Eskimos, Kirghiz, Bushman, Masai, Semang, Pygmies.	8
VIII	Indian Tribes: Bhotias, Gaddis, Tharus, Bhil, Gond, Santhal, Nagas.	8

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**BA 2<sup>nd</sup> Year, Sem. III  
Course I  
(Theory)**

<b>Programme/Class:</b> Diploma/BA	<b>Year:</b> Second	<b>Semester:</b> Third
<b>Subject:</b> Geography		
<b>Course Code:</b> A110301T	<b>Course Title:</b> Environment, Disaster Management and Climate Change	
<b>Course outcomes:</b> Students will be able to understand <ul style="list-style-type: none"> <li>• The course aim is to give basic understanding of concept Environment, Climate Change and Disaster Management.</li> <li>• Understanding of the concept of appraisal and conservation of Environment and Natural Resources.</li> <li>• It will help in developing understanding about various Impacts of Climate Change.</li> <li>• This course shall introduce the basic concepts related to disaster Management.</li> <li>• This paper shall help in understanding Global effort in field of disaster management.</li> </ul>		
<b>Credits:</b> 4	<b>Core Compulsory</b>	
<b>Max. Marks:</b> 25+75	<b>Min. Passing Marks:</b> 40	
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> L- 4/w		
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures</b>
I	Concepts & components of Environment, Ecology and ecosystem. Indian traditional Knowledge in Environment and disaster Management.	8
II	Bio-diversity and its conservation, sustainable development.	8
III	Deforestation, soil erosion, soil exhaustion, Desertification, Air pollution, water pollution Disposal of solid waste.	8
IV	Ganga Action Plan, Tiger project, Tehri dam & Narmada Valley project.	8
	Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming.	8

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VI	Global Climatic Assessment - IPCC, Impacts of Climate Change, National Action Plan on Climate Change.	7
VII	Disasters, Hazards, Risk, Vulnerability, Type of Disasters, Disaster Management, Disaster Management Cycle.	7
VIII	Natural Disaster: Flood, Drought, Cyclone, Earthquake, Man-made disaster: Chemical and Nuclear Disasters. Do's and Don'ts During Disasters.	6

**Suggested Readings:**

1. Casper J.K. (2010). *Changing Ecosystems: Effects of Global Warming*. New York, USA: Infobase Pub.
2. Hudson, T. (2011). *Living with Earth: An Introduction to Environmental Geology*. Delhi, India: PHI Learning Private Limited.
3. Miller, G.T. (2007). *Living in the Environment: Principal, Connections, and Solutions*. Belmont, Australia: Brooks/ Cole Cengage Learning.
4. Singh, R.B. (1993) *Environmental Geography*. Delhi, India: Heritage Publishers.
5. UNEP. (2007). *Global Environment Outlook: GEO4: Environment For Development, United Nations Environment Programme*. UK: University Press, Cambridge.
6. Government of India. (2011). *Disaster Management in India*. Delhi, India: Ministry of Home Affairs.
7. Singh, Savendra (2019) *Pryavaran Bhugol*, Pravalika Publication, Allahabad
8. Kapur, A. (2010). *Vulnerable India: A Geographical Study of Disasters*. Delhi, India: Sage Publication.
9. Singh, Savendra (2019) *Apada Prabandhan*, Pravalika Publication, Allahabad.
10. Ramkumar, M. (2009). *Geological Hazards: Causes, Consequences and Methods of Containment*. New Delhi, India: New India Publishing Agency.
11. Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment- IPCC
12. Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; Social Vulnerability.
13. Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health
14. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia.
15. The Climate Change Policy Framework: Global Initiatives UNFCCC and COPs; National and Local Action Plan on Climate Change.
16. Government of India. (2008). *Vulnerability Atlas of India*. New Delhi, India: Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India
17. Modh, S. (2010). *Managing Natural Disaster: Hydrological, Marine and Geological Disasters*. Delhi, India: Macmillan.
18. Bansal SC,(2020) *Jalvayu vighyan evam Samudra Vighyan*, Meenakshi Publication, Meerut.
19. Bansal SC,(2019) *Prayavarn ek adhyan*, Meenakshi Publication, Meerut.
20. Dr. Alka Gautam, *Prayavarn Bhugol*, Sharda Pustak Bhawan, Allahabad

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BA 3<sup>rd</sup> Year, Sem. VI,  
Course I  
(Theory)

Program/Class: Degree /BA	Year: Third	Semester: Sixth
Subject: Geography		
Course Code: A110601T	Course Title: Geography of India	
Course Learning Outcomes		
On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> <li>Understand the importance of "Ek Bharat Shrestha Bharat"</li> <li>Understand the wider aspects of Geography of India</li> </ul>		
Credits: 4	Core Compulsory	
Max. Marks: 25+75	Min. Passing Marks: 40	
Total No. of Lectures-Tutorials-Practical (in hours per week): L- 4/w		
Unit	Topics	No. of Lectures
I	Space relationship of India with neighboring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Ek Bharat Shrestha Bharat: A Geographical Prospective.	8
II	Mechanism of Indian monsoons and rainfall patterns, Tropical cyclones, and western disturbances; Floods and droughts; Climatic regions; Natural vegetation; Soil types and their distributions.	8
III	Resources: Land, surface and groundwater, energy, minerals, biotic resources; Forest and wildlife resources and their conservation (A study of Hastinapur wildlife	7

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	sanctuary)	
IV	Industry: Evolution of Industries; Locational factors of industries; Industrial houses and complexes including public sector undertakings; Industrial regionalization; New industrial policies; Special Economic Zones; Tourism including eco-tourism.	7
V	Cultural Setting: Historical Perspective of Indian Society; Racial, linguistic and ethnic diversities; religious minorities; major tribes, tribal areas, and their problems; cultural regions.	8
VI	Population: Growth, distribution, and density of population; Demographic attributes: sex-ratio, age structure, literacy rate, work-force, dependency ratio, longevity; migration (inter-regional, intraregional and international) and associated problems; Population problems and policies; Health indicators.	8
VII	Agriculture: Infrastructure: Irrigation, seeds, fertilizers, power; Institutional factors: landholdings, land tenure, and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro and social-forestry; Green revolution and its socio-economic and ecological implications.	6
VIII	Settlements: Types, patterns, and morphology of rural settlements; Urban developments; Morphology of Indian cities; Functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; Slums and associated problems; town planning; Problems of urbanization and remedies.	8
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Chauhan, P.R. and Prasad, M. (2003): Bharat Ka Vrihad Bhugol, Vasundhara Prakashan, Gorakhpur.</li> <li>2. Farmer, B.H. (1983): An Introduction to South Asia. Methuen, London</li> <li>3. Gautam, A. (2006): Advanced Geography of India, Sharda Pustak Bhawan, Allahabad</li> <li>4. Johnson, B.L.C. (1963): Development in South Asia. Penguin Books, Harmondsworth</li> <li>5. Krishnan, M.S. (1982): Geology of India and Burma, CAS Publishers and Distributors, Delhi.</li> <li>6. Bansal SC,(2018) Bharat Ka Bhugol, Meenakshi Publication, New Delhi, Meerut.</li> <li>7. Nag, P. and Gupta, S. S. (1992): Geography of India, Concept Publishing Company, New Delhi.</li> <li>8. Rao, B.P. ( 2007): Bharat kee Bhaugolik Sameeksha, Vasundhara Prakashan, Gorakhpur.</li> <li>9. Sharma, T.C. and Coutinho, O. (2003): Economic and Commercial Geography of India,</li> </ol>		

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**M. A. Geography**  
**Semester I**  
**Course III**  
**Advanced Geography of India (Physical & Regional)**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Making of India through Geological Time : Geology, Structure and Relief of India, Physical Divisions of India.
- Unit II : Drainage System and Watersheds, Hydrology and Water Balance, Climate Characteristics, Mechanism of Indian Monsoon, Climatic Regions of India.
- Unit III : Soil Resource & Conservation, Problem of Soil Erosion, Problem of deforestation, Forest Resources and their Conservation, Types of Soils and Natural Vegetation, Resource Regions of India.
- Unit IV : Different Schemes of Physiographic Regionalization of India, their bases and Comparative Studies.
- Unit V : Detailed case Studies of Uttarakhand Himalayas and Gangetic Plain with respect to their Geology, Structure, Relief, Drainage and Physiographic Divisions.

**Suggested Readings:**

- > Centre for Science & Environment: State of India's Environment, New Delhi, 1988.
- > Deshpande, C.D. (1992): India: A Regional Interpretation ICSSR & Northern Book Centre.
- > Ganguly, S. and Neil, De Votta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers, Boulder and London.
- > Gautam, A.(2005): Geography of India( in Hindi & English): Rastogi Publishing House, Meerut.
- > Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- > Khullar, D.R. (1968): India. A Comprehensive Geography. Kalyani Publishers, New Delhi, 2006.
- > Krishnan, M.S.: Geology of India and Burma, 4<sup>th</sup> Edition, Higgin Bothams Private Ltd., Madras.
- > Majid, Husain (2008): Geography of India, Tata McGraw Hill Company, New Delhi.
- > Nag, P. and Gupta, S.S. (1992): Geography of India, Concept Publishing Company, New Delhi.
- > Singh, J. (2003): India: A Comprehensive and Systematic Geography, Gyanodaya Prakashan, Gorakhpur.
- > Singh,R.L.(Ed.)(1971): India: A Regional Geography, National Geographical Society of India, Varanasi.

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**M. A. Geography**  
**Semester I**  
**Course IV**  
**Natural Resources Management**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I Introduction: Concept, models and approaches to natural resource management; problems of resource utilization; population pressure, development and resource utilization, natural hazards and risk management.
- Unit-II Use and misuse of Resources: Global and Indian scenario; historical background and future prospects of various resources; soil, water, minerals, forests.
- Unit-III Conservation and management of resources: Meaning, principles, philosophy and approaches to resource conservation; resource conservation and management methods.
- Unit-IV Resource appraisal and policy making: appraisal of Land resources, geophysical, geochemical, geo-botanical; Policy models towards better management and conservation of resources.
- Unit-V Resource Development: Concept of Sustainable resource, methods, dimension and sustainable system; integrated resource development and its application.

**Selected Readings**

- > Adams, W. M.: Green Development: Environment and Sustainability in the Third World, Routledge and Chapman Hall, New York, 1990.
- > Burton, I. And Kates, R.W. (1978): Readings in Resources Management and Conservation. Mc Graw Hill, New York.
- > Clark, G.L., Feldman, M.P. and Gertler, M.S. (eds.) (2000): The Oxford Handbook of Economic Geography. Oxford University Press, Oxford and New York.
- > Ehrlich, P.R., Ehrlich, R.H. and Holdren, J.P. (1998): Eco science: Population, Resources and Development. 2<sup>nd</sup> edition. Freeman and Company, San Francisco.
- > Granfelt, T.R. (1999): Management the Globalized Environment, J. & L. Composition Ltd, New York.
- > Holechek, J.L. et al (2000): Natural Resources: Ecology, Economics & Policy, Prentice Hall, New Jersey.
- > Hooja, R & Joshi, R. (1994): Desert, Drought and Development, Studies and Resource Management and sustainability; Rawat Publication, Jaipur.

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**M. A. Geography**  
**Semester II**  
**Course VI**  
**Climatology and Oceanography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Nature and scope of climatology and its relationship with meteorology. Composition and structure of the atmosphere. Insolation and Heat Budget. Green House Effect. Distribution of Temperature and Pressure. Planetary wind system. Jet Streams and Monsoon mechanism.
- Unit-II : Humidity and Precipitation. Acid Rain, Air Masses and Fronts, Origin of Cyclones, Anti-cyclones and Thunder storms and their effects. Ocean atmospheric interaction: El Nino and La Nina Phenomenon.
- Unit- III : Climatic classification of Koeppen and Thornthwaite, Major –climates of the world-tropical, temperate, desert and mountain climate. Climatic changes and Global warming.
- Unit- IV : Nature and scope of oceanography. Distribution of land and water. Surface configuration of the ocean floor. Sub-marine relief of the Pacific. Atlantic and Indian Ocean, Composition of Oceanic Water. Distribution of Temperature and Salinity.
- Unit-V : Circulation of Oceanic Water: Waves, Tides and Currents. Ocean Deposits: their sources and kinds. Corals and coral reefs: Types and theories of their origin.

**Suggested Readings :**

- > Barry, R.G. and Chorley P.J. (1998): Atmosphere, Weather and Climate. Routledge, London and New York.
- > Critchfield, J. H. (1993): General Climatology, Prentice Hall, India, New Delhi.
- > Das, P.K. (1987): Monsoons National Book Trust, New Delhi.
- > Fein, J.S. and Stephens, P.N. (1987): Monsoons, Wiley Inter science.
- > Indian Met. Deptt. (1968): Climatological Tables of Observatories in India, Govt. of India.
- > Lal, D.S. (1986): Climatology, Chaitanya Publication, Allahabad.
- > Lydolph, P.E. (1985): The Climate of the Earth, Rowman.
- > Menon, P.A. (1989): Our Weather, P.B.T. New Delhi.
- > Peterson, S. (1969): Introduction to Meteorology, McGraw Hill Book, London.
- > Robinson, P. L. and Henderson S. (1999): Contemporary Climatology, Henlow.
- > Sharma, R.C. & Meera Vatal : Oceanography for Geographers.

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**M. A. Geography**  
**Semester II**  
**Course VIII**  
**Advanced Geography of India (Socio-economic)**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Agricultural system and technological problems of Indian agriculture, developments, agrarian reforms, green revolution achievements and shortcomings, need of 2<sup>nd</sup> green revolution, Agro-climatic regions of India. Regionalization of agriculture in India, Crop combination regions of India, Food production and population growth.
- Unit- II : Energy in India- Conventional and Non-conventional power resources, regional set-up of Hydro and Thermal Power stations, locational patterns and analysis of coal & petroleum resources, govt. policies and conservation of energy resources.
- Unit- III : Analysis of Agro-Based (Sugar), Forest Based (Paper & Pulp) and Mineral based industries (Iron & Steel), Industrial regions of India, Modes of transport, their significance and development, the pattern of foreign trade.
- Unit- IV : Socio-economic implications of explosive growth of population, distribution and density of population, population resource regions, trends of urbanization, urban regions, population problems and policies.
- Unit- V : Basis of Economic Regionalization macro, meso and micro regional division of India, economic regionalization in India, Detailed study of the meso-regions of Great Plains-their inter-regional disparities with reference to agricultural. Human Resource development.

**Suggested Readings:**

- Brahmanand, P.R. et., (1987): The Development Process of Indian Economy, Himalaya Publishing House, New Delhi.
- Deshpande, C.D. (1992): India: A Regional Interpretation, ICSSR, New Delhi.
- Farmer, B.H. (1983): Introduction to South Asia. Methuen and Company Ltd. and Company Ltd., London.
- Ganguly, S. and Neil, De Votta (eds.) (2003): Understanding Contemporary India. Lynne Rienner Publishers., Boulder and London.
- Gole, P.N. (2001): Nature Conservation and Sustainable Development in India. Rawat Publications, Jaipur and New Delhi.
- Johnson, B.L.C. (1983): Development in South Asia. Penguin Books, Harmondsworth.

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**M. A. Geography**  
**Semester III**  
**Course XIII**  
**Ecology and Environment**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Ecology and Environment, Geography as Human Ecology Conceptual background. The Environment – meaning, structure and types, Man Environment Relationship, Perception of Environment.
- Unit-II : Ecology: meaning and its relation with Geography, Ecosystem: Kinds and functions, food chains, food structure webs, Structure and trophic levels, Energy flow and nutrient cycles, Major Biomes of the World.
- Unit-III : Geographical aspects of major environmental problems: Natural hazards- floods, drought, landslides, Earthquakes and Cyclones, Man-induced hazards – Rapid urbanization, transport development, Agricultural development, Big dams.
- Unit-IV : Environmental Pollution concept and types of pollution, Ecological impact of pollution, its environmental concerns, the green house effects, Global warming and ozone depletion, Environmental Policy and Legislation.
- Unit-V : Ecological basis of environmental Management – Concept, need and approaches, Indian and International efforts for environmental conservation and management: Environmental problems and programmes in India. Environmental Impact Assessment (ETA) of River Valley Projects like Tehri Hydro and Narmada Valley (Sardar Sarovar) Projects, National Parks.

**Suggested Readings:**

- > Anjuneyulu, Y. (2004): Introduction to Environmental Science. B. S. Publications, Hyderabad.
- > Athavale, R. N. (2003): Water Harvesting and Sustainable Supply in India. Rawat Publications, Jaipur.
- > Blaikie, P., Cannon, T. and Davis, I. (eds.) (2004): At Risk: Natural Hazards, Peoples Vulnerability and Disasters. Routledge, London.
- > Bodkin, E. (1982): Environmental Studies, Charles E. Merrill Pub. Co., Columbus, Ohio.
- > Chandna, R.C. (1998): Environmental Awareness, Kalyani Publisher, New Delhi.
- > Eyre, S.R. and Jones, G.R.J. (eds.) (1966): Geography as Human Ecology, Edward Arnold, London.
- > Gautam, A. (2007): Environmental Geography, Sharda Pustak Bhawan, Allahabad.

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**M. A. Geography**  
**Semester III**  
**Course XIV**  
**Advanced Geography of Uttar Pradesh**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Locational Set-up of Uttar Pradesh in India and its changing map. Relief and Physical Divisions, Structure, Drainage, Ground Water Resource, Soils and their types, Climate and Climatic regions and vegetative cover.
- Unit-II : Problems Related to Over Utilization of Natural Resources in Uttar Pradesh: Usar and Sodic soils formation and soil erosion, Under ground water scarcity, Depletion of forest cover and wild life, Surface Water Resource Utilities, Drinking Water and Power Shortage, Flood and drought affected parts.
- Unit-III : Spatio- Temporal Trends of Agricultural production, Development of Irrigational facilities including canals and dams, Agricultural Productivity and Crop-Combination regions, Power Generation and its distribution in different sectors of economy, Agro-Processing industry and their problems with special reference to sugar industry.
- Unit-IV : Human Resource Development in Uttar Pradesh: Demographic and Religious composition (Density, Rural-Urban distribution of Population, Sex-ratio,S/C/ S/T population, Literacy and trend of urbanization),occupational Structure and Poverty Eradication programmes initiated. Accessibility and Transport infrastructural gaps.
- Unit-V : Planning for Balanced Development: Planning for sustainable development including health, education, drinking water, Emerging Political Issues and Voting Behaviour in General elections and Policy of the State Government for Balanced regional development.

**Suggested Readings:**

- Despande C.D. (1992): India-A Regional Inter-pretation ICSSR, Northern Book Centre, New Delhi.
- Gautam, A.(2005): Geography of India,( In Hindi & English) Rastogi Publishing House, Meerut.
- Kundu A., Raza Moonis (1982): Indian Economy: The Regional Dimension, Spectrum Publishers, New Delhi.
- Manoria, C.B.(1980) : Advanced Geography of India, Sahitya Bhawan, Agra.
- Singh, S.,(2019): Geography of Uttar Pradesh, Sahitya Bhawan, Agra

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**M. A. Geography**  
**Semester- IV**  
**Course XVI**  
**Population Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Population Geography: Scope and Objectives, development of Population Geography as a field of specialization- Population Geography and Demography- sources of population data, their level of reliability, and problems of mapping of population data.
- Unit-II : Population distribution: density and growth – theoretical issues, Classical and modern theories in population distribution and growth, World patterns and their determinants, India, population distribution, density and growth profile, Concepts of under population and over population.
- Unit-III : Population composition: age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, urbanization, occupational structure, population composition of India.
- Unit-IV : Population dynamics: Measurements of fertility and mortality, migration, national and international patterns, India's population dynamics, Demographic Research Methods.
- Unit-V : Population and development: population- resource regions and levels of population and socio-economic development, population policies in developed and less developed countries, Human Development Index and its components, India's population policies, population and environment, implications for the future.

**Suggested Readings:**

- Bilasborrow, Richard E and Daniel Hogan (1999): Population and Deforestation in the Humid Tropics, International Union for the Scientific Study of Population, Belgium.
- Bogue, D.J. (1969): Principles in Demography, John Wiley, New York.
- Bose, Ashish et.al. (1974): Population in India's Development (1947-2000): Vikas Publishing House, New Delhi.
- Census of India (1991): India: A State Profile.
- Chandna, R.C. (2000): Geography of Population, Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
- Clarke, John I. (1973): Population Geography, Pergamon Press, Oxford.
- Crook, Nigel (1997): Principles of Population and Development, Pergmon Press, New York.

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**M. A. Geography**  
**Semester IV**  
**Course XVII**  
**Agricultural Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Nature, scope, significance and development of agricultural geography. Approaches to the study of agricultural geography: Sources of agricultural data.
- Unit-II : Determinants of agricultural land use-Physical, cultural. Land holding and land tenure systems. Selected agricultural concepts and their measurements; cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization, efficiency and productivity, crop combination regions and agricultural development. Zero Budget Natural Farming, Organic Farming, Cellular Agriculture: Definition, History, Methods, Benefits'. Green Revolution- its impact and consequences.
- Unit-III : Theories of agricultural location based on several multi-dimensioned factors: Von Thunen's theory of agricultural location and its recent modifications; Whittlesey's classification of agricultural regions; land use and land capability.
- Unit-IV : Agriculture in India- Land use and shifting cropping pattern. Regional pattern of productivity in India. Green Revolution, White Revolution, Food deficit and food surplus regions; nutritional index. Specific problems in Indian agriculture and their management and planning. Agricultural Policy in India.
- Unit-V : Contemporary issues; Food, nutrition and hunger, food security, drought and food security, food aid programmes; environmental degradation, role of irrigation, fertilizers, insecticides and pesticides, technological know-how. Employment in the agricultural sector: landless laborers, women, children, occupational health and agricultural activities. Land reforms, land use policy and planning.

**Suggested Readings:**

- > Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridge University Press, London.
- > Berry, B.J.L. et. Al. (1976): The Geography of Economic Systems. Prentice Hall, New York.
- > Brown, L.R. (1990): The Changing World Food Prospects- The Nineties and Beyond. World Watch Institute, Washington D.C.
- > Dyson, T. (1996): Population and Food-Global Trends and Future Prospects. Routledge, London.
- > Gregor, H.P. (1970): Geography of Agriculture. Prentice Hall, New York.



**M. A. Geography**  
**Semester IV**  
**Course XVIII**  
**Urban Geography**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit- I : Nature and scope of urban geography, different approaches and recent trends in urban geography, attributes of urban places during ancient, medieval and modern period, Bases and process of urbanization and development, Urban growth and theories. Central Place Theory of Christaller and Losch. Theories of Perroux and Boudeville.
- Unit-II : Urban economic base: Basic and non-basic functions, concept of dualism, colonial and postcolonial structure, metropolitan city and changing urban function; role of informal sector in urban economy. Classification of urban settlements on the basis of size and function and its methods.
- Unit-III : Organization of urban space: urban morphology and land use structure, city core, commercial, industrial and residential area; core-country variations; city-region relations, urban expansion, umland and periphery, Urban Primacy, Rank Size Rule.
- Unit-IV : Contemporary urban issues: urban poverty, urban renewal, urban sprawl, slums; transportation, housing, urban infrastructure; environmental pollution; air, water, noise, solid waste, urban crime.
- Unit-V : Urban policy and planning, development of small and medium sized towns, city planning, green belts, garden cities, urban policy, contemporary issues in urban planning globalization and urban planning.

**Suggested Readings:**

- Alam, S.M. (1964): Hyderabad – Secunderabad Twin Cities Asia Publishing House, Bombay.
- Berry, B.J.L. and Horton, F.F. (1970): Geographic Perspectives on Urban Systems, Prentice Hall, Englewood Cliffs, New Jersey.
- Carter (1972): The Study of Urban Geography, Edward Arnold Publishers, London.
- Chorley, R.J.O Haggett P.(ed.)(1966): Models in Geography, Methuen, London.
- Dickinson, R.E. (1964): City and Region, Routledge, London.
- Dwyer, D.J. (ed.) (1971): The City as a Centre of Change in Asia, University of Hong Kong Press, Hongkong.
- Gibbs, J.P. (1961): Urban Research Methods, D. Van Nostrand Co. Inc. Princeton, New Jersey.

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**M. A. Geography**  
**Semester IV**  
**Course XIX (B)**  
**Geography of Rural Settlements**

Max. Marks: 100  
Theory Exam: 50  
Int. Assessment: 50

**Course Contents:**

- Unit-I : Nature, scope, significance and development of rural settlement geography.  
Approaches to rural settlement geography. Rural-urban continuum
- Definition and characteristics of rural settlements in the fringe areas and sparsely settled areas.
- Distribution of Rural settlements: size and spacing of rural settlements. Nearest Neighbour Analysis.
- Unit-II : Types, forms and Patterns of rural settlements: cause and effect, Classification of rural settlements, Rural service centres, their nature, hierarchy and functions, rural-urban fringe – structure, characteristics and functions.
- Unit-III : Social issues in rural settlements: poverty, housing and shelter, deprivation and inequality, empowerment of women, healthcare, rural-urban interaction.
- Unit-IV : Environmental issues in rural settlements: access to environmental infrastructure, water supply, sanitation, drainage, health hazards.
- Unit-V : Cultural landscape elements in rural settlements in different Geographical environments with special reference to India; House types and field patterns, Origin, evolution, size, socio, spatial, structure of Indian villages. Rural development planning in India.

**Suggested Readings:**

- > Alam, S.M. et. al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.
- > Brock, J.O.M. and Welb, J.W. (1978): Geography of Mankind, McGraw Hill, London.
- > Chisholm, M. (1967): Rural Settlements and Land Use, John Wiley, New York.
- > Clout, H.D. (1977): Rural Geography, Permagon, Oxford.
- > Daniel, P. and Hopkinson, M. (1986): The Geography of Settlement, Oliver & Boyd, Edinburg.
- > Grover, N. (1985): Rural Settlement – A Cultural Geographical Analysis, Inter-India Publication, Delhi.
- > Hudson, F.S. (1976): A Geography of Settlement, Mac Donald & Evans, New York.



# DEPARTMENT OF HOME SCIENCE

## Paper VI Applied Life Science

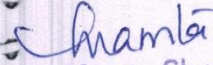
M.M. 50


### Unit I-Soil

- A) Importance and general knowledge of soil.
- B) soil and selection of soil for establishing a new garden.
- C) Methods for making of soil for more fertilization and conservation of soil.

### Unit II-Manure and Fertilizers

- A) Importance of manure.
- B) Methods for application of manures and fertilizers.
- C) Preparation of compost of manures and Bio-fertilizers.

  
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**Unit III- Plants**

- A) Elementary idea of the classification of Plant Kingdom. Parts of a typical angiosperm plant, Pollination, fertilization, Dispersal of seeds and life cycle of a plant.
- B) Economic botany- Plants, different parts of plant useful for human welfare and daily human life.

**Unit III- Plants**

- A) Elementary idea of the classification of Plant Kingdom. Parts of a typical angiosperm plant, Pollination, fertilization, Dispersal of seeds and life cycle of a plant.
- B) Economic botany- Plants, different parts of plant useful for human welfare and daily human life.

**Unit IV Herbal and Medicinal plants**

- A) General Knowledge of gardening.
- B) Planting, maintenance and therapeutic uses of herbal and medicinal plants.

**Unit V Kitchen Gardening**

- A) Scope and Layout of Kitchen gardening.
- C) Cultivation of vegetables- Tomato, Cauliflower, Bhindi, Brinjal, chillies, carrot, radish and Spinach.

**Practical**

**M.M. 50**

- A) Layout of Kitchen garden Practical Knowledge of garden tools.
- B) Transplantation of seedlings.
- C) Seedbed preparation, sowing of seedling and raising seedlings, weeding, hoeing, irrigation earthing, staking.
- D) Identification and common bacterial and viral infected plants.

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## DEPARTMENT OF POLITICAL SCIENCE

Format for developing syllabus for a course/paper

Programme / Class	Degree	Year	BA III	Semester	VI
Subject	Political Science				
Course Code	A060602T	Course Title	International Relations & Politics		
Course Outcome- This course seeks to equip students the basic tools for understanding International relations. It also introduces major events and developments that have shaped the contemporary international system. It aims to capture the changing dynamics of the international politics by taking up burning and relevant issues which have potential to alter its contours.					
Credits – 5	Max. Marks: 100	Min. Passing Marks: 33			
Total No. of Lectures - Tutorials - Practical (in hours per week) : 5-0-0					
Unit	Topic				No. of Lectures
I	International Politics: Meaning, Nature, Scope Approaches: Idealism, Realism, Neo Realism, Theories: Decision-Making, System Theory, Mandal Theory, Game Theory				11
II	The Nation State System: National Power, National Interest, Collective Security, Balance of Power				10
III	Diplomacy, Disarmament, Arms Control & Nuclear Proliferation, United Nations, New World Order				10
IV	World War I & II, Cold War & Post Cold War International Relations.				10
V	India's Foreign Policy: Principles, Phases, Relations with Big Powers, Neighbours				8
VI	International Economic System: Bretton Woods to W.T.O Regional Cooperation: EU, QUAD, IORA, ASEAN, BRICS, BIMSTEC, SAARC, SCO				10
VII	Globalization: concept, feature, effects and its impact on sovereignty of states; Alternative perspective on globalization, Multipolar World				8
	Issues in international Relations: Cross border Terrorism, Human Rights, Politics of Environment, Traditional & Non Traditional Security Threats				8

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# POLITICAL SCIENCE

Syllabus for MA (Political Science) Semester System in Colleges [Regular]

## M.A. 1<sup>st</sup> SEMESTER

### Paper: I Traditions of Political Thinking

- (i) Indian: Dharamashastra, Arthashastra
- (ii) Greek: Plato, Aristotle
- (iii) Roman: Cicero, St. Thomas Aquinas
- (iv) European: J.S. Mill, Bentham,
- (v) American: David Easton, John Rawls
- (vi) Third World: Gandhi, Julius Nyerere

### Paper: II Comparative Politics

- (i) Why Compare and How: Utility and approaches: Institutionalism and New Institutionalism
- (ii) Decolonisation, Constitutionalism
- (iii) Political Development, Political Modernisation
- (iv) Political Culture, Political Socialisation
- (v) Political Parties, Pressure Groups, Civil Society Organisations
- (vi) Political Elites, Political Leadership

### Paper: III Indian Political System

- (i) Making of Indian Constitution: Processes and Ideologies
- (ii) Philosophy of Indian Constitution: Preamble, Fundamental Rights and Duties, Directive Principles of State Policy
- (iii) Indian Federalism: Classical Perspective, Modern Discourses
- (iv) Structure of Government: Parliament, Executive, Judiciary
- (v) Constitutional and Statutory Bodies: Election Commission, National Commission for SCs and STs, National Commission for Women
- (vi) Parties & Party Systems: Changing Nature

### Paper: IV International Relations

- (i) Theoretical Traditions: Idealism, Realism, Neo-Realism, Feminism
- (ii) Key Determinants: National Interest, National Security, Balance of Power, Collective Security
- (iii) Conflict and Peace: State and Non-State Actors, Disarmament, International Technology Control Regimes, Peace Keeping V/s Peace Making
- (iv) International Political Economy: Bretton Woods Institutions, Globalisation, New International Economic Order, WTO, G-20, BRICS
- (v) International Organisations: United Nations Organisation, SAARC, EU, ASEAN
- (vi) Contemporary Challenges: International Terrorism, Climate Change

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## M.A. 2<sup>nd</sup> SEMESTER

### Paper: V Administrative Theory

- (i) Evolutionary Perspective: Indian Traditions, American Traditions, European Traditions
- (ii) Classical Theory: Henry Fayol, Luther Gulick and F. W. Taylor
- (iii) Human Relations and Behavioural: Elton Mayo, Abraham Maslow, Douglas McGregor
- (iv) Bureaucratic and Systems: Max Weber, M. P. Follet, Chester Bernard
- (v) Context-Driven Administration: Decision Making Theory: Herbert Simon, Ecological: Fred Riggs, Development Administration: Edward Weidner
- (vi) New Horizons: New Public Administration, New Public Management, Governance and Good Governance

### Paper: VI Ancient Indian Political Thought

- (i) Vedic Traditions
- (ii) Manu
- (iii) Kautilya
- (iv) Shukra
- (v) Epics: Ramayana and Mahabharata
- (vi) Jain and Buddhist Literatures

### Paper: VII Contemporary Political Theory

- Head of the Department*
- (i) Setting the context: Decline of Political Theory, Revival of Political Theory, End of Ideology Debate
  - (ii) Approaches: Behavioural, Post Behavioural, Post Modernist
  - (iii) Discourses of Justice: John Rawls, Robert Nozick, Amartya Sen
  - (iv) Debates & Discourses - I: Communitarianism, Multiculturalism, Environmentalism
  - (v) Debates & Discourses - II: Feminism, Orientalism, Existentialism
  - (vi) Debates & Discourses - III: Constructivism, Egalitarianism, New Humanism

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### Paper: VIII Research Methodology

- (i) Introduction to Research: What is Research?, Traditions of Research
- (ii) Philosophy of Research
- (iii) Framework of Research: Types of Research, Research Design
- (iv) Qualitative Methods
- (v) Quantitative Methods
- (vi) Research Report

*Shank*  
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# DEPARTMENT OF ZOOLOGY

Course XI

ENVIRONMENTAL BIOLOGY

CH-3064

## Unit 1

- a. **The Environment:** Physical environment; biotic environment; biotic and abiotic interactions
- b. **Habitat:** and niche: Concept of habitat and niche: niche width and overlap fundamental and realized niche, resource partitioning; character displacement
- c. **Biogeography:** Major terrestrial biomes; theory of island biogeography, biogeographical zones of India

## Unit 2

- a. **Populations Dynamic:** Characteristics of a population; population growth curves; population regulation: life history strategies (*r*- and *K*- selection): concept of metapopulation-demes and dispersal, interdemec extinctions, age structured populations
- b. **Community ecology:** Nature of communities, community structure and attributes: levels of species diversity and its measurement: edges and ecotones

## Unit 3

- a. **Ecosystem ecology:** Structure and function: energy flow and biogeochemical cycle (CNP&S): primary productivity and decomposition, ecological energetic, Major Indian ecosystems:- terrestrial (forest, grassland) and aquatic (fresh water, marine, estuarine)
- b. **Ecological successions:** Types: mechanisms: changes involved in succession; concept of climax

## Unit 4

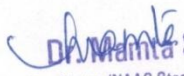
- a. **Environmental Pollution ecology:** Environmental pollution; global environmental change; sustainable development
- b. Biodiversity status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches

## Unit 5

- a. **Conservation biology:** Principles of conservation, Environmental Impact Assessment (EIA), Environmental Management Plan (EMP), Environmental Auditing (EA), Indian case studies on conservation/management strategy (Project Tiger, Biosphere reserves)
- b. Remote sensing, Geoinformatics and GPS technology; NASA, IIRS, history and applicability of remote sensing in India

### Recommended Books :

1. Animal Physiology: Mechanism and Adaptation by R Eckert. Publisher : W.H. Freeman and Co., New York
2. Baumgartner, population Biology by BD Elseth & KM Van. Publisher : Nostrand Co., New York
3. Ecological Applications by Colin R. Townsend. Publisher : Wiley
4. Ecological Concepts by JM Cherrett. Publisher : Blackwell Science Publication, Oxford, U.K.
5. Ecological Methodology by CJ Krebs. Publisher : Harper and Row , New York
6. Ecology by CJ Krebs. Publisher : Harper and Row, New York
7. Essentials of Ecology by Colin R. Townsend, Michael Begon & John L. Harper. Publisher : Blackwell
8. Fundamentals of ecological modelling by SE Jorgensen. Publisher: Elsevier, New York.
9. Sampling Design and Statistical Methods for Environmental Biologists by RH Green. Publisher : John Wiley & Sons, NY
10. The Future of Life by Edward O. Wilson. Publisher : Abacus

  
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