

## Bachelor of Arts

### Syllabus for Core Component (CC) Foundation Courses (English Medium) Semester II

Old Syllabus	Proposed Syllabus
Title of the Paper: Environmental Studies	Title of the Paper : Environmental Studies
Subject Code 230400	Subject Code 10403

PAPER TITLE	L	Cr	P/T	D (EE)	EE	IE	T
Environmental Studies	4	4	--	2.5	75	25	100 marks

#L=Lectures per week, Cr=Credits, P/T=Practical/Tutorials, D=External Exam Duration, EE=External Examination, IE=Internal Examination, T=Total Marks

Old Syllabus	Proposed Syllabus
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• To bring about an awareness of a variety of environment concerns.</li> <li>• To create a pro-environmental attitude and a behavioural pattern which is based on creating sustainable lifestyles.</li> <li>• To achieve a total behavioural change in student community</li> </ul> <p><b>Learning Outcomes:</b> At the end of the course, the student will be able to gain the knowledge of:</p> <ul style="list-style-type: none"> <li>• The natural resources and their importance for the sustenance of the life and recognise the need to conserve the natural resources.</li> <li>• The concepts of the ecosystem and its function in the environment. The need for protecting the producers and consumers in various ecosystems and their role in the food web.</li> <li>• The biodiversity of India and the threats to biodiversity, and conservation practices to protect the biodiversity.</li> <li>• Various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices.</li> </ul>	<p><b>Objectives:-</b></p> <ul style="list-style-type: none"> <li>• To realize the need and importance of environmental issues.</li> <li>• To create a pro–environmental attitude and a behavioural pattern which is based on creating sustainable lifestyles</li> <li>• To achieve a total behavioural change in student community</li> </ul> <p><b>Learning Outcomes:</b> At the end of the course, the student will be able to gain the knowledge of</p> <ul style="list-style-type: none"> <li>• understanding about concepts, various ecosystems, biodiversity, and need of conservation and social challenges for environment sustainability.</li> <li>• The natural resources and their importance for the sustenance of the life and recognise the need to conserve the natural resources.</li> <li>• The concepts of the ecosystem and its function in the environment. The need for protecting the producers and consumers in various ecosystems and their role in the food web.</li> <li>• The biodiversity of India and the threats to biodiversity, and conservation practices to protect the biodiversity.</li> <li>• Various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices.</li> <li>• Social issues both rural and urban environment and the possible means to combat the challenges.</li> </ul>

<ul style="list-style-type: none"> <li>• Social issues both rural and urban environment and the possible means to combat the challenges.</li> <li>• The environmental legislations of India and the first global initiative towards sustainable development.</li> </ul>	<ul style="list-style-type: none"> <li>• The environmental legislations of India and the first global initiative towards sustainable development.</li> </ul>
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Old Syllabus		Proposed Syllabus							
Unit	Topic and Details Old Syllabus	Module	Module Specific Objectives	Content	Weightage	Instruction Time	Credits	Evaluation	
								IE Weightage	EE Weightage
I)	<b>Multidisciplinary Nature of Environment Studies</b>  a) Definition, Scope and Importance	<b>I) Environment Studies, Natural Resources</b>	-- To bring about an awareness of a variety of environment concerns	Definition, Scope and Importance Need For Public Awareness  Natural Resources Renewable and Non-renewable resources, associated problems	25	15	1	5	20

	b)Need For Public Awareness		-- Understanding various types of natural resources: their uses and exploitation	<p>Forest resources deforestation, erosion, afforestation</p> <p>Water resources; depleting water sources &amp; effects</p> <p>Mineral resources: environmental effects of extracting and using mineral resources.</p> <p>Food resources: world food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems</p> <p>Energy resources: Growing energy needs, renewable and non-renewable energy sources.</p> <p>Land resources: Land as a resource, land degradation</p> <p>Role of an individual in conservation of natural resources</p>					
II)	<b>Natural Resources :</b>  Renewable and Non-renewable Resources	<b>II) Ecosystems, Ecology &amp; Biodiversity</b>	-- To understand concept of ecosystem-- To understand	- Concept of ecosystems, Structure and types of ecosystems Biodiversity,. Threats to biodiversity: India as a Mega Diversity Nation,	25	15	1	5	20

	<p>Natural resources and associated problems.</p> <p>a. Forest Resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people</p> <p>b. Water Resources: Use and over-utilisation of surface and groundwater, floods, drought, conflicts over water,</p>		<p>the importance of Bio diversity and threats related to it..</p>	<p>habitat loss,. Endangered and endemic species of India, conservation of biodiversity</p>					
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	<p>dams- benefits and problems. c. Minerals Resources: Use and exploitation, environment al effects of extracting and using mineral resources, case studies. d. Food Resources: World food problems, Changes caused by agriculture and grazing, Effects of modern agriculture, Fertilizer/pes ticide problems, water logging and salinity case studies.</p>								
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<p>e. Energy Resources: Increasing energy needs, Renewable/non renewable, Use of Alternate energy sources, Case studies</p> <p>f. Land Resources: Land as a resource, land degradation, man induced land-slides, soil erosion and desertification.</p> <p>-Role of an Individual in Conservation of Natural Resources -Equitable Use of</p>								
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	Resources for Sustainable Lifestyles								
III)	<b>Ecosystems:</b> Concept of an Ecosystem Structure and Functions of an Ecosystem Producers, Consumers and Decomposers Energy Flow in the Ecosystem Ecological Succession Food Chains, Food Webs and	<b>III) Environmental Pollution; Solid Waste Management; Disaster Management</b>	-To make students aware of types of pollutions and solutions,	-Pollution: Definition, causes, effects and control measures of - Air, water, soil, marine, noise and thermal pollutions; Nuclear hazards Solid Waste Management: causes, effects and control measures of urban and industrial waste Role of individual in prevention of pollution. Disaster Management: Floods, earthquake, cyclone and landslides	25	15	1	5	20



	Ecological Pyramids Introduction, Types, Characteristics Features, Structure and Functions of the following ecosystem: a)Forest Ecosystem b)Grassland Ecosystem c)Desert Ecosystem d)Aquatic Ecosystems (Ponds, Lakes, Streams, Rivers, Estuaries, Oceans)								
<b>IV)</b>	<b>Biodiversity and its conservation</b>	<b>IV) Social Issues and the Environment;</b>	--To know problems associated with environment	Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.	25	15	1	5	20

<p>Introduction - Definition: Genetic, Species &amp; Ecosystem Diversity Biogeograph ical Classificatio n of India Value of Biodiversity: Consumptio n, Productive Use, Social, Ethical, aesthetic and option values. Biodiversity at Global, National and Local Levels India as a Mega Diversity Nation Hot-spots of Biodiversity Threat to Biodiversity:</p>	<p><b>Legislative framework; Human Population and the Environme nt</b></p>	<p>degradation. Legislations passed to save environment Effect of environment on human health and role of Information Technology in creating awareness about effects of environmental degradation on human health</p>	<p>Legislative framework: Environment Protection Act, Air (Prevention and Control Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act Environment and Human Health, Role of Information Technology in Environment and Human Health</p>					
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	Habitat Loss, Poaching of Wildlife, Man-Wildlife Conflicts. Endangered and Endemic Species of India Conservation of Biodiversity: In-Situ And Ex-Situ situation								
V)	<b>Environmental Pollution:</b> Definition Causes, Effects and Control Measures of: Air Pollution Water Pollution Soil Pollution Marine Pollution								

	<p>Noise Pollution Thermal Pollution Nuclear Pollution Solid Waste Management : Causes, Effects and Control Measures of Urban and Industrial Wastes. Role of individuals in Prevention of Pollution. Pollution Case Studies</p>								
<p><b>VI)</b></p>	<p><b>Social Issues and the Environme nt :</b> From Unsustainabl e to Sustainable</p>								

	Development Urban Problems related to Energy Water Conservation, Rain Water Harvesting, Watershed Management Resettlement and Rehabilitation of People; its Problems and Concerns Case Studies. Environmental Ethics: Issues and Possible Solutions Climate Change, Global Warming, Acid Rain,								
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	<p>Ozone Layer Depletion, Nuclear Accidents and Nuclear Holocaust, Case Studies. Wasteland Reclamation Consumerism and Waste Products Environment Protection Act Air (Prevention and Control of Pollution) Act 194 Water (Prevention and Control of Pollution) Act 196 Wildlife Protection Act 197 Forest Conservation Act 199</p>								
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	Issues involved in Enforcement of Environment Legislation Public Awareness								
VII)	<b>Human Population and the Environment</b> Population Growth, Variation Among Nations. Population Explosion - Family Welfare Program. Environment and Human Health . Human Rights Value Education: Environment Values, Valuing Nature, Valuing Cultures, Equitable use of Resources								

	Role of Information Technology in Environment and Human Health								
VIII)	<b>Field Work</b> Visit to a Local area to document Environment Assets- River/Forest/G rasslands/Hill/ Mountain. Visit to a Local Polluted Site. Study of Common Plants, Insects, Birds. Study of Simple Ecosystems- pond, river, hill slopes. etc.								



## Evaluation Scheme:

### Evaluation Scheme:

#### A. Internal Exams: Total Marks: 25

1. Written Test (10 Marks) .
2. Project: It can be a scrap book ,poster presentations ,film screening report, field visit etc. . (25)

#### B. External Exams: Total Marks: 75

The pattern of the written exam as suggested can be as follows:  
A total of 7 questions each for 15 marks will be asked

The following type of questions may be asked:

- Q.1A- One line questions based on GK pertaining to the topic for 10 marks(compulsory)  
Q.1B- Explain in short-- definitions, terms etc. for 5 marks (compulsory)

Q. 2 to Q.7 Long Answers of 15 marks each . students have to write any 4

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**Essential Reading:**

References:

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2. Bharucha -Erach, 2003. The Biodiversity of India, Mapin Publishing Pvt. Ltd, Ahmedabad.
3. Brunner RC, 1989, Hazardous Waste Incineration, McGraw Hill Inc.
4. Clark RS, Marine Pollution, Clarendon Press, Oxford(TB).
5. Cunningham WP, Cooper TH, Gorhani E & Hepworth MT,2001.Environmental Encyclopedia, Jaico Publishing House, Mumbai.
6. De AK, Environment Chemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environment (R)
8. Gleick HP, 1993. Water in Crisis, Pacific Institute for Studies in Development. Environment and Security. Stockholm Environment institute, Oxford University Press.
9. Hawkin- E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay
10. Heywood VH, and Watson RT, 1995. global Biodiversity Assessment. Cambridge University Press.
11. Jadhav H and Bhosale VM, 1995. Environment Protection and Laws. Himalaya Publishing House, Delhi.
12. Mckinney ML and Schoch RM, 1996. Environmental Science Systems and Solutions. Web enhanced edition.
13. Mhaskar AK, Matter Hazardous, Techno-Science Publications (TB)
14. Miller TG, Jr. Environmental Science, Wadsworth Publishing CO. (TB)
15. Odum EP, 1971. Fundamentals of Ecology. WB Saunders Co. USA.
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17. Sharma B.K., 2001. Environmental Chemistry . Goel Publ. House, Meerut.
18. Survey of the Environment. The Hindu (M)
19. Environmental Studies by R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
20. A Textbook of Environmental Studies by Shaashi Chawla, TMH, New Delhi.
21. Environmental Studies by P.N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Additional Reading:

1. Agarwal KC, 2001, Environmental Biology, Nidi Publishers Ltd. Bikaner.
2. Bharucha Erach, 2003, The Biodiversity of India, Mapin Publishing Pvt. Ltd.
3. Brunner RC, 1989, Hazardous Waste Incineration, McGraw Hill Inc. Columbus,OH
4. Clark RS, Marine Pollution (5th ed), Clarendon Press, OUP. 2001.New York.
5. Cunningham WP, Cooper TH, Gorhani E & Hepworth MT, 2001, Environmental Encyclopaedia, Jaico Publishing House, Mumbai.