

**Department of Liberal Education**  
**Era University, Lucknow**  
**Course Outline**  
**Effective From: 2023-24**

<b>Name of the Program</b>	<b>B.A. / B.Sc. (LIBERAL EDUCATION)</b>			<b>Year/ Semester:</b>	<b>2<sup>nd</sup> / 4<sup>th</sup></b>
<b>Course Name</b>	<b>Natural Resources &amp; its Management</b>	<b>Course Code:</b>	<b>EVA202</b>	<b>Type:</b>	<b>Theory</b>
<b>Credits</b>	<b>04</b>			<b>Total Sessions Hours:</b>	<b>60 Hours</b>
<b>Evaluation Spread</b>	<b>Internal Continuous Assessment:</b>	<b>40 Marks</b>		<b>End Term Exam:</b>	<b>35 Marks</b>
<b>Type of Course</b>	<input type="radio"/> Compulsory	<input checked="" type="radio"/> Core	<input type="radio"/> Creative	<input type="radio"/> Life Skill	
<b>Course Objectives</b>	<ol style="list-style-type: none"> <li>1. <b>Learn</b> about natural resources &amp; their global distribution</li> <li>2. <b>Understand</b> the significance of different resources <b>and</b> factors for their depletion/degradation.</li> <li>3. <b>Understand various</b> approaches to manage natural resources.</li> <li>4. <b>Gain insights into</b> alternative methods to non-renewable resources.</li> </ol>				
<b>Course Outcomes (CO):</b> <i>After the successful course completion, learners will develop following attributes:</i>					
<b>Course Outcome (CO)</b>	<b>Attributes</b>				
<b>CO1</b>	Learn about land resource, process responsible for <b>its</b> degradation and <b>various</b> management approaches.				
<b>CO2</b>	Learn about activities responsible for depletion and management of water resources.				
<b>CO3</b>	Understand threats related to forest and agricultural resources and be able to know the strategies for their sustainable management.				
<b>CO4</b>	Students will be able to understand the extent of damage associated with use of fossil fuel and mineral resources and learn potential alternatives to conventional resources.				
<b>Pedagogy</b>	Interactive, discussion-bases, student-centered, presentation.				
<b>Internal Evaluation Mode</b>	Mid-term Examination: 20 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks				
<b>Session Details</b>	<b>Topic</b>			<b>Hours</b>	<b>Mapped CO</b>
<b>Unit 1</b>	<b>Land resource</b> <ul style="list-style-type: none"> <li>• Natural resources: Definition and types</li> <li>• Land resource: soil, landforms, and minerals</li> <li>• Pedogenesis and soil profile</li> <li>• Degradation and desertification of land: causes and effects</li> <li>• Management approach: conservation, reclamation and land use planning</li> </ul>			15	CO1
<b>Unit 2</b>	<b>Water resources</b> <ul style="list-style-type: none"> <li>• Water resource: Hydrological cycle, occurrence, availability</li> </ul>			15	CO2

	<p>and demand</p> <ul style="list-style-type: none"> <li>• Depletion of water resources: causes and conflicts</li> <li>• Management practices: Rain water harvesting; Watershed management</li> <li>• Marine water resource: Exploitation and management</li> <li>• Wetlands: Ecological importance and conservation.</li> </ul>		
<b>Unit 3</b>	<p><b>Biological resources</b></p> <ul style="list-style-type: none"> <li>• Forest resource: Types of forests and ecological importance</li> <li>• Threats to Forest resources and effects</li> <li>• Forest Management</li> <li>• Agriculture Resources: Types, practices involved and ecological impacts</li> <li>• Management approaches: integrated pest management, organic farming, etc.</li> </ul>	15	CO3
<b>Unit 4</b>	<p><b>Energy and mineral resource</b></p> <ul style="list-style-type: none"> <li>• Conventional and Non-Conventional Energy Resources</li> <li>• Fossil fuels: Uses and impact</li> <li>• Alternative to fossil fuels</li> <li>• Mineral resources: Types, distribution and uses</li> <li>• Environmental effects of mining and management practices</li> <li>• Case Studies- Mining in Aravalli Hills; Sand mining in UP.</li> </ul>	15	CO4

### CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2		3	2		3	3		3	2	3	1	2	
CO2	2		3	2		3	3		3	2	3	1	2	
CO3	2		3	2		3	3		3	2	3	1	2	
CO4	2		3	2		3	3		3	2	3	1	2	

*Strong contribution-3, Average contribution-2, Low contribution-1,*

### Suggested Readings:

<b>Text- Books</b>	<ol style="list-style-type: none"> <li>1. Tiwari, G.N. &amp; Ghosal. M. K. 2005. Renewable Energy Resources: Basic Principles and Application. Narosa Publishing House</li> <li>2. Craig, J.R., Vaughan. D.J. &amp; Skinner. B.J. 1996. Resources of the Earth: Origin, Use, and Environmental Impacts (2nd edition). Prentice Hall, New Jersey.</li> </ol>
<b>Reference Books</b>	<ol style="list-style-type: none"> <li>1. Ramade, F. 1984. Ecology of Natural Resources. John Wiley &amp; Sons Ltd.</li> <li>2. Owen, O.S, Chiras, D.D, &amp; Reganold, J.P. 1998. Natural Resource Conservation– Management for Sustainable Future (7th edition). Prentice Hall.</li> </ol>
<b>Para Text</b>	<p><b>Unit 1:</b></p> <ol style="list-style-type: none"> <li>1. Land resources- <a href="https://www.youtube.com/watch?v=h6JVx2a8QaM&amp;ab_channel=MicrobTalk">https://www.youtube.com/watch?v=h6JVx2a8QaM&amp;ab_channel=MicrobTalk</a></li> </ol> <p><b>Unit 2:</b></p> <ol style="list-style-type: none"> <li>1. Wetlands- <a href="https://oceanservice.noaa.gov/facts/wetland.html">https://oceanservice.noaa.gov/facts/wetland.html</a></li> </ol> <p><b>Unit 3:</b></p> <ol style="list-style-type: none"> <li>1. Forest resources- <a href="https://www.youtube.com/watch?v=TAPUUHQI_A&amp;ab_channel=beautywithbrains">https://www.youtube.com/watch?v=TAPUUHQI_A&amp;ab_channel=beautywithbrains</a></li> </ol> <p><b>Unit4:</b></p> <ol style="list-style-type: none"> <li>1. Minerals and mining- <a href="https://www.youtube.com/watch?v=IL0KfvfSvsg">https://www.youtube.com/watch?v=IL0KfvfSvsg</a></li> </ol>

<b>Recapitulation &amp; Examination Pattern</b>		
<b>Internal Continuous Assessment:</b>		
<b>Component</b>	<b>Marks</b>	<b>Pattern</b>
<b>Mid-term Exam</b>	20	<b>Section A:</b> Contains <b>10</b> MCQs/Fill in the blanks/One Word Answer/ True-False type of questions. Each question carries <b>0.5 marks</b> . <b>Section B:</b> Contains <b>07</b> descriptive questions out of which <b>05</b> questions are to be attempted. Each question carries <b>03 marks</b> .
<b>Class Test</b>	05	Contains <b>05 descriptive questions</b> . Each question carries <b>01</b> marks.
<b>Online Test/ Objective Test</b>	05	Contains <b>10 multiple choice questions</b> . Each question carries <b>0.5</b> marks.
<b>Assignment/ Presentation</b>	05	Assignment to be made on topics and instruction given by subject teacher.
<b>Attendance</b>	05	As per policy.
<b>Total Marks</b>	<b>40</b>	

Course created by: **Dr. Swati Sachdev**  
Signature:

Approved by: **Prof. Venkatesh Dutta**  
Signature: