



# **GONDWANA UNIVERSITY GADCHIROLI**

## **Ordinance No. 58 of 2017**

### **Incorporating a Compulsory Course on Environmental Studies in the Under Graduate Courses offered under all the Faculties, ordinance, 2017.**

**Whereas**, it is expedient to provide an ordinance in respect of Incorporating a Compulsory Course on Environmental Studies in the Under Graduate Courses offered under all the Faculties, for the purposes hereinafter appearing, the Management council is hereby pleased to make the following ordinance :

1. This ordinance may be called “Incorporating a Compulsory Course on Environmental Studies in the Under Graduate Courses offered under all the Faculties, ordinance, 2017”.
2. This ordinance shall come into force with effect from the date of its making by the Management council.
3. This course will be referred to as compulsory course of Six months duration in Environmental Studies at the under-graduate level of all streams and faculties of higher education under this University and will be taught in second year with course of study and can be cleared in the third year with course of study in case the student/s remain absent on the scheduled day of the examination or fails to pass the course in its first attempt.
4. However excepting the Faculty of Engineering and Technology wherein the aforesaid course shall be taken up during First Year of course of study and that it can be cleared in the second year of course of study in case the student/s remain absent on the scheduled day of the examination or fails to pass the course in its first attempt. student taking direct admission to the second year B.E. course shall be exempted from the fees for the course of environmental studies.
5. Provision of this ordinance will not be applicable to those courses in which the subject on Environmental Sciences has been incorporated

as subject of study and examinations such as B.Sc. (Environmental Science) and all other similar cases at the U.G. level.”

6. The Principal would appoint Coordinator and Assistant Coordinator as per the need to coordinate the teaching of the course, appoint contributory teachers, if necessary. At the end of the course, the college would conduct the examination. It will appoint paper setters and examiners. The final grades of candidates should be informed to the University in the prescribed format. The expenditure incurred for all the required manpower and necessary support services shall be recovered from the remaining amount of fees.
7. Qualifications of a Teacher: A teacher in any subject possessing relevant knowledge to teach the “Course on Environmental Studies” shall be eligible.
8. This course is also compulsory for external students. In case of external students, they can enroll themselves in any college for the aforesaid course and can complete the same.
9. The admitted undergraduate student/s has to pass in the examination of this course in order to obtain degree from the Affiliating University **or alternatively** in lieu of the entire course, the given students in the batches of 20 may be assigned a project work consisting of People’s/Community Bio-diversity Registers (PBR/CBRs) of any Gram Panchayat as per format prescribed by Bio-diversity Authority of India under the guidance of a teacher which shall be evaluated for 100 marks.
10. The concerned Faculty can adopt this mandatory course as per the suggested guidelines without or with minor modifications that are deemed to be desirable considering the curricular structure of the given under-graduate course.
11. The syllabus, relevant guidelines regarding the scheme of examination and fees structure are appended with this ordinance as Annexure-A, Annexure-B and Annexure-C respectively.

#### **Annexure – A: Syllabus**

**Course Code:** ES (Compulsory Course)  
**Title of the Course:** Environmental Studies

<b>Unit</b>	<b>Contents</b>	<b>Hrs</b>
I	<b>The Multidisciplinary nature of environment</b> . Definition, scope and importance. . Need for public awareness – Institutions in environment,	01

	people in environment	
II	<p><b>Social Issues and the Environment</b></p> <ul style="list-style-type: none"> <li>. From Unsustainable to Sustainable development, Urban problems related to energy; Water conservation, rain water harvesting, watershed management</li> <li>. Resettlement and rehabilitation of people; its problems and concerns. Case studies.</li> <li>. Environmental ethics: Issues and possible solutions, resource consumption pattern and need for equitable utilisation, Urban and rural equity issues, need for gender equity</li> <li>. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.</li> <li>. Wasteland reclamation - Consumerism and waste products.</li> <li>. Environment Protection Act.</li> <li>. Air (Prevention and Control of Pollution) Act.</li> <li>. Water (Prevention and Control of Pollution) Act.</li> <li>. Wildlife Protection Act.</li> <li>. Forest Conservation Act.</li> <li>. Issues involved in enforcement of environmental legislation.</li> <li>. Public awareness- environmental calendar of activities, self initiation</li> </ul>	04
III	<p><b>Human Population and the Environment</b></p> <ul style="list-style-type: none"> <li>. Global population growth, variation among nations, Population explosion - Family Welfare Programmes, methods of sterilization; Urbanization</li> <li>. Environment and human health – climate and health, infectious diseases, water-related diseases, risk due to chemicals in food, cancer and environment</li> <li>. Human Rights – equity, nutrition and health rights, IPRs, community biodiversity registers (CBRs)</li> <li>. Value Education – environmental values, valuing nature, cultures, social justice, human heritage, equitable use of resources, common property resources, ecological degradation</li> <li>. HIV / AIDS; Women and Child Welfare.</li> <li>. Role of Information Technology in Environment and human health.</li> <li>. Case Studies.</li> </ul>	03
IV	<p><b>Natural resources: Renewable and non-renewable resources</b></p> <ul style="list-style-type: none"> <li>. Natural resources and associated problems.</li> <li>- Forest resources: Use and over exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.</li> <li>- Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams- benefits and problems.</li> <li>- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.</li> <li>- Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture,</li> </ul>	04

	<p>fertilizer – pesticide problems, water logging, salinity, case studies.</p> <ul style="list-style-type: none"> <li>- Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, Case studies.</li> <li>- Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.</li> <li>. Role of an individual in conservation of natural resources.</li> <li>. Equitable use of resources for sustainable lifestyles</li> </ul>	
V	<p><b>Ecosystems</b></p> <ul style="list-style-type: none"> <li>. Concept of an ecosystem- ecosystem degradation, resource utilisation</li> <li>. Structure and function of an ecosystem - Producers, consumers and decomposers.</li> <li>. Energy flow in the ecosystem – water, carbon, oxygen, nitrogen and energy cycles, integration of cycles in nature</li> <li>. Ecological succession - Food chains, food webs and ecological pyramids.</li> <li>.Ecosystem types, characteristic features, structure and functions of the following ecosystem- <ul style="list-style-type: none"> <li>- Forest ecosystem</li> <li>- Grassland ecosystem</li> <li>- Desert ecosystem</li> <li>- Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)</li> </ul> </li> </ul>	03
VI	<p><b>Biodiversity and its conservation</b></p> <ul style="list-style-type: none"> <li>. Introduction - Definition: genetic, species and ecosystem diversity.</li> <li>. Bio-geographical classification of India.</li> <li>. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and optional values.</li> <li>. Biodiversity at global, National and local levels.</li> <li>. India as a mega-diversity nation; Hot-spots of biodiversity.</li> <li>Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.</li> <li>. Endangered and endemic plant and animal species of India.</li> <li>. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.</li> </ul>	04
VII	<p><b>Environmental Pollution</b></p> <ul style="list-style-type: none"> <li>. Definition</li> <li>. Causes, effects and control measures of:- <ul style="list-style-type: none"> <li>- Air pollution</li> <li>- Water pollution</li> <li>- Soil pollution</li> <li>- Marine pollution</li> <li>- Noise pollution</li> <li>- Thermal pollution</li> <li>- Nuclear hazards</li> </ul> </li> <li>. Solid Waste Management: Causes, effects and control</li> </ul>	04

	measures of urban and industrial waste. . Role of an individual and institutions in prevention of pollution. . Disaster management: floods, earthquake, cyclone and landslides. . Pollution case studies.	
VIII	<b>Field work</b> . Visit to a local area to document environmental assets like river / forest / grass land / hill / mountain etc . Visit to a local polluted site - Urban / Rural / Industrial / Agricultural etc . Study of common plants, insects, birds. . Study of simple ecosystems - pond, river, hill slopes, etc.	02
<b>Total</b>		25

### **Annexure – B: Scheme of Examination**

Course Scheme					Examination Scheme		
Lectures	Tutorials	Practical	Periods/week	Credits	MSE	IE	Total
2	0	0	2	0	75	25	100

1. Contents of the syllabi as per Appendix A mentioned under unit I to VII shall be for teaching and for the examination to be conducted at the end of the semester i.e. MSE for 75 marks. The examination paper shall be having MCQs, Short answer type questions and an Essay. The IE consisting of 25 marks will be in the form of Report to be submitted based on field work done as per Unit No VIII.
2. The result would be declared in the form of Grades as shown below:  
Grade **'O'** for score above 75; **A:** 61-75; **B:** 51-60; **C:** 40-50

### **Annexure – C: Fee Structure**

A fee of Rs 150/- per student shall be charged and its utilization is as Rs 25/- to be deposited with the Affiliate University and Rs 125/- to the concerned college for providing human resource, supporting infrastructure and the administrative expenses pertinent to the course as approved by the Affiliate University.