SIDO KANHU MURMU UNIVERSITY, DUMKA

(A State University recognized under Section 2(f) & 12(B) of the UGC Act, 1956)

FOUR-YEAR UNDER GRADUATE PROGRAMME (FYUGP)

SYLLABUS

OF

ENVIRONMENTAL STUDIES (VAC)

(COMMON COURSE FOR SEMESTER-II)

In accordance with the

Implementation of FYUGP in State Universities of

Jharkhand Regulations, 2024

Implemented from
Academic Session 2025-2029 Onwards

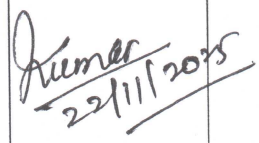
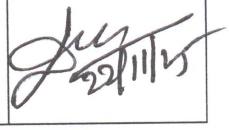
Syllabus Committee Meeting Proceedings

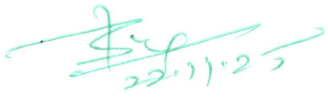
A meeting of the Syllabus Committee for the revision and finalization of the **Environmental Studies (Common Course)** syllabus for the Four-Year Undergraduate Programme (FYUGP), in accordance with the Implementation of FYUGP in State Universities of Jharkhand Regulations, 2024, was convened on 22-11-25.

The following members of the Syllabus Committee were present in this meeting. The committee unanimously accepted and recommended the syllabi, incorporating major modifications.

Members of the Syllabus Committee:

S. NO.	MEMBERS	SIGNATURE
1.	**Dr. S.K. Singh (Chairperson)** Dean, Faculty of Science, SKMU, Dumka	
2.	**Dr. S.N. Adhikari (Member)** HOD, University Department of Mathematics, SKMU, Dumka	
3.	**Dr. Nilesh Kumar (Member)** HOD, University Department of Zoology, SKMU, Dumka	
4.	**Dr. Rajesh Kumar Yadav (Member)** HOD, University Department of Physics, SKMU, Dumka	
5.	**Dr. S.L. Bondya (Member)** HOD, University Department of Botany, SKMU, Dumka	
6.	**Dr. Anil Kumar (Member)** Assistant Professor, Department of Chemistry, A.S. College. Deoghar, SKMU, Dumka	22/11/25

7.	**Dr. Indrajeet Kumar (Member)** Assistant Professor, Department of Physics, S.P. College, Dumka, SKMU, Dumka	
8.	**Dr. Uttam Shukla (Member)** NBAP, Department of Mathematics, Madhupur College, Madhupur, SKMU, Dumka	
9.	**Dipak Kumar Das (Invitee Member)** Coordinator, NEP, SKMU, Dumka	



Dr. S.K. Singh

(Chairperson)

INSTRUCTIONS FOR QUESTION SETTER

1. **End Semester Examination (50 Marks)**

The **End Semester Examination (ESE)** will be of **50 marks** and will also have **two groups**.

Group A is compulsory and will have: Five very short answer questions (1 mark each, total 5 marks)

Group B will have **six descriptive questions**, each carrying **15 marks**. Students need to answer **any three** (total 45 marks).

Note: Some questions may be divided into smaller parts if needed.

FORMAT OF QUESTION PAPER FOR END SEMESTER UNIVERSITY EXAMINATIONS

Question format for **50 Marks**:

Subject/ Code

F.M. =50 **Time**=2Hrs. Exam Year

General Instructions:

i. **Group A** carries very short answer type **compulsory** questions.
ii. **Answer 3 out of 5** subjective/ descriptive questions given in **Group B**.
iii. Answer in your own words as far as practicable.
iv. Answer all sub parts of a question at one place.
v. Numbers in right indicate full marks of the question.

Group A

1. [5x1=5]
   i. .....
   ii. .....
   iii. .....
   iv. .....
   v. .....

Group B

2. ..... [15]
3. ..... [15]
4. ..... [15]
5. ..... [15]
6. ..... [15]

Note: There may be subdivisions in each question asked in Theory Examination.

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SEMESTER – II

COURSE: VALUE ADDED COURSE (VAC-2) **TOTAL CREDITS:** 02

PAPER NAME: ENVIRONMENTAL STUDIES **TEACHING HOURS:** 30

EVALUATION (Only the End Semester University Examination will be conducted)	
Full Marks	50 Marks
Duration of Exam	1.5 Hours
Pass Marks	20 Marks

COURSE OBJECTIVES:

- Introduce students to the fundamental concepts and significance of Environmental Studies.
- Develop an understanding of the structure and functioning of ecosystems and biodiversity.
- Explore the interrelationship between human activities and the natural environment.
- Analyze the causes and impacts of different types of pollution and environmental disasters.
- Examine sustainable practices and environmental legislation aimed at protecting the environment.

COURSE OUTCOMES:

After completion of this course, students will be able to gain knowledge in

- Define and explain the importance of the environment and its various components.
- Describe the structure and function of ecosystems, ecological succession, and energy flow.
- Differentiate between renewable and non-renewable resources and assess their sustainable use.
- Understand and analyze the value and threats to biodiversity, especially in the Indian context.
- Identify and evaluate various forms of pollution and propose suitable control measures.

COURSE CONTENTS:

Unit I: Introduction and Components of Environment: 15 Hours

Definition and importance of Environmental Studies, components of the environment, interrelationship between humans and the environment, Concept and types of ecosystems, components, structure, and functions; ecological succession, Food chains, food webs, and ecological pyramids; flow of energy – unidirectional and laws of thermodynamics, Renewable and non-renewable resources, use and overexploitation, Biogeographical classification of India; values of biodiversity – ecological, economic, ethical, cultural; threats to biodiversity – habitat loss, poaching, invasive species, and climate change.

Unit II: Social Issues, Sustainability, and Human Impact: 15 Hours

Types of pollution: Air, Water, Soil, Noise, Thermal, Nuclear – causes, effects, and control measures;

Solid waste management: types, collection, disposal, and 3Rs – Reduce, Reuse, Recycle;

Environmental disasters and case studies: Bhopal Gas Tragedy, Ganga pollution, etc.;

Global environmental issues: climate change, global warming, ozone layer depletion, acid rain;

Disaster management: floods, earthquakes, landslides, cyclones;

Environmental laws and policies: Environment Protection Act, Water Act, Air Act, Forest Conservation Act;

Sustainable development and major environmental movements: Chipko, Narmada Bachao Andolan, etc.;

Role of communities, NGOs, and value education in promoting environmental sustainability;

Environmentally responsible behavior and lifestyle changes for sustainability;

Conservation strategies: In-situ and Ex-situ methods; Biosphere reserves, National parks, Sanctuaries.

Reference Books:

[1]. "Environmental Studies: From Crisis to Cure" Author: R. Rajagopalan

[2]. Publisher: Oxford University Press Features: NEP-aligned, simple language, relevant Indian case studies

[3]. "Environmental Studies" Authors: Erach Bharucha

[4]. Publisher: University Grants Commission / Orient Black Swan Features: UGC model syllabus-based, widely used in Indian universities

[5]. "Fundamentals of Environmental Science" Author: G.S. Dhaliwal & G. Santhokh Singh

[6]. Publisher: Kalyani Publishers, Features: Concise explanations, suitable for exam preparation

[7]. "A Textbook of Environmental Science" Author: Purohit & Geol Publisher: Student Friends Publications Features: Covers Indian environmental acts and policies

[8]. "Principles of Environmental Science: Inquiry and Applications" Authors: William Cunningham & Mary Cunningham Publisher: McGraw-Hill, Features: Global perspective with Indian relevance

[9]. "Environment and Ecology" Author: R. S. Mishra, Publisher: S. Chand, Features: Detailed chapters on biodiversity and ecological concepts

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