

# TECRIA INSTITUTE OF ADVANCED STUDIES

## GRADE 'A' INSTITUTE

Department of Information Communication & Technology

### COURSE PLAN

ACADEMIC SESSION 2024-25

*# As per Scheme & Syllabus (w.e.f. Academic Session 2024-2025 onwards); As per UGC Curriculum & Credit Framework for Undergraduate Programme (CCFUP) (Dec 2022) Guru Gobind Singh Indraprastha University, New Delhi.*

PROGRAMME CODE:	O2O	PROGRAMME:	Bachelor of Computer Applications (BCA)	SHIFT:	1st			L	2	T/P	0	Credits	Z
COURSE CODE:	BCA-1921	COURSE NAME:	EVS	SECTION:	A								
		COURSE TYPE:	Value Added Course	FACULTY:	Dr. Abhishek Singh								

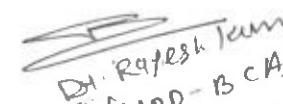
In this course, the learners will be able to develop expertise related to the following:

1. Development of critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity, and sustainable development.
2. Acquisition of values and attitudes towards understanding complex environmental economic-social challenges, and active participation in solving current environmental problems and preventing the future ones.
3. Encouraging adoption of sustainability as a practice in life, society, and industry.

PREREQUISITE: None

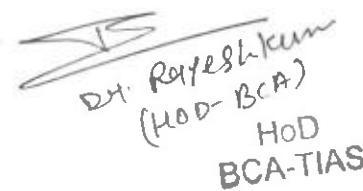
### COURSE OUTCOME & MAPPING, COURSE ARTICULATION

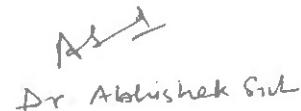
		DISCIPLINARY KNOWLEDGE (Disciplinary Knowledge)	PROBLEM ANALYSIS	DESIGN / DEVELOPMENT OF SOLUTIONS	MODERN TOOL USAGE	PROFESSIONAL ETHICS	LIFE-LONG LEARNING	PROJECT MANAGEMENT AND FINANCE	COMMUNICATION EFFECT WITH COOPERATION/TEAMWORK	SOCIAL AND ENVIRONMENTAL CONCERN	INNOVATION AND ENTREPRENEURSHIP IP
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CO - PO MAPPING		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	Gain in-depth knowledge on natural processes and resources that sustain life and govern economy.	-	-	1	2	1	2	-	2	4	2
CO2	Understand the consequences of human actions on the web of life, global economy, and quality of human life.	-	-	1	2	1	2	-	1	4	2
CO3	Develop critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity, and sustainable development.	-	-	1	2	1	2	-	1	4	2
CO4	Acquire values and attitudes towards understanding complex environmental economic-social challenges, and active participation in solving current environmental problems and preventing the future ones.	-	-	1	2	1	2	-	1	4	2
	Course Articulation (Average)	-	-	1.5	2	1	2.25	-	-	-	3.75

  
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S. No.	Lecture No.	Unit No	Topic	Sessional Outcome	Experiential Learning	Participative Learning	Problem Solving Methodologies	ICT Tools & E-Resources Utilization	Mapping with CO	Class Material (PPT, Faculty, Students)	Additional Material (Links, Journals, Articles/ News)	Mode of Assessment	Status
1	L1	Unit- 1	Multidisciplinary nature of environmental studies;	Memorize and Describe the concept of ecosystem, recognize that our planet components of environment: atmosphere, hydrosphere,			Group Presentation	<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	Youtube Video			Viva	
2	L2	Unit- 1		Apply theoretical frameworks to real world sustainability issues.		<a href="https://www.jagranjosh.com/general-knowledge/gk-quiz">https://www.jagranjosh.com/general-knowledge/gk-quiz</a>	Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	Youtube Video	<a href="file:///C:/Users/deepa/Downloads/Article%20on%20environm">file:///C:/Users/deepa/Downloads/Article%20on%20environm</a>			
3	L3	Unit- 1	Climate Change, Global Warming	understand the impact that global warming could have upon the Earth	Role Play Scenario 2	<a href="https://www.infoplease.com/quizzes/science/global-warming">https://www.infoplease.com/quizzes/science/global-warming</a>	debate on Climate change is the biggest	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	PPT + Youtube video	<a href="https://www.youtube.com/watch?v=GxMkLYrZ4">https://www.youtube.com/watch?v=GxMkLYrZ4</a>		Debate & Viva	
4	L4	Unit- 1	Ozone Layer Depletion, Acid Rain, Green House Effect	explain the greenhouse effect and explain how greenhouse gases benefit and harm	Case Study- DuPont	Case Study- Chernobyl Nuclear Accident- 1986	Class Activity: Puzzle, <a href="https://www.epa.gov/">https://www.epa.gov/</a>	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	PPT + Youtube video + Case study	<a href="https://www.hindustantimes.com/environment/hawaii-churches-warn-about-global-warming">https://www.hindustantimes.com/environment/hawaii-churches-warn-about-global-warming</a>		Case study	
5	L5	Unit- 1	Earth Summit, UNFCCC, Montreal and Kyoto Protocols	Define World Trade Organization and its purpose.			Group Presentation	<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	Youtube video	<a href="https://www.iisd.org/system/files/publications/kyoto.pdf">https://www.iisd.org/system/files/publications/kyoto.pdf</a>		Presentation and Viva	
6	L6	Unit- 1	Convention on Biological Diversity, Ramsar Convention	Memorize the different conventions related to Environment			Group Presentation	<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	Youtube video			Viva	
7	L7	Unit- II	The chemical weapons convention, UNEP, CITES				Group Presentation		CO1				
8	L8	Unit- 2	Ecosystem- Meaning, Structure and functions	Identify and explain the structure of an ecosystem		<a href="https://www.proprofs.com/quiz">https://www.proprofs.com/quiz</a>	Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	PPT, Youtube Video	<a href="https://www.earthreminder.com/types-of-ecosystems/">https://www.earthreminder.com/types-of-ecosystems/</a>			
9	L9	Unit- 2	Ecological pyramids and homeostasis	Understand the concept of ecology and homeostasis	Case Study - Ecosystem Project Aravalli		Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	Youtube video				
10	L10	Unit- 2	Types of Ecosystems- Land Ecosystem	Demonstrate a scientific understanding of the physical and biological dynamics of	<a href="https://www.scienceDirect.com/science/article">https://www.scienceDirect.com/science/article</a>	<a href="https://www.proprofs.com/quiz">https://www.proprofs.com/quiz</a>	Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	PPT + Youtube video	<a href="https://www.conserve-energy-future.com/desert-ecosystem.html">https://www.conserve-energy-future.com/desert-ecosystem.html</a>			
11	L11	Unit- 2	Aquatic Ecosystem				Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	Youtube video	<a href="https://www.earthreminder.com/marine-ecosystem/">https://www.earthreminder.com/marine-ecosystem/</a>			
12	L12	Unit- 2	Importance and Threats to ecosystem with examples from India	Gain in-depth knowledge and understand the consequences of human actions on			Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	Youtube video				
13	L13	Unit- 2	Ecosystem Services: Basics of ecosystem restoration				Group Presentation	<a href="https://www.youtube.com/watch?v=Co1+and+Co2">https://www.youtube.com/watch?v=Co1+and+Co2</a>	Youtube video	<a href="https://www.frontiersin.org/articles/10.3389/fevo.2014.0008">https://www.frontiersin.org/articles/10.3389/fevo.2014.0008</a>			
14	L14	Unit- 2	Ecosystem preservation and conservation strategies					<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	Youtube video			Group Presentation	
15	L15	Unit- 2	Renewable and non-renewable energy sources	Understand and recognize the importance of renewable and non-renewable sources				<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	Youtube video				
16	L16	Unit- 2	Energy contents of coal, petroleum, natural gas and bio gas; growing energy	Recognize and memorize the energy contents of coal, petroleum, natural gas					CO1				
17	L17	Unit- 3	Biodiversity- Meaning, Levels; India as a mega-diversity nation; bio diversity	understand the role and principles of operation of different types of protected areas		<a href="https://www.proprofs.com/quiz">https://www.proprofs.com/quiz</a>	Debate on Animals should have rights like	<a href="https://www.youtube.com/watch?v=Co3">https://www.youtube.com/watch?v=Co3</a>	PPT + Youtube video	<a href="https://www.youtube.com/watch?v=GxMkLYrZ4">https://www.youtube.com/watch?v=GxMkLYrZ4</a>		Debate	
18	L18	Unit- 3	Endemic and endangered species of India	Develop critical thinking for shaping strategies for environmental protection,		<a href="https://www.earthday.org/deforestation-and">https://www.earthday.org/deforestation-and</a>		<a href="https://www.youtube.com/watch?v=Co3">https://www.youtube.com/watch?v=Co3</a>	Youtube video				
19	L19	Unit- 3	Value of biodiversity with examples						CO3		<a href="https://www.unicef.org/global-insight/stories/why-biodiversity-is-important">https://www.unicef.org/global-insight/stories/why-biodiversity-is-important</a>		
20	L20	Unit- 3	Threats to biodiversity, current mass extinction crisis			<a href="https://www.britannica.com/quiz/biodiversity-loss">https://www.britannica.com/quiz/biodiversity-loss</a>		<a href="https://www.youtube.com/watch?v=Co3">https://www.youtube.com/watch?v=Co3</a>	Youtube video				
21	L21	Unit- 3	Field Work- Visit to biodiversity Park		Visit to the zoo and biodiversity park and				CO3				
22	L22	Unit- 3	Biological conservation strategies; case study	Explore the complexity of biodiversity and biodiversity loss and the importance of		<a href="https://www.jagranjosh.com/general-knowledge/gk-quiz">https://www.jagranjosh.com/general-knowledge/gk-quiz</a>		<a href="https://www.youtube.com/watch?v=Co1">https://www.youtube.com/watch?v=Co1</a>	PPT + Youtube video	<a href="https://www.youtube.com/watch?v=HuSVSWlptU">https://www.youtube.com/watch?v=HuSVSWlptU</a>		Group Discussion and Quiz	
23	L23	Unit- 4	Air pollution- causes, effects and control, air quality standards	Analyse the sources of air Pollution. Describe the effects and control of air	Role Play Scenario 1	Quiz <a href="https://www.englishclub.co.uk/games/air-pollution.htm">https://www.englishclub.co.uk/games/air-pollution.htm</a>	GD on Should Environment polluters	<a href="https://www.youtube.com/watch?v=Co4">https://www.youtube.com/watch?v=Co4</a>	PPT + Youtube video				

  
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24	L24	Unit-4	Water pollution- causes, effects and control, Water quality standards	Define key terms related to water pollution, explain the different types of	Case Study- Ganga Pollution Case	Case Study- Arsenic Pollution in Ground Water	Group Discussion on The Effect of Swachh	<a href="https://www.hindustantimes.com/e">https://www.hindustantimes.com/e</a> CO4	PPT + Youtube video	<a href="https://www.youtube.com/watch?v=PqXmtKLViZ4">https://www.youtube.com/watch?v=PqXmtKLViZ4</a> and	
25	L25	Unit-4	Soil pollution and thermal pollution	Define key terms related to soil and thermal pollution. Demonstrate	Quiz <a href="https://study.com/academy">https://study.com/academy</a>			<a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> CO4		<a href="https://donate.roundglassfoundation.org/campaign/zero-waste/">https://donate.roundglassfoundation.org/campaign/zero-waste/</a>	
26	L26	Unit-4	Noise pollution; Nuclear hazards and human health risks	Define key terms related to noise pollution, explain the different nuclear	Campaign- Water & Energy Conservation by		Classroom discussion on noise pollution and	<a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> CO4	Youtube video	<a href="https://education.nationalgeographic.org/resource/noise-definition-solid-waste-and-viva">https://education.nationalgeographic.org/resource/noise-definition-solid-waste-and-viva</a>	
27	L27	Unit-4	Solid waste management	Understand and explain different sources and types of waste disposal.	<a href="https://quizizz.com/admin/quiz/5c4f028Saccae2001ae">https://quizizz.com/admin/quiz/5c4f028Saccae2001ae</a>			<a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> CO4	Youtube video and student	<a href="https://www.epa.gov/hw/criteria-definition-solid-waste-and-viva">https://www.epa.gov/hw/criteria-definition-solid-waste-and-viva</a>	
28	L28	Unit-4	Control measures for various types of urban, industrial waste, E-waste	Discuss and describe different methods of waste disposal.	Case Study- Supreme Court of India on Waste	<a href="https://blog.fixmesick.com/how-much-do-you-know">https://blog.fixmesick.com/how-much-do-you-know</a>		<a href="https://read.amazon.in/sample/80">https://read.amazon.in/sample/80</a>	Youtube video, PPT and student	E-book file:///C:/Users/deepsa/Downloads/	
29	L29	Unit-4	Environmental Impact Assessment	Plan and carry out environmental Impact assessment study.		Case Study- Bulk Cement Terminal		<a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> CO5	Youtube video and student	<a href="https://www.researchgate.net/publication/257728476_Glob">https://www.researchgate.net/publication/257728476_Glob</a>	
30	L30	unit 4	Environmental Management System	Describe the enhancement of environmental performance; fulfillment of							

Note : 1 Credit (Theory) =15 Hrs. In a Semester; 1 Credit (Practical) =30 Hrs. In a Semester.  
Suggested Readings : (Latest Edition)

#### TEXTBOOKS:

TB1	Sanjay Kumar Batra , Kanchan Batra , Harpreet Kaur, Environmental Studies; Taxmann's, Fifth Edition
TB2	M.M. Sulphey, Introduction to Environment Management, PHI Learning, 2019
TB3	S.P. Mishra, S.N. Pandey; Essential Environmental Studies, Ane Books Pvt Ltd , Sixth Edition

#### REFERENCES:

RB1	Asthana, D. K. (2006) Text Book of Environmental Studies. 3. Chand Publishing.
RB2	Basu, M., Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press, India
RB3	Goparaju, E. (2013). Textbook of Environmental Studies for Undergraduate Courses, Universities Press
RB4	Mahapatra, R., Jeevan, S.S., Das, S. (Eds) (2017). Environment Reader for Universities, Centre for Science and Environment, New Delhi.

Name of Faculty : Dr. Abhishek Singh

Head of Department :

Dr. Rajesh Kumar

Date :

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#### JOURNALS:

1. Journal of Technical Writing and Communication
2. Technical Communication Quarterly
3. International Journal of Business Communication
4. Journal of Business and Technical Communication
5. Business and Professional Communication Quarterly
6. Written Communication
7. The English Journal
8. Technical Communication (Society for Technical Communication)
9. Journal of Second Language Writing
10. Discourse and Communication