

Attributes & SDGs Common for all branches/Disciplines

Course Code	Course Title				Attributes				SDGs No.
ES01	Environ mental Studies	Employa bility	Entrepreneurship	Skill Develo pment	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
						√			SDGs 6,13,14,& 15

# Department of Paramedical Sciences (Programme: B.R.I.T)

Effective from Session:	Effective from Session:								
Course Code	ES101	Title of the Course	Environmental Studies	L	T	P	С		
Year	П	Semester	Ш	2	1	0	3		
Pre-Requisite	10+2	Co-requisite							
Course Objectives	To study about the Environment and To study about the Natural Resource To study about Biodiversity and Co To study Environmental pollution, i To study Human Population and En	es. nservation. ts policies and pract	ices.						

ı		Course Outcomes									
	CO1	Gain knowledge about environment and ecosystem									
	CO2	udents will learn about natural resource, its importance and environmental impacts of human activities on natural resource.									
	CO3	Gain knowledge about the conservation of biodiversity and its importance.									
	CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.									
	CO5	Students will learn about increase in population growth and its impact on environment.									
Ī	Unit		Contact	Manned							

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws:  Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderon Press Oxford (TB)
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- 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
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- 15) Survey of the Environment, The Hindu (M).
- 16) Sharma B.K.2001. Environmental Chemistry, Goel Pub House Meerut

### e-Learning Source:

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

https://www.youtube.com/watch?v=dRPl4TB8w7k

https://www.youtube.com/watch?v=3fbEVytyJCk

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			- 63															
		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-																		
PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO																		
CO1	-	1	3	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-
CO2	-	1	3	1	-	1	2	-	-	-	-		-	-	-	-	-	-
CO3	-	1	3	-	1	-	-	ı	-	-	-	•	-	-	1	-	-	-
CO4	1	1	3	-	1	2	-	ı	-	-	-	•	-	-	2	-	-	-
CO5	1	2	3	-	2	2	-	-		-	-	-	-	-	-	-	-	-

<b>Effective from Session:</b>	2018						
Course Code	ES101	Title of the Course	Environmental Studies	L	T	P	C
Year	П	Semester	III	2	1	0	3
Pre-Requisite	10+2	Co-requisite					
Course Objectives	To study about the Environment and the Eco To study about the Natural Resources. To study about Biodiversity and Conservatio To study Environmental pollution, its policie To study Human Population and Environmental	on. es and practices.					

	Course Outcomes								
CO1	Gain knowledge about environment and ecosystem								
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.								
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.								
CO5	Students will learn about increase in population growth and its impact on environment.								

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	1	1	1	1	1	1	1	1	2	1	3	1	1	1	1	1	-
CO2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
CO3	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	-
CO4	1	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	1	-
CO5	1	1	1	1	1	1	2	2	3	2	1	3	1	1	1	1	1	-

Name & Sign of Program Coordinator	Sign & Seal of HOD



Effective from Session	on: 2017-2018							
Course Code	ES101	Title of the Course Environmental Studies L T P C						
Year	П	Semester		2	1	0	3	
Pre-Requisite	10+2	Co-requisite						
Course Objectives	To study about the Environr To study about the Natural I To study about Biodiversity To study Environmental pol To study Human Population	Resources. and Conservation. lution, its policies and pra						

	Course Outcomes								
CO1	Gain knowledge about environment and Ecosystem								
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.								
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.								
CO5	Students will learn about increase in population growth and its impact on environment.								

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure &	8	CO1
1	Ecosystem Ecosystem	Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.		COI
2	Natural Resources	Renewable and non renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

# Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-																		
PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	-	-	-	-	-	-	-	-	-	-		3	-					
CO2	-	-	-	-	-	-	-	-	-	-	-	3						
CO3								2				3						
CO4								1				3						
CO5								1				3					2	

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation											
Name & Sign of Program Coordinator	Sign & Seal of HoD										



Effective from Session:											
Course Code	ES101	Title of the Course	Environmental Studies	L	T	P	C				
Year	II	Semester	III	2	1	0	3				
Pre-Requisite	10+2										
Course Objectives	To study about the Environm To study about the Natural F To study about Biodiversity To study Environmental pol To study Human Population	Resources. and Conservation. lution, its policies and prac									

	Course Outcomes										
CO1	Gain knowledge about environment and eCOsystem										
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.										
CO3	Gain knowledge about the conservation of biodiversity and its importance.										
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.										
CO5	Students will learn about increase in population growth and its impact on environment.										

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	<b>CO</b> 1
2	Natural Resources	Renewable and non renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

# Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO	101	102	103	101	103	100	107	100	10)	1010	1011	1012	1501	1502	1503	1501	1505	1500
CO1		1	1										1					
CO2													1					
CO3													1					
CO4													1					
CO5													1				1	

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Name & Sign of Program Coordinator Sign & Seal of HoD



# Department of bioengineering (Programme: B. Tech Biotech)

Effective from Session: 2004							
Course Code	ES 101	Title of the Course	Environmental Studies	L	T	P	C
Year	I	Semester	I	2	1	0	3
Pre-Requisite	10+2	Co-requisite					
Course Objectives	To study about the Environment a To study about the Natural Resou To study about Biodiversity and C To study Environmental pollution To study Human Population and I	rces. Conservation. 1, its policies and practices.					

	Course Outcomes									
CO1	Gain knowledge about environment and ecosystem									
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.									
CO3	Gain knowledge about the conservation of biodiversity and its importance.									
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.									
CO5	Students will learn about increase in population growth and its impact on environment.									

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

### Reference Books:

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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO																		
CO1	1	2	2	1	1	1	3	1	1	1	1	2	1	1	1	-	-	-
CO2	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	-	-	-
CO3	1	1	2	1	1	1	2	1	1	1	1	2	1	1	1	-	-	-
CO4	1	1	1	1	1	1	2	1	1	1	1	2	1	1	1	-	-	-
CO5	1	1	2	1	1	2	3	2	1	2	1	2	1	1	1	-	-	-



# Department of Bioengineering (Programme: B. Tech Food Tech)

			( 19 11	· · · · · · · · · · · · · · · · · · ·								
Effective	e from Session: 2014											
Course C	Code	ES 101	Title of the Course	Environmental Studies	L	T	P	C				
Year		I	Semester	I	2	1	0	3				
Pre-Requ	uisite	10+2										
	To study about the Environment and the Ecosystem.											
		To study about										
Course	Objectives	To study about Biodiversity and Conservation.										
Course	Dijectives	To study Environmental pollution, its policies and practices.										
		To study Human Population and Environmental Ethics.										
				Course Outcomes								
CO1	Gain knowledge abou	t environment an	d Ecosystem									
CO2	Students will learn abo	out natural resour	ce, its importance and envi	ronmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.											
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.											
CO5	Students will learn about increase in population growth and its impact on environment.											

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

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·		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
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CO																		
CO1	2	1	2			2	3		1	1		1	1					
CO2	1	2	2		2	2	2					1	1					
CO3		2	2	1	1	2	2		1			1	1	3	1			
CO4	1	1	2	1	1	2	2		1			1	1	2				
CO5	1	1	2	1		2	2	2	1	2		1	1	2				

Name & Sign of Program Coordinator	Sign & Seal of HoD



# Department of Bioengineering (Programme: B. Tech Biomedical Engineering)

	(	gramme. B. Teen Blome											
Effective from Session:													
Course Code	ES 101 Title of the Course Environmental Studies 1												
Year	I	Semester	I	2	1	0	3						
Pre-Requisite													
Course Objectives	To study about the Na To study about Biodiv To study Environment	vironment and the Ecosyst tural Resources. ersity and Conservation. al pollution, its policies an lation and Environmental	nd practices.										

	Course Outcomes										
CO1	Gain knowledge about environment and Ecosystem										
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.										
CO3	Gain knowledge about the conservation of biodiversity and its importance.										
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.										
CO5	Students will learn about increase in population growth and its impact on environment.										

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

#### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderon Press Oxford (TB)
- 5) Cunningham W.P.2001.Cooper, T.H. Gorhani, E & Hepworth, Environmental encyclopedia, Jaicob Publication House, Mumbai.
- 6) De. A.K. Environmental chemistry Willey Eastern Limited.
- 7) Glick, H.P.1993 water in crisis, Pacific Institute for studies in dev, Environment & security, Stockholm Env, Institute, Oxford Univ, Press 473 p.
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- 9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment, Cambridge Univ. Press 1140 p.
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- $11) \, Mckinnery, M.L. \, and \, School, \, R. \, M. \\ 1996 \, Environmental \, science \, systems \, and \, solutions, \, web \, enhanced \, edition \, 639 \, p.$
- 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
- 13) Miller T.G. Jr, Environmental Ecology, W. B. Saunders Co.USA,574 p. 16
- 14) Odum, E.P.1997. Fundamental chemistry, Goel Pub House Meerut.
- 15) Survey of the Environment, The Hindu (M).
- 16) Sharma B.K.2001.Environmental Chemistry, Goel Pub House Meerut

# e-Learning Source:

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

https://www.youtube.com/watch?v = dRPl4TB8w7k

https://www.youtube.com/watch?v=3fbEVytyJCk

https://www.vedantu.com/biology/conservation-of-biodiversity

https://youmatter.world/en/definition/soil-erosion-degradation-definition/

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

							Cour	se Artio	culation	Matrix:	(Mappir	ng of COs	with POs a	nd PSOs)				
PO-																		
PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO																		
CO1	2	1	2			2	3		1	1		1						
CO2	1	2	2		2	2	2					1						
CO3		2	2	1	1	2	2		1			1						
CO4	1	1	2	1	1	2	2		1			1			1			
CO5	1	1	2	1		2	2	2	1	2		1	1		1			

1- Low Correlation; 2- Moderate Correlation; 3-	Substantial Correlation
	l l
	l l
	l l
Name & Sign of Program Coordinator	Sign & Seal of HoD



Effective from Session:													
Course Code	ES 101	Title of the Course	Environmental Studies	L	T	P	С						
Year	I	Semester	II	2	1	0	3						
Pre-Requisite	10+2	Co-requisite											
	To study about	the Environment and the E	Ecosystem.		, and the second								

To study about the Environment and the Ecosystem. To study about the Natural Resources.

To study about Biodiversity and Conservation.

To study Environmental pollution, its policies and practices.

To study Human Population and Environmental Ethics.

	Course Outcomes										
CO1	Gain knowledge about environment and ecosystem										
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.										
CO3	Gain knowledge about the conservation of biodiversity and its importance.										
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.										
CO5	Students will learn about increase in population growth and its impact on environment.										

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

#### Reference Books:

**Course Objectives** 

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
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- 7) Glick, H.P.1993 water in crisis, Pacific Institute for studies in dev, Environment & security, Stockholm Env, Institute, Oxford Univ, Press 473 p.
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- 10) Jadhave, H. and Bhosale, V. M. 1995 Environmental protection and laws, Himalaya pub, house, Delhi.284 p.
- 11) Mckinnery, M.L. and School, R. M.1996 Environmental science systems and solutions, web enhanced edition 639 p. 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
- 13) Miller T.G. Jr, Environmental Ecology, W. B. Saunders Co.USA,574 p. 16
- 14) Odum, E.P.1997. Fundamental chemistry, Goel Pub House Meerut.
- 15) Survey of the Environment, The Hindu (M).
- 16) Sharma B.K.2001. Environmental Chemistry, Goel Pub. House Meerut

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https://www.youtube.com/watch?v=3fbEVytyJCk

https://www.vedantu.com/biology/conservation-of-biodiversity

https://youmatter.world/en/definition/soil-erosion-degradation-definition/

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO	101	102	105	101	105	100	10,	100	10)	1010	1011	1012	1501	1502	1505	1501	1505	1500
CO1	1	1					3		1			1	2					
CO2		1			1		3		1		1	1	1					
CO3		1			1		3		1			1	1					
CO4		1		2	1		3		1			1	1					
CO5		1		2				3	1	2		1	1	2				

Name & Sign of Program Coordinator	Sign & Seal of HoD



# Department of B. Tech Computer Science and Engineering (Programme - B. Tech)

(110gramme - B. 1ecn)												
Effective from Session:												
Course Code	ES 101	Title of the Course	Environmental Studies	L	T	P	C					
Year	I	Semester	I	2	1	0	3					
Pre-Requisite	10+2	Co-requisite										
Course Objectives	To study about To study about To study Envir	the Environment and the Ecosysten the Natural Resources. Biodiversity and Conservation. onmental pollution, its policies and in Population and Environmental Et	practices.	•								

	Course Outcomes								
CO1	Gain knowledge about environment and ecosystem								
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.								
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.								
CO5	Students will learn about increase in population growth and its impact on environment.								

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non- renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
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- 9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment.Cambridge Univ. Press 1140 p.
- 10) Jadhave, H. and Bhosale, V. M. 1995 Environmental protection and laws, Himalaya pub, house, Delhi.284 p.
- 11) Mckinnery, M.L. and School, R. M.1996 Environmental science systems and solutions, web enhanced edition 639 p. 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
- 13) Miller T.G. Jr, Environmental Ecology, W. B. Saunders Co.USA,574 p. 16
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- 15) Survey of the Environment, The Hindu (M).
- 16) Sharma B.K.2001.Environmental Chemistry, Goel Pub.House Meerut

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https://byjus.com/biology/difference-between-environment-and-eCOsystem.

https://www.youtube.com/watch?v=dRPl4TB8w7k

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https://www.vedantu.com/biology/conservation-of-biodiversity

https://youmatter.world/en/definition/soil-erosion-degradation-definition/

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO- PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO																		
CO1	1				1		3		1									
CO2					1		3		1									
CO3					1		3		1							2		
CO4						2	3		1							2		
CO5	1		1	1		1	3	3	1			1				2		

Name & Sign of Program Coordinator	Sign & Seal of HOD



# Department of computer Science and Engineering (Programme: B. Tech -CTIS)

Effective from Session:											
Course Code	ES 101	101 Title of the Course Environmental Studies L T P C									
Year	I	Semester	I	2	1	0	3				
Pre-Requisite	10+2	0+2 Co-requisite									
Course Objectives	To study about the N To study about Biod To study Environme	Invironment and the Eco latural Resources. iversity and Conservation intal pollution, its policies pulation and Environment	on. es and practices.								

	Course Outcomes										
(	C <b>O</b> 1	Gain knowledge about environment and Ecosystem									
	C <b>O2</b>	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.									
	C <b>O3</b>	Gain knowledge about the conservation of biodiversity and its importance.									
(	C <b>O4</b>	Aware students about problems of environmental pollution, its impact on human and Ecosystem and control measures.									
	C <b>O5</b>	Students will learn about increase in population growth and its impact on environment.									
	TT *4		, ,	3.7							

COS	Students will learn about	increase in population growth and its impact on environment.		
Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws:  Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

# Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderon Press Oxford (TB)
- 5) Cunningham W.P.2001.Cooper, T.H. Gorhani, E & Hepworth, Environmental encyclopedia, Jaicob Publication House, Mumbai.
- 6) De. A.K. Environmental chemistry Willey Eastern Limited.
- 7) Glick, H.P.1993 water in crisis, Pacific Institute for studies in dev, Environment & security, Stockholm Env, Institute, Oxford Univ, Press 473 p.
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- 9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment.Cambridge Univ. Press 1140 p.
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- 11) Mckinnery, M.L. and School, R. M.1996 Environmental science systems and solutions, web enhanced edition 639 p. 12) Mhaskar A.K. Matter Hazardous, Techno Science Pub (TM)
- 13) Miller T.G. Jr, Environmental Ecology, W. B. Saunders Co.USA,574 p. 16
- 14) Odum, E.P.1997.Fundamental chemistry, Goel Pub House Meerut.
- 15) Survey of the Environment, The Hindu (M).
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https://youmatter.world/en/definition/soil-erosion-degradation-definition/

https://byjus.com/biology/difference-between-environment-and-eCOsystem.

		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1				1		3		1									
CO2					1		3		1				1		1			
CO3					1		3		1				1		1			
CO4						2	3		1				1		1			
CO5	1		1	1		1	3	3	1			1	1		1			

Name & Sign of Program Coordinator	Sign & Seal of HOD



### (Programme: B. Tech. Electrical Engineering)

Effective from Session:										
Course Code	ES 101	Title of the Course	Environmental Studies	L	T	P	С			
Year	I	Semester	I	2	1	0	3			
Pre-Requisite	10+2	Co-requisite								
Course Objectives	To study about the N To study about Biod To study Environme	Environment and the E Natural Resources. Siversity and Conserva ental pollution, its poli- pulation and Environ	ation. cies and practices.							

	Course Outcomes							
CO1	Gain knowledge about environment and ecosystem							
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.							
CO3	Gain knowledge about the conservation of biodiversity and its importance.							
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.							
CO5	Students will learn about increase in population growth and its impact on environment.							

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non -renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

#### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderon Press Oxford (TB)
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https://youmatter.world/en/definition/soil-erosion-degradation-definition/

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		Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO- PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO CO1	1	1					3		1			1	2					
CO2	1	1			1		3		1		1	1	2	1		1		
CO3		1			1		3		1			1	2					
CO4		1		2	1		3		1			1	2					
CO5		1		2				3	1	2		1	2	1		1		

Name & Sign of Program Coordinator	Sign & Seal of HOD



(Programme: B. Tech. Electronics and Communication Engineering)

Effective from Session:									
Course Code	ES 101	101 Title of the Course Environmental Studies L T P							
Year	I	Semester	I	2	1	0	3		
Pre-Requisite	10+2	Co-requisite							
Course Objectives	To study about the To study about Bi To study Environ	e Environment and the E e Natural Resources. odiversity and Conserva mental pollution, its poli Population and Environr	ation.						

	Course Outcomes								
CO1	Gain knowledge about environment and ecosystem								
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.								
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.								
CO5	Students will learn about increase in population growth and its impact on environment.								

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

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- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
- 4) Clark R.S. Marine Pollution, Clanderon Press Oxford (TB)
- 5) Cunningham W.P.2001.Cooper, T.H. Gorhani, E & Hepworth, Environmental encyclopedia, Jaicob Publication House, Mumbai.
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- 9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment Cambridge Univ. Press 1140 p.
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https://byjus.com/biology/difference-between-environment-and-eCO system.

https://www.youtube.com/watch?v=dRPl4TB8w7k

https://www.youtube.com/watch?v=3fbEVytyJCk

https://www.vedantu.com/biology/conservation-of-biodiversity

https://youmatter.world/en/definition/soil-erosion-degradation-definition/

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	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO-																		
PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO																		
CO1	1	1					3		1			1	2		1	1		
CO2		1			1		3		1		1	1	2	1	1	1		
CO3		1			1		3		1			1	2		1	1		
CO4		1		2	1		3		1			1	2		1	1		
CO5		1	, and the second	2				3	1	2		1	2	1	1	2		

Name & Sign of Program Coordinator	Sign & Seal of HOD



(Programme: B. Tech.Mechanical Engineering)

Effective from Session:									
Course Code	ES 101	Title of the Course	Environmental Studies	L	T	P	C		
Year	I	Semester	I	2	1	0	3		
Pre-Requisite	10+2	Co-requisite							
Course Objectives	To study about the Envir To study about the Natur To study about Biodivers To study Environmental To study Human Populat	al Resources.  sity and Conservation.  pollution, its policies	and practices.						

	Course Outcomes								
CO1	Gain knowledge about environment and ecosystem								
CO2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.								
CO3	Gain knowledge about the conservation of biodiversity and its importance.								
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.								
CO5	Students will learn about increase in population growth and its impact on environment.								

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1
2	Natural Resources	Renewable and non- renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2
3	Biodiversity and Conservation	Levels of biological diversity, Hot spots of biodiversity, India as a Mega Diversity Nation, Endangered and endemic species of India, Threats to Biodiversity, Conservation of Biodiversity, Ecosystem and biodiversity services.	8	CO3
4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4
5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5

### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
- 2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
- 3) Brunner R.C. 1989. Hazardous waste incineration, Mc Graw Hill
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	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																	
PO- PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	1					3		1			1		1				
CO2		1			1		3		1		1	1	1	2				
CO3		1			1		3		1			1		2				
CO4		1		2	1		3		1			1		2				
CO5		1		2				3	1	2		1	1	2				

Name & Sign of Program Coordinator	Sign & Seal of HOD



#### (Department of Physiothearapy)

<b>Effective from Session:</b>	Effective from Session:								
Course Code	ES101	Title of the Course	Environmental Studies	L	Т	P	С		
Year	I	Semester	П	2	1	0	3		
Pre-Requisite	10+2	Co-requisite							
Course Objectives	To study about the Environment and To study about the Natural Resource To study about Biodiversity and Con To study Environmental pollution, in To study Human Population and En	es. nservation. ts policies and pract	ices.						
	Course Outcomes								

	Course Outcomes						
CO1	Gain knowledge about environment and ecosystem						
CO2	O2 Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.						
CO3	Gain knowledge about the conservation of biodiversity and its importance.						
CO4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.						
COS	COS Students will learn about increases in normalistic growth and its impact on environment						

	COS	Students will learn about increase in population growth and its impact on environment.									
Unit No. Title of the		Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO						
	1	Introduction to Environment and Ecosystem	Environment, its components and segments, Multidisciplinary nature of Environmental studies, Concept of Sustainability and sustainable development, Environmental movements, Ecosystem, Structure & Function, Energy flow in the Ecosystem, Ecological Pyramids and Ecological Succession.	8	CO1						
	2	Natural Resources	Renewable and non-renewable, Soil erosion and desertification, Deforestation, Water: Use and over exploitation, Impacts of large Dams, Case studies	8	CO2						
	3	Biodiversity and Conservation	8	CO3							
	4	Environmental Pollution, Policies and Practices	Environmental pollution, Solid waste management, Ill effects of fireworks, Climate change, Ozone layer depletion, acid rain and impacts on human communities and Environment, Environmental Laws: Environment Protection Act, Wildlife protection Act, Forest conservation Act, Convention on Biological Diversity (CBD), Tribal rights, Human wildlife conflicts.	8	CO4						
	5	Human Population and the Environment	Human population growth: Impacts on environment, human health and welfare, Resettlement and rehabilitation of project affected persons, Environmental ethics, Environmental communication and public awareness, case studies.	8	CO5						

### Reference Books:

- 1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
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#### Course Articulation Matrix: (Mapping of COs with POs and PSOs) PO-PSO PO1 PO2 PO3 PO4 PO5 PO6 PO11 PO12 PSO1 PSO2 PSO3 PSO4 PSO5 PSO6 PO7 PO8 PO9 PO10 CO CO<sub>1</sub> 2 CO2 2 CO<sub>3</sub> 2 CO<sub>4</sub> 2 2 **CO5** 2 1

Name & Sign of Program Coordinator	Sign & Seal of HOD