Attributes & SDGs Common for all branches/Disciplines

Course Code	Course Title	Attributes							SDGs No.
ES01	Environmental Studies	Employability	Entrepreneurship	Skill Development	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:							
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	**Co-requisite**					
Course Objectives	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:

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, Jacob 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.
8) Hawkins R .E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay.
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
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=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.

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	3	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	1	3	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-
CO3	-	1	3	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-
CO4	1	1	3	-	1	2	-	-	-	-	-	-	-	-	2	-	-	-
CO5	1	2	3	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-

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

Name & Sign of Program Coordinator	Sign & Seal of HOD

Department of Paramedical Sciences
(Programme: B.O.P.T)

Effective from Session:	2018						
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	**Co-requisite**					
Course Objectives	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:

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, Jacob 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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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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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 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	-

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

Name & Sign of Program Coordinator	**Sign & Seal of HOD**

Department of Paramedical Sciences
(Programme: B.M.L.T)

Effective from Session: 2017-2018							
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	**Co-requisite**					
Course Objectives	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:

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, Jacob Publication House, Mumbai.

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

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

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

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**

Department of Paramedical Sciences
(Programme: B.F.S.)

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	**Co-requisite**					
Course Objectives	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	**CO**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	**CO**2
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	**CO**3
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	**CO**4
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	**CO**5

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, Jacob Publication House, Mumbai.

6) De. A.K. Environmental chemistry Willey Eastern Limited.

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

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

	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					
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 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:

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.
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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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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.

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	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	-	-	-

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

Name & Sign of Program Coordinator	**Sign & Seal of HOD**

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

Effective from Session: 2014							
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 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:

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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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 CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
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				

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

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Department of Bioengineering
(Programme: B. Tech Biomedical 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 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:

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

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

Department of Civil Engineering
(Programme :B.Tech. Civil Engineering)

Effective from Session:							
Course Code	ES 101	**Title of the Course**	Environmental Studies	**L**	**T**	**P**	**C**
Year	I	**Semester**	II	**2**	**1**	**0**	**3**
Pre-Requisite	10+2	**Co-requisite**					
Course Objectives	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:

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.
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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	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				

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

Name & Sign of Program Coordinator	**Sign & Seal of HoD**

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

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 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:

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2) Bharucha Erach, The Biodiversity of India, Mapin Pub. Pvt. Ltd., Ahemdabad-380, India.
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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									
CO2					1		3		1									
CO3					1		3		1							2		
CO4						2	3		1							2		
CO5	1		1	1		1	3	3	1			1				2		

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

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	**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 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:

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.
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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									
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			

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

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**	**C**
Year	I	**Semester**	I	**2**	**1**	**0**	**3**
Pre-Requisite	10+2	**Co-requisite**					
Course Objectives	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:

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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	2					
CO2		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		

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

Name & Sign of Program Coordinator	**Sign & Seal of HOD**

(Programme: B. Tech.Electronics and Communication 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 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:

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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
https://www.vedantu.com/biology/conservation-of-biodiversity
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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	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		2				3	1	2		1	2	1	1	2		

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

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 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:

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.
8) Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay.
9) Heywood, V.H. & Watson, R. T.1995.Global biodiversity Assessment Cambridge Univ. Press 1140 p.
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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				

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

Name & Sign of Program Coordinator	**Sign & Seal of HOD**

(Department of Physiothearapy)

Effective from Session:							
Course Code	ES101	**Title of the Course**	Environmental Studies	**L**	**T**	**P**	**C**
Year	I	**Semester**	II	**2**	**1**	**0**	**3**
Pre-Requisite	10+2	**Co-requisite**					
Course Objectives	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.
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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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1) Agarwal, K.C. 2001 Environmental; Biology, Nidi Pub. Ltd. Bikaner.
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CO1												2						
CO2												2						
CO3												2						
CO4							2					2						
CO5							1	1			1	2				1	1	

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

Name & Sign of Program Coordinator	**Sign & Seal of HOD**