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Program Objectives:

1. To develop conscience towards social responsibility, human values and sustainable development through curriculum delivery and extra-curricular activities
2. To develop scientific temperament with strong fundamental knowledge of the subject
3. To develop analytical thinking and problem-solving skills needed for various entrance and competitive examinations and Post Graduate Studies
4. To train students in laboratory skills and handling equipment along with soft skills needed for placement
5. To inculcate the values of and scope of Ecology, Resource conservation and various green technologies as a part of sustainable development.

Program Outcomes:

1) The students will graduate with holistic development.
2) The students will be qualified to continue higher studies in their subject.
3) The students will be eligible to appear for various competitive examinations and pursue higher education and will be able to apply for the jobs with a minimum requirement of B. Sc. Program**.**
4) The students will understand about various pollution control technologies, green technologies of recent as a part of sustainable development goal.
5) The students will acquire knowledge about new innovations for future scope

Program Specific Objectives and Outcomes

Program Specific Objectives:

The B.Sc. Environmental Science Program will enable the students;

PSOB-1. To develop basic understanding of Fundamentals of Environmental Science as a discipline.

PSOB-2. To bring sensitization towards the environment and also increase student competency and employability.

PSOB-3. To inculcate a sense of responsibility among students about various principles and laws of environment

PSOB-4. To encourage students about applicability of knowledge and Interdisciplinary approach in day todays life.

Program Specific Outcomes:

After successful completion of B.Sc. Environmental Science Course, student will have:

PSOC-1. Fundamental and Advanced knowledge of theory and practical courses in Environmental science.

PSOC-2. Students will understand about how the subject knowledge helps in solving various social, economic, environment related problem and circular economy.

PSOC-3. Knowledge about various Environmental laws, ISO series, EMS, Standards and Ethics required to peruse higher education in the field.

PSOC-4. Knowledge about Environmental (Resource, Energy) Management, Monitoring, introductory aspects of Environmental Biotechnology and Microbiology

PSOC-5. Skills in laboratory techniques and experience in instrument handling

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FACULTY OF SCIENCE

Name of BOS -- Life science

To be implemented from Academic Year 2026-27

B.Sc. Program Structure (Choice Based Credit System, Under NEP Guidelines)

F.Y.B.Sc. (NEP 2.0)Environmental Science Program structure and Syllabus

Sr. no.	Program	Sem.	Offered as	Course Code	Course title	Number of Credits
1.	F.Y.B.Sc.	I	Major-Theory	26SBEV11MM	Fundamental of Environmental Chemistry and Biology	2
2.	F.Y.B.Sc	I	Major-Theory	26SBEV12MM	Traditional and Modern Water Management Systems in India	2
3.	F.Y.B.Sc	I	Major-Practical	26SBEV13MM	Practicals in Environmental Science-I	2
4.	F.Y.B.Sc	I	Major-Practical VSC	26SBEV11VS	Practicals in Water Analysis	2
6.	F.Y.B.Sc	II	Major-Theory	26SBEV21MM	Fundamental of Environmental Geoscience	2
7.	F.Y.B.Sc	II	Major-Theory	26SBEV22MM	Fundamental of Environmental Pollution	2
8.	F.Y.B.Sc	II	Major-Practical	26SBEV23MM	Practicals in Environmental Science-II	2

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Syllabus for Fundamentals of Environmental Chemistry and Biology

F.Y.B.Sc. 2026-27 (NEP 2.0- 2026 Pattern)

Course Title	**Fundamental of Environmental Chemistry and Biology**		
Course Code: 26SBEV11MM			**No. of Credits: 02**
Course Type: Major (MM)			**Total Teaching Hours: 30**

Course Objectives	
1.	**Understand basic environmental chemistry**
2.	**Apply core biological concepts to the environment**
3.	**Analyse environmental pollution**
4.	**Understand chemical–biological interactions**
5.	**Develop basic analytical and problem-solving skills**
6.	**Recognize environmental sustainability principles**
7.	**Build environmental awareness and responsibility**

Course Outcomes	
1.	**Understand basic environmental chemistry concepts**
2.	**Explain biological processes in the environment**
3.	**Analyse environmental pollution**
4.	**Apply knowledge to real-world environmental issues**
5.	**Promote environmental awareness and sustainability**
6.	**Interpret environmental data**

Syllabus		
Unit I	**Environmental Biology and Biogeography** • Introduction to Biology, Branches, Scope and Importance in today's context from environmental point of view. • The origin of Life; Evolution of Life through the geological time i.e. – Eras, Periods, Epochs • Charles Darwin's Voyage of HMS Beagle His theory of 'Survival of the Fittest'. • The current 'Mass Extinction' with reference to rate of extinction, factors responsible and possible remedies • Taxonomic Principles - aim, objectives, hierarchy, kingdoms. History; Linnaeus system of classification; Bentham & Hooker system of classification. • Biological diversity of Biogeography – The meaning; Biographical profile of the world; The physical, microbial, floral and faunal characteristics of each Bio-geographical zone	**10 hours**
Unit II	**Ecology and Bio-resources** • Ecological Adaptations under various environmental conditions – • In plants - Hydrophytes, Mesophytes, Epiphytes, Xerophytes & Halophytes • In animals - mimicry, vestigiality etc. • Bio-resources • Forests- major types of the World & India • Agricultural crops - major food plants of the world & India • Livestock – major varieties of the World & India • Fisheries resources - saline & fresh water • Significances / use of the Bio resources; Harnessing / Optimum use of Bio resources by traditional & modern methods; Threat to local bio resources - overexploitation, habitat loss, invasive species etc.	**08 hours**

Unit III	**Environmental Chemistry** • Definition and Concept, Scope and Applications of Environmental Chemistry • Concept of Bio-geo-chemical cycles • Concept of Green Chemistry • Classification of Air Pollutants, Climate Change, Global Warming, Acid Rain ,Ozone layer depletion , Smog and Control measures. • Classification of Water pollutants, Properties of Water, Hydrogen Bonding, Water pollution and Control measures • Food Adulterants and their effects, Heavy metals-Chemistry of Pb, Hg, Cd and As and control measures • Classification of Soil Pollutants, Toxicology of Soil Pollutants, Soil degradation causes and impacts, Control Measures	**12 hours**

Suggested Readings	
1.	A Textbook of Plant Ecology' Ambashta R.S. &Ambashta N.K (1999) CBS Publ.& Distributers, New Delhi
2.	'Ecology: Principles and Applications' Chapman J.L. & Reiss M.J. (1995) Cambridge University Press
3.	'Elements of Ecology' Sharma P.D. Rastogi Publication
4.	Environmental Studies' Benny Joseph (2005) Tata McGraw Hill Publ. Co. Ltd.
5.	An Advanced textbook on Biodiversity – Principles & Practice, K. V. Krishnamurthy, Oxford & IBH Publishing Co. Pvt. Ltd., Special Indian Edtn
6.	Environmental Chemistry, A. K. De, New Age International Publishers, 7thEdtn.
7.	Elements of Environmental Chemistry, H. V. Jadhav, Stosius Incorporated/Advent Books Division, 1992
8.	Environmental Chemistry, H. Kaur, A Pragati Edtn., 2ndEdtn. (2007)
9.	Environmental Chemistry, S. K. Banerjee, PHI Learning Pvt. Ltd., 2nd Edtn.

10.	Holmes' Principles of Physical Geology, Edt. By P. McL. D. Duff, ELBS with Chapman & Hall, 4thEdtn.
11.	Forinash K.2010.Foundation of Environmental Physics, Island Press
12.	'Paleobotany and the Evolution of Plants' Wilson N. Stewart (1983) Cambridge University Press

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F.Y.B.Sc. 2026-27 (NEP 2026 Pattern)

Course Title	**Traditional and Modern Water Management Systems in India**
Course Code: 26SBEV12MM	**No. of Credits: 02**
Course Type: Major (MM)	**Total Teaching Hours: 30**

Course Objectives	
1.	**Understand India's water resources**
2.	**Examine traditional water management systems**
3.	**Analyze modern water management approaches**
4.	**Compare traditional and modern systems**
5.	**Understand water-related challenges in India**
6.	**Explore water governance and policies**
7.	**Promote sustainable water management**

Course Outcome	
1.	**Assess regional water management practices**
2.	**Understand traditional water management systems**
3.	**Explain modern water management systems**
4.	**Compare traditional and modern approaches**
5.	**Apply sustainability principles**
6.	**Evaluate water-related challenges in India**

Syllabus		
Unit I	**Water and its importance** • Distribution of Water resources, Uses of Water Resources Hydrological cycle, Surface and Groundwater • Water Pollution, Causes and Effects of different pollutants on the water quality and biotic environment. • Water borne diseases , causes and remedial measures • Water stress, components and impacts • Scenario of Water quality in World and in India	**06 hours**
Unit II	**Traditional Methods of Water Conservation in India:** • Need for Water conservation Structures in Ancient times • Types of Traditional Water Conservation Structures -Zing, Naula, Gul, Dhara, Dhan, Simar, Khal, Kul, Khatri, Johad, Bawaris, Taanka, Zabo, Kunds, Ahar Pynes, Bhandara Phad, Ramtek, Katas / Mundas / Bandhas, Eri, Ooranis, Dongs, Baolis, Dighis, Bamboo Drip irrigation, Apatani, Virdas, Surangam, Korambus, Jackwells, Madakas, Neeruganti method, Dungs, Jampols, Cheruvu • Causes for extinction of Traditional Water Conservation Structures	**06 hours**
Unit III	**Dam Construction for Water Conservation** • Functions and Advantages of Dams • Impact of Dam construction on the Environment and Tribal Community, their displacement, damage to terrestrial and aquatic Biodiversity • Cases of Water conflicts in India	**06 hours**
Unit IV	**Importance of Water Conservation** • Water Harvesting -Need, Principle and methods – Rain water harvesting, Roof top harvesting in Urban	**06 hours**

	areas, Subsurface barrier/dykes, Farm ponds in Rural areas • Groundwater recharge , Revival of Traditional Water harvesting techniques • Water Footprints, Water quality standards • Different methods to conserve water in Industries- Treatment of waste water, Different methods to conserve water in Agriculture sector	
Unit V	**Act, Policies and schemes related to Water Management in India** • Community involvement in Water Management • Role of Government and NGO in Water conservation and Management • Elementary idea of Water analysis and instruments used, Chemical analysis with the help of potable instruments • Case studies related to Water Conservation and Management	**06 hours**

Suggested Readings	
1.	Water Resources Systems - Subhas Chander and Rajesh Prasad, Jain Brothers.
2.	Water Resources System Planning and Management- S.K.Jain and V.P.Singh, Elsevier.
3.	Water Resources Systems- S. Vedula and P.P.Majumdar, Tata McGraw Hill Education.
4.	Water Resources System Planning and Analysis- D.P.Loucks, J.R.Stedinger, D.A.Haith. Englewood Cliffs, Prentice Hall.
5.	Water Treatment - Principles and Design by J.M.Montgomery, Wiley, 1985.
6.	Stuetz R and T Stephenson. 2009. Principles of Water and Waste Water Treatment Processes. IWA Publishing, Alliance House, UK. 214p.
7.	Harrison R.M. 2001. Pollution; Causes, Effects and Control. 3rd Ed., Royal Society of Chemistry, London,. doi =" 10.1039 / 9781847551719. 3. Bolin B., (Ed.), (1981)
8.	Water Supply Engineering S. K. Garg , Khanna Publishers 2007.
9.	Water Supply and Sanitary Engineering – G.S.Birdie and J.S.Birdie.

10.	Water Supply Engineering – Dr. P.N.Modi.
11.	Water Supply and Wastewater Engineering – Dr. B.S.N.Raju.

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Syllabus for Practicals in Environmental Science-I

F.Y.B. Sc. 2026-27 (NEP 2026)

Course Title	**Practicals in Environmental Science-I**		
Course Code: 26SBEV13MM			**No. of Credits: 02**
Course Type: Major (MM)			**Total Teaching Hours: 30**

Syllabus		
Unit No.	**Title with Contents**	**Practical Sessions**
1	Laboratory safety rules and introduction to laboratory equipment's	01
2	Collection and preservation of water and soil samples (Field Practical).	02
3	Determination of pH and Electrical Conductivity of Water and Soil samples	01
4	Determination of Turbidity from sample –Secchi disc & Nephalo turbidometer	01
5	Determination of Alkalinity from water sample	01
6	Determination of Total Hardness (Ca & Mg) from water.	01
7	Determination of Chlorides from water.	01
8	Determination of TDS, TSS & TS from water	01
9	Identification of Food adulterants in various food samples	01

10	Prepare wildlife habitat map of India and study its distribution	01
11	Identify and document local flora and fauna, focusing on major genera and species. (Field Practical)	01
12	Study of Plant / Animal Fossil Forms from different geological periods/visit to Palaeo-botanical museum	01
13	Study of Plant Adaptations under various environmental conditions (Hydrophytes, Mesophytes, Epiphytes, Halophytes & Xerophytes).	01
14	Study of Animal Adaptations under various environmental conditions (Structural: Camouflage, mimicry, Vestigiliaty. Behavioural: Hibernation, Migration)	01
15	Visit to study different Fishery resources in the local Market & to study and Inventarise the various Agricultural/ Horticultural resources in the local market	01

Any other relevant practical's related

Suggested Readings	
1.	S.K. Maiti, Handbook of methods in Environmental Studies Vol—I & II, ABD Publishers, Jaipur, India
2.	Manivaskam, N,Physico-Chemical Examination of water, sewage and industrial effluents, Pragti Prakashan, Meerut, 1984
3.	Trivedi, R.K. and Goel, P.K, Chemical and biological method for water pollution studies. Environment Publications, Karad, 1986
4.	Willard, Instrumental methods of analysis, cbspd; 7thEdtn

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Syllabus for Practicals in Water Analysis

F.Y.B.Sc. 2026-27 (NEP 2026)

Course Title	**Practicals in Water Analysis**
Course Code: 26SBEV11VS	**No. of Credits: 02**
Course Type: Major (MJ)	**Total Teaching Hours: 30**

Course Objectives	
8.	To understand the various techniques for Water sampling and Collection
9.	To understand various techniques used for analysis of Water in laboratory
10.	To understand the working of STP/ ETP for treatment of Water and Waste water
11.	To identify various Phytoplankton's and Zooplanktons as indicators of Water quality

Course Outcome	
7.	To understand various Water collection and sampling techniques along with analysis
8.	To understand techniques employed for analysis of Waste water in Environmental Laboratory
9.	To help students develop career in ETP and STP
10.	To acquire a broad knowledge of Water and Water quality analysis

Syllabus		
Sr. No.	**Title with Content**	
1	Collection and preservation of water samples	Field Practical
2	Determination of pH and Electrical Conductivity of Water samples	Laboratory
3	Determination of Alkalinity from water	Laboratory
4	Determination of Total Hardness (Ca & Mg) from water	Laboratory
5	Determination of Chlorides from water.	Laboratory
6	Determination of TDS, TSS and TS from given water	Laboratory
7	Determination of Dissolved Oxygen (DO) in water	Laboratory
8	Determination of CO_2 from water	Laboratory
9	Determination of Residual Chlorine from water	Laboratory
10	Study of Eutrophic water Body	Field
11	Determination of Temperature from water	Laboratory
12	Visit a water treatment facility for understanding removal of contaminations form water	Field
13	Determination of Turbidity in water by Secchi disc (Field practical—Traditional method) and by Nephalo turbidometer	Laboratory
14	Identification of Planktons and Zooplanktons as bio-indicators from Eutrophic Lake	Field
15	Study Visit to Environmental Laboratory	Field

Any other relevant practical's related

Suggested Readings	
13.	S.K. Maiti, Handbook of methods in Environmental Studies Vol—I & II, ABD Publishers, Jaipur, India
14.	Manivaskam, N,Physico-Chemical Examination of water, sewage and industrial effluents, Pragti Prakashan, Meerut, 1984
15.	Trivedi, R.K. and Goel, P.K, Chemical and biological method for water pollution studies. Environment Publications, Karad, 1986

16.	Willard, Instrumental methods of analysis, cbspd; 7thEdtn
17.	Laboratory Manual of Water and Waste water Analysis, D .R. Khanna , R.. Bhutiani, Daya Publishing House , Delhi, 2008
18.	Chemical and Biological Methods for Water Pollution Studies, R. K. Trivedy, P.K.Goel, Oriental Printing Press, Aligarh, 1986

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F.Y.B. Sc. 2026-27 (NEP 2026 Pattern)

Course Title	**Fundamental of Environmental Geoscience**
Course Code: 26SBEV21MM	**No. of Credits: 02**
Course Type: Major (MM)	**Total Teaching Hours: 30**

Course Objectives	
1.	**Understand Earth system components**
2.	**Explain basic geological processes**
3.	**Analyze Earth materials and resources**
4.	**Understand environmental hazards**
5.	**Examine human–Earth interactions**
6.	**Apply geoscience to environmental problem-solving**
7.	**Promote environmental awareness and sustainability**

Course Outcome	
1.	**Apply geo-scientific knowledge to environmental issues**
2.	**Explain geological cycles**
3.	**Analyze natural resources**
4.	**Assess geo-hazards**
6.	**Understand Earth system processes**

Syllabus		
Unit I	**Earth & it's Structural Components** • Solar system formation and planetary differentiation • Internal Structure of Earth • Theories of geological evolution – Wagener's Continental Drift Theory, Plate Tectonic Theory • Major changes on the Earth's surface Geological time scale • Introduction—Indian Mountain system, Indo- Gangetic plains, Geology of Himalayan ecosystem and Western Ghats • Types of Rocks – Igneous, Sedimentary, Metamorphic, Rock cycle	**06 hours**
Unit II	**Soil** • Formation – weathering processes (types) • Physical & chemical properties • Macro & Micro plant nutrients, their role • Soil Profile, types • Soil classification • Soils of India – with respect to their agriculture significances. • Importance and Significance of Soil • Soil erosion, Types, Causes and Effects	**06 hours**

Unit III	• **Earth's Atmosphere and Atmospheric temperature** • Introduction, Evolution of atmosphere • General properties • Vertical structure • Chemical composition – in each of the vertical layers; past & present Significance • Atmospheric temperature measurement – o Instruments, Methods (maximum, minimum, mean temperature, temperature range); • Factors regulating atmospheric temperature • Lapse rate; Types – ELR, DALR & WALR • Concept of Temperature Inversion • Urban Heat Island Effect • Land - Sea breeze effect	**06 hours**

Unit IV	• **Hydrological cycle &Atmospheric pressure**
	• Hydrological cycle –
	  o Introduction & significance
	  o Evaporation; Factors affecting the rate of Evaporation
	  o Condensation; Factors affecting, forms of condensation – dew, frost, fog & cloud.
	  o Precipitation; Factors affecting and Forms of precipitation – rain, drizzle, snow, hail, sleet
	• Atmospheric pressure –Introduction; Measurement; Factors affecting the atmospheric pressure, Isobars
	• Atmospheric pressure & Generation of winds; Factors affecting winds
		06 hours

Unit V	**Natural Calamities** • Natural Calamities – Volcanoes, Earthquakes, Landslides, Cyclones, Floods, Droughts, Forest fires ---their origin, Causes, Effects • Human Interference in triggering disasters • Planning & Management to prevent/mitigate their effects; • Case studies for each. • Government Departments / Agencies to manage Natural Disasters	**06 hours**

Suggested Readings	
1.	Environmental Geology; Valdiya K.S.; Indian Context. Tata McGraw Hill
2.	Essentials of Climatology; D. S. Lal; Chaitanya Publishing House, Allahabad, 1989.
3.	Holmes' – Principles of Physical Geology; Edt. by P. McL. D. Duff; ELBS Chapman & Hall Low Priced Edtn; 4thEdtn.
4.	A Textbook of soil Science; T.D. Biswas& S.K. Mukharjee; Tata McGraw-Hill Education
5.	Introductory Soil Science; Dilip Kumar Das; Kalyani Publishers; 2ndEdtn.
6.	Environmental Geology; Kellar E.A. (2011); Prentice Hall, 624 p; 9thEdtn.

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Syllabus for Fundamental of Environmental Pollution

F.Y.B. Sc. 2026-27 (NEP 2026)

Course Title	**Fundamental of Environmental Pollution**		
Course Code: 26SBEV22MM			**No. of Credits: 02**
Course Type: Major (MM)			**Total Teaching Hours: 30**

Course Objectives	
1.	**Understand basic concepts of environmental pollution**
2.	**Explain the nature and behavior of pollutants**
3.	**Analyze major types of pollution**
4.	**Understand impacts of pollution**
5.	**Learn pollution monitoring and control**
6.	**Understand environmental standards and policies**
7.	**Promote environmental responsibility**

Course Outcome	
1.	**Interpret environmental standards and regulations**
2.	**Analyze air, water, soil, and noise pollution**
3.	**Assess pollution control measures**
4.	**Understand environmental pollution concepts**
5.	**Explain effects of pollution on health and ecosystems**
6.	**Understand waste generation and management**

Syllabus		
Unit I	**Introduction** • Pollution – Definitions • Types –Air, Water Soil, Noise, Thermal, Radioactive and Solid waste • Natural and Anthropogenic sources • Introduction to Solid waste and Plastic pollution- A case study • Introduction to Plastic Toxicity—micro plastic in food chain	**04 hours**
Unit II	**Air Pollution** • Definition; Major air pollutants and their sources; • Effects –on Biological systems– Animals, Humans & Plants and on Non-Biological systems – material; physical environment • Green House Effect, Ozone layer depletion, Smog, Acid Rain, Global warming • Case studies – London smog; Los Angeles smog; Taj-Mahal • Current Air pollution scenario of Indian cities	**08 hours**
Unit III	**Water and Thermal pollution**	**06 hours**

	• Definition, Types (Ground, Surface and Marine) Sources, Effects & control measures • Detergent – Eutrophication • Pesticide – Bioaccumulation, Biomagnification • Case studies – Itai- Itai & Minamata (Japan); Arsenic poisoning (West Bengal) etc. • Definition, Sources, Effects and Control measures of Thermal pollution	
Unit IV	• **Soil pollution** • Definition; Sources/ routes of contamination • Effects –On soil quality/ productivity. • On Biological system – on soil microorganisms, on Plants, Animals • Control measures/ Alternatives – ✓ Bio fertilizers & biological pest management; ✓ Organic farming & other agricultural interventions; ✓ Appropriate irrigation & drainage techniques; ✓ Lime& gypsum application. Case studies – Declining soil productivity in the Punjab &Haryana; ✓ Desertification in India, Western Maharashtra	**08 hours**
Unit V	• **Noise Pollution** • Definition, Introduction • Sources, Measurement, Instrument, Permissible limits, Categories/ Zones in context to noise level • Effects—Auditory and Non- Auditory—on Living and non –living things • Control measures—at Individual level, Institute	**04 hours**

	level, Commercial level, industrial level	

Suggested Readings	
1.	Air Pollution- M. N. Rao & H. V.N. Rao; Tata McGraw Hill, New Delhi, 1989.
2.	"Environment Pollution Control and Environmental Engg." C. S. Rao, Tata McGraw Hill, New Delhi, 1994.
3.	Soil pollution & Soil Organism - P.V. Mishra
4.	Water Pollution—A.K. Tripathy& S.N. Pandey; A. P. H. Publishing Corporation
5.	Environmental Air pollution & it's control—G.R. Chatwal; Anmol Publications, New Delhi, 1989
6.	Environmental Chemistry; A. K. De; New Age International Publishers; 6thEdtn.
7.	Understanding Environment; Edt by Kiran B. Chhokar, Mamata Pandya, Meena Raghunathan;
8.	Centre for Environment Education; Sage Publication.
9.	Perspective in Environmental Studies; Kaushik &Kaushik; New Age International Pvt. Ltd Publishers
10.	Environmental Science; S.C. Santra; New Central Book Agency (P) Ltd.; 2ndEdtn.
11.	Water Pollution, P.K. Goel, New Age International, 2006 Revised Edtn

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Syllabus for Practicals in Environmental Science- II

F.Y.B.Sc. 2026-27 (NEP 2026)

Course Title	**Practicals in Environmental Science-II**		
Course Code: 26SBEV23MM			**No. of Credits: 02**
Course Type: Major (MM)			**Total Teaching Hours: 30**

Course Objectives	
1.	To study the concept of Wind rose and Lapse rate
2.	To understand various Soil analysis techniques
3.	To estimate the Noise Level in Residential and Commercial areas through Survey methods
4.	To learn the identification of rocks and mineral specimens

Course Objectives	
1.	To understand the types of conservation techniques
2.	To acquaint with use of social media for e-networking and dissemination of ideas on environmental issues
3.	To learn Solid Waste management by visiting the site
4.	To check the importance of bio indicators in water quality

Syllabus		
Sr. No.	**Title with Contents**	**Practical Sessions**
1.	Measurement of Noise using Sound Level Meter (Field Practical). — (Degree of Annoyance measurement)	01
2.	Collection and preservation of soil samples (Field Practical).	01
3.	Identification of different Rock specimens from their physical properties.	01
4.	Identification of different Mineral specimens from their physical properties	01
5.	Visit to a Natural Area/ Wildlife Sanctuary/ National Park/Zoological Park	01
6.	Visit to the geology museum/Weather station/Soil Survey Department	01
7.	Determination of Organic Content from soil sample	01
8.	Reading Topographic Maps and Symbols	01
9.	Collection and classification of solid waste generated in classroom & home.	01
10.	Access online resources or smartphone apps to track the AQI in your area and discuss the factors influencing it.	01
11.	Determination of Water Holding Capacity of soil	01
12.	Study of soil properties – Temperature, texture and particle size	01
13.	Determination of pH and Electrical Conductivity of Soil samples	01
14.	Estimation of the Moisture Content of soil	01
15.	Use of social media for e-networking and dissemination of ideas on environmental issues	01
16.	Collection and characterization of planktons / plant bio-indicators from Eutrophic Lake(Field Practical).	01

Any other relevant practical's related

Suggested Readings	
1.	S.K. Maiti, Handbook of methods in Environmental Studies Vol—I & II, ABD Publishers, Jaipur, India
2.	Manivaskam, N,Physico-Chemical Examination of water, sewage and industrial effluents, Pragti Prakashan, Meerut, 1984
3.	Trivedi, R.K. and Goel,P.K, Chemical and biological method for water pollution studies. Environment Publications, Karad, 1986
4.	Willard, Instrumental methods of analysis, cbspd; 7thEdtn