

8. COLLEGE CALENDAR 2023—24 (Tentative)

Month	Academic Activities		Co/Extra-Curricular Activities
	Class Work	Examinations	
Aug-23	5th Sem B-2021		IQAC Review Meeting: Student Support and Progression
	6th Sem B-2020		General Staff Meeting-III
			International Youth Day, Senior Citizens' Day, Independence Day, Sports Day
Sep-23	1 st Sem B-2023		Debate, Selection Trials for Inter-College Tournaments, Sports Quiz, Trekking, Intra-College Badminton Tournament, NSS Camp
	3rd Sem B-2022		IQAC Review Meeting: Governance, Leadership and Management
	5th Sem B-2021		NSS Day, Teachers Day, Suicide Prevention Day, International Day of Peace, International day for Preservation of Ozone Layer, Road Safety Week
Oct-23	1 st Sem B-2023	5th Sem B-2021	Role of Teacher in building the Society, Two Week Campaign 'Swach Bharat', Inter-Departmental Tournaments
	3rd Sem B-2022	6th Sem B-2020	IQAC Review Meeting: Institutional Values and Best Practices
			General Staff Meeting-IV: Syllabus Coverage
Nov-23	1 st Sem B-2023	5th Sem B-2021	World Mental Health Week, Disaster Reduction Day, International Day of Non-Violence, Girl Child Day, World Day of Eradication of Poverty
	3rd Sem B-2022	6th Sem B-2020	Debate on "Gandhian Philosophy in Contemporary World", National Conference on Poverty Alleviation, "Beti Bachao, Beti Padhao" Campaign
	6th Sem B-2021		IQAC Review Meeting: Institutional Values and Best Practices
Dec-23	1 st Sem B-2023		Children's Day, Iqbal Day, National Education Day, Milad-un-Nabi (saw)
	3rd Sem B-2022		Seerat Conference
	6th Sem B-2021		General Staff Meeting-V: Assessment
Jan-24	Vacations		Human Rights Day, World Energy Conservation Day, International Day for Disabled, World AIDS Day, National Mathematics Day, National Consumers' Day, Constitution Day
			Winter Vacations (25.12.2023 to 16.02.2024) Tentative
			National Voters Day, E-Day, National Youth Day
Feb-24		2nd Sem B-2023	IQAC Review Meeting: Review of the NAAC Peer Team visit
		3rd Sem B-2022	General Staff Meeting-I, Meeting of Career Counseling Cell, Admission/Counseling Cell/Magazine Committee/Newsletter/Tabloid Committee
			International Mother Language Day (Matri-Bhasha Diwas), Alumni Meet, PTM
Mar-24	2 nd Sem B-2022	1st Sem B-2023	PMSSS: Establishment of Nodal Centre, Workshop-I
	4 th Sem B-2021	3rd Sem 2022	IQAC Meeting for finalizing Action Plan for the year 2023-24
	5 th Sem B-2020		Meeting of Debates & Seminars Committee, Sports Committee
Apr-24			Nauroz, World Arbor Day, World Wild life Day, International Women's Day, National Science Day, World Water Day
			Plantation Drive, Science Quiz
	2 nd Sem B-2022	1st Sem B-2023	IQAC Review Meeting: Curricular Aspects
May-24	4 th Sem B-2021	3rd Sem 2022	Mehjoor Day, World Health Day, Earth Day, World Heritage Day
	5 th Sem B-2020		Placement Drive-I, NCC/NSS Enrollment, Selections for Road/Cycle Race, National Level Chemistry Conference, Anti-Polythene Week
			PMSSS Registration/Verification: 10 April to 31-May, Workshop-II
Jun-24			IQAC Review Meeting: Teaching-Learning and Evaluation: Student Satisfaction Survey
			Labour Day, Disaster Management Week, World No Tobacco Day
			Talent Hunt Programme, College Picnic, Intra-Murals: (Cricket, Volleyball, Kabbadi), Cycle Race, Selection of Student Editors for College Publications
Jul-24	2 nd Sem B-2022		IQAC Review Meeting: Research, Innovations and Extension
	5 th Sem B-2021		General Staff Meeting -II: Syllabus Coverage
	6 th Sem B-2020		World Environment Day, International Day of Innocent Children Victims of Aggression, World Day against Child Labor, Blood Donor Day
Aug-24			Cricket Match between Staff & Students, Seminar on Child Labour, Awareness Programme regarding Administrative Services, Painting Competition, Blood Donation Camp
			Summer Vacations (01.07.2024 to 10.07.2024)
			IQAC Review Meeting: Infrastructure and Learning Resources
Sep-24			World Population Day, World Hepatitis Day

Department of Geology
Government Degree College Anantnag

Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 3rd (NEP BATCH-2022)

Session: ^{October} ~~May~~ 2023

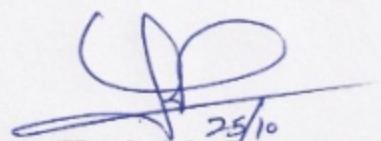
Name of the course and code: SEDIMENTOLOGY (GLY322J & GLY322N)

Teacher Incharge: Dr. Naveen HakhooA

Unit	No. of Lectures	Topic covered
Unit 1	01	Introduction to sedimentology
	02	Origin of sediments. Grain size, concept and scale
	02	The process involved in the formation of sedimentary rocks
	02	Erosion, transportation, deposition, and lithification
	01	Sedimentary Textures
	02	Structures and environment
	02	Primary and syn-sedimentary structures
Unit 2	02	Basic Hydraulics
	02	Sediment transport mechanism
	03	Fluid flow: flow regime, laminar and turbulent flow
	02	Mass flow types and deposits
	02	Particle entrainment, transport and deposition.
	02	Paleocurrent analysis: data acquisition, methodology
	01	Different palaeocurrent patterns
Unit 3	02	Siliciclastic rocks
	03	Components and classification(s) of conglomerates, sandstones, mud-rocks
	03	General introduction to carbonate rocks, BIF, chert
	02	Components and classifications of limestone, dolomites
	01	Dolomitization
Unit 4	03	The elementary idea on sedimentary facies and environment
	02	Classification of sedimentary facies
	02	Facies models for glacier
	03	Meandering, fluvial, deltaic, and shelf depositional settings
	03	Diagenesis, Concepts of Diagenesis, Stages of diagenesis
	01	Compaction and cementation.

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment



25/10
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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: ^{Feb/March} ~~September~~ 2024

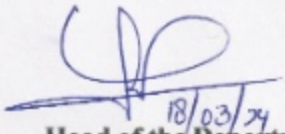
Name of the course and code: PALEONTOLOGY AND STRATIGRAPHY (GLY422J1 & GLY422N)

Teacher Incharge: Dr. Naveen Hakhoo

Unit	No. of Lectures	Topic covered
Unit 1	03	Paleontology
	02	Origin and evolution of life through ages
	01	Geological time scale
	02	Preliminary idea about faunal succession
	03	Fossils, their characters, conditions necessary for fossilization; types of preservation and occurrence
	01	Application of Paleontology
	03	Evolution of Man, Horse & Elephant
Unit 2	04	Morphological characters, geological, geographical and stratigraphic distribution of the following: (1) Brachiopoda (2) Bivalvia (3) Gastropoda (4) Cephalopoda
	04	Morphological characters, geological, geographical and stratigraphic distribution of the following: (5) Graptoloida (6) Anthozoa (7) Echinoidea (8) Trilobita.
	02	Elementary concept of vertebrate Paleontology with special reference to Siwalik.
	02	Introduction to Paleobotany with special reference to Gondwana plant fossils.
	01	Microfossils and their application.
	01	Introduction to Palynology and its applications.
	01	Revision assessment and assignment
Unit 3	02	Stratigraphy: Introduction, nomenclature and Principles
	01	Stratigraphic correlation
	04	A brief introduction to Precambrian rocks of India: Dharwar, Aravalli, Cuddapah, Vindhyan and Himalaya with special emphasis on the classification, distribution, lithology and economic deposits
	02	Stratigraphy of Phanerozoic rocks with reference to the lithology and fossil content
	02	Paleozoic succession of Kashmir, Triassic of Spiti
	02	Jurassic of Kutch, Cretaceous of Tiruchirapalli

Resource and Materials:

- (1) Presentations
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- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

Name of the course and code: MEDICAL GEOLOGY (GLY422J3)

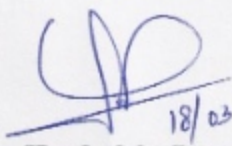
Teacher Incharge: Dr. Naveen Hakhoo

Unit	No. of Lectures	Topic covered
Unit 1	01	Basic concepts of medical geology
	02	Natural distribution and abundance of elements
	02	Anthropogenic sources of elements
	02	Element consumption by humans
	02	Biological functions and responses of elements
	02	Geological impacts on nutrition
Unit 2	01	Health hazards associated with volcanic eruptions
	02	Global dust flux and respiratory problems
	03	Impacts of fluoride, radon, arsenic, selenium, mercury, iodine, and uranium on physiological function
	02	Carcinogenic associations with coal and fibrous minerals
	01	Geological effects on animal health
	01	Geophagy (human ingestion of soil materials as a dietary supplement)
Unit 3	02	Effects of combustion of coal and other fuel materials on human and ecological health
	03	Effects of Dust, heavy metals, volatile organic compounds, and pesticides on human and ecological health.
	02	Medical geology data source and its use in medical geology research
	01	Environmental geochemistry
	02	Natural and anthropogenic sources of chemical elements and compounds in the environment
Unit 4	01	Environmental Biology
	02	Biological function, uptake and body response to elements
	01	Geologic materials and nutrition
	01	Principles of toxicology
	01	Disease and well-being
	02	Environmental and behavioural diseases
	02	Major human diseases and mortality in modern time: Top ten killers and their significance

	02	Climate change impacts on human and ecological health and its mitigation
	01	Case histories of vector- and water-borne diseases

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st (NEP BATCH-2023)

Session: September 2023

Name of the course and code: FUNDAMENTALS OF GEOLOGY (GLY122N & GLY122J)

Teacher Incharge: Dr. Bilal Ahmad Bhat

Unit	No. of Lectures	Topic covered
Unit 1	02	Introduction to the science of geology: Definition, branches, scope and importance
	01	History of Geology origin and evolution of Geological thoughts
	01	Modern theories about the origin of the solar system
	02	Origin of the Earth exogenous and endogenous process
	02	Relation with other branches of sciences; Role of physics, chemistry, and paleobiology in the development of ideas about the earth.
	03	Role of Physics in crystallography, gravity, geomagnetism, isostasy, earthquakes and microscopy.
	03	Role of Chemistry in chemical bonds, crystal chemistry, solution chemistry, chemical energetic
	01	Introduction to fossils
Unit 2	02	Fundamental concepts: Catastrophism, uniformitarianism, Davis cycle of erosion, and base level of erosion
	02	Weathering: definition and types, agents of weathering
	02	Epeirogenesis and orogenesis. Mountains and types
	01	Volcanoes: types, distribution, and eruptional features
	02	Glaciers: Definition and types, snowline, glacial movements, and crevasses. Geological work of glaciers: Erosion and deposition
	02	Aeolian processes: erosional and depositional features
	02	Geological work of river: erosional and depositional features. Drainage patterns
	01	Karst topography: Surface and sub-surface features
	02	Structural landforms: Definition and types, Inversion of topography
	01	Climate and landforms. Soils: Soil formation, Soil profiles
	03	Oceans: Topography of seafloor. Continental shelves, slope, abyssal plains, Ocean ridges, submarine valleys, canyons, deep-sea trenches, and guyots. Oceanic erosion and deposition

	01	Coral reefs and types
Unit 3	02	Introduction to rocks and minerals: Rocks as natural mineral aggregates
	03	<i>Types of rocks: igneous rocks; sedimentary rocks; metamorphic rocks</i>
	02	Preliminary knowledge about the most common rock-forming and economic minerals.
	01	Structure of earth: physical properties
	02	Geology as the history of Earth: How the rocks record history, Geological Time Scale
	01	Mineralogy and the texture, Structures
	02	Introduction to paleoclimate and paleogeography, Surface relief of the earth, Topography of sea floor
	01	Various Geospheres
Unit 4	02	Mineralogy: Definition, scope, and classification of silicate minerals and ore-forming minerals
	01	Scalar and vector properties of minerals.
	03	Moh's scale of hardness. Physical properties and mode of occurrence: Quartz, Feldspar, Mica, Amphibole, Pyroxene, Olivine, Garnet, Chlorite, and Carbonate
	02	Optical Mineralogy: Polarizing microscope, mechanism of polarization and interference of light, use of accessory plates
	03	Elements of optics, isotropic medium, anisotropic medium, refractive index, Snell's law of critical angle
	02	Optical indicatrix: isotropic, uniaxial, and bia xial
	01	Pleochroism and Birefringence
	03	Optical properties of minerals under plane-polarized and cross-polarized light: Forms, cleavage, fractures and parting, refractive index and relief, Becke-line and its use

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment



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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st – 3rd

Session: May 2023 – March 2024

Name of the course and code: PHYSICAL GEOLOGY (MD-GLY022I)

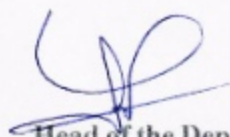
Teacher Incharge: Dr. Naveen Hakhoo/Dr Bilal Ahmad Bhat/Dr. Ashaq Hussain Bhat

Unit	No. of Lectures	Topic covered
Unit 1	02	Origin and evolution of Earth: Catastrophism, uniformitarianism
	02	Epeirogenesis and orogenesis
	01	Base level of erosion
	01	Origin and evolution of Earth's crust
	02	Theory of Isostasy
	01	Earthquakes: Distribution and types
Unit 2	02	Introduction to different types of rocks
	02	Rock cycle; cycle of erosion
	01	Weathering: definition and types, agents of weathering
	01	Soils: Soil formation and soil profile
	02	Soils of Jammu and Kashmir
	02	Karewas of Kashmir
Unit 3	02	Geomorphic processes and resulting landforms
	03	Geological work of river, wind, and glaciers; erosional and depositional features
	02	Volcanoes: types, distribution, and eruptional features.
	02	Karst topography: Surface and sub-surface features
	02	Review and Assessment

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature

- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment



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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 3rd (NEP BATCH-2022)

Session: May 2023


Name of the course and code: WATER CHEMISTRY (WMG322J)


Teacher Incharge: Dr. Sartaj Ahmad Ganie

Unit	No. of Lectures	Topic covered
Unit 1	2	Concept: Mole, molarity, normality, molality
	2	Chemical equilibrium, Acid-base reactions,
	1	Titrimetry principle and applications
	1	Gravimetry principle and applications
Unit 2	3	Composition of natural waters
	2	Redox reactions in water
	1	Movement of light in water
	1	Movement of heat in water
	1	Photosynthesis in water
Unit 3	1	Potentiometry
	2	Conductimetry and Turbidimetry
	1	Spectrophotometry: UV-Visible
	1	Flame photometry
	1	Chromatography: principle and applications
	3	Solubility of gases in water
	1	Biochemical oxygen demand
	1	Chemical oxygen demand
	2	Carbonate-bicarbonate system
	2	Nutrients in water (N and P)

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

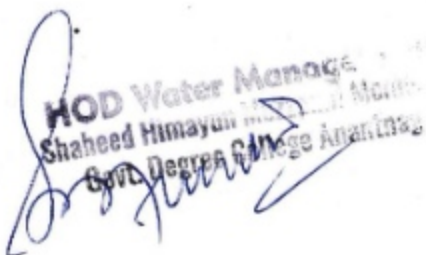
Name of the course and code: WATER POLLUTION (WMG422J1)

Teacher Incharge: Dr. Sartaj Ahmad Ganie

Unit	No. of Lectures	Topic covered
Unit 1	1	Lentic and Lotic system characteristics
	2	River and stream pollution: causes and impacts
	3	Lake and wetland pollution: Causes and impacts
	1	Eutrophication: causes and consequences,
	2	Ground water pollution: causes and impacts
	1	Water borne diseases and Public health
Unit 2	2	Marine pollution: Causes and impacts,
	1	Marine litter: Types and sources,
	3	Oil pollution: Sources and impact on aquatic life and ecosystems,
	1	Ocean acidification
		Impacts of marine pollution on public health
Unit 3	3	Thermal pollution: causes and impact on water characteristics and aquatic biodiversity
	2	Radioactive pollution: Sources and types of radiations,
	2	Impact of thermal pollution on water characteristics and aquatic biodiversity,
	2	Radiation hazard and Public health

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st (NEP BATCH-2023)

Session: September 2023

Name of the course and code: INTRODUCTION TO WATER (WMG122J)

Teacher Incharge: Dr. Sartaj Ahmad Ganie

Unit	No. of Lectures	Topic covered
Unit 1	1	Origin of water on earth
	2	Unique properties of water
	2	Polarity, Cohesion, Density, Surface Tension, Viscosity, Heat capacity
	1	Boiling and freezing point, Temperature, Taste, Odour, Colour
	2	Importance of water,
Unit 2	1	Water as a resource, Types of water resources,
	2	Inland water and Ground water resources distribution and importance
	2	Cryosphere and Marine waters distribution and importance
	3	Water resources of J&K (River systems and glaciers).
Unit 3	3	Importance of water in human civilization (Mesopotamian and Indus)
	1	Water catastrophes: Historical perspective and consequences
	4	Water infrastructure and tools (Ancient, Medieval and modern).
Unit 4	1	Distribution of water
	3	Availability and consumption patterns in domestic, industrial, and agricultural sectors,
	1	Concept of water stress and scarcity
	1	Water footprint
	2	Domestic water demand and consumption in urban and rural India
	1	Sustainable Development Goal 6 (SDG)

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


Dr. Sartaj Ahmad Ganie
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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st – 3rd

Session: May 2023 – March 2024


Name of the course and code: (WATER RESOURCE - ECONOMICS, GOVERNANCE AND POLICY) WMG0221:

Teacher Incharge: Dr. Sartaj Ahmad Ganie

Unit	No. of Lectures	Topic covered
Unit 1	1	Water as a resource,
	2	Dublin-Rio Principles on Water and Sustainable Development
	2	Brief account of concept of water stress and scarcity
	2	water footprint and virtual water trade
	2	Right to Water (SDG-6); Entitlements and criteria
	1	Concept and overview of Water, Sanitation and Hygiene (WASH),
	2	Swachh Bharat Mission and National Water Mission
Unit 2	2	Concept of valuing water : use and non-use values of water
	1	Introduction to water valuation methods:
	1	Non-revenue waters (NRW) and unaccounted for water (UFW)
	1	Metering water uses
	1	Water management through economic instruments.
	2	Water Pricing - Approach and Models: Significance of water pricing
	2	Water pricing models – flat rate and uniform rate
	1	Brief account of water pricing practices in India and abroad
Unit 3	2	Water Governance: Elements and dimensions of water governance
	2	Effective water governance schemes and Indicators of good governance
	1	Water Governance in India:
	2	Salient features of National water policy 2012.
	2	J and K Water Resource (Regulation and Management) act 2010
	1	Conflicts in Water Pricing and Conflicts on subsidy verses sustainability
	2	overview of global water conflicts and interstate water conflicts in India

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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Department of Environmental Sciences

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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 3rd (NEP BATCH-2022)

Session: May 2023

Name of the course and code: Environmental Chemistry (EVS322J)

Teacher Incharge: Dr Najeeb

Unit	No. of Lectures	Topic covered
Unit 1	1	Stoichiometry
	2	Titrimetry and Gravimetry
	1	Spectrophotometry: UV-Visible
	2	Flame photometry and AAS
	1	Chromatography: Paper and TLC
Unit 2	1	Evolution of Earth's atmosphere
	1	Ions and radicals in the atmosphere
	2	Inorganic and organic particulate matter
	2	Photochemical reactions in the atmosphere
	1	Thermochemical reactions in the atmosphere
Unit 3	2	Physico-chemical properties of water
	1	Solubility of gases in water
	2	Biochemical oxygen demand and chemical oxygen demand
	1	Carbonate-bicarbonate system
	1	Nutrients in water: Phosphorus and nitrogen
Unit 4	1	Soil profile
	2	Inorganic and organic components of soil
	2	Physical, chemical and biological properties of soils
	2	Soil classification and types

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment

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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

Name of the course and code: HUMAN AND ENVIRONMENT (EVS422J1)

Teacher Incharge: Dr Aadil Hamid Sofi

Unit	No. of Lectures	Topic covered
Unit 1	2	Environmental education: aims, objectives and principles
	2	Environmental protection and religious teachings
	2	Environmental literacy and activism
	1	Environmental ethics
	2	Environmental policy and public attitude
Unit 2	1	Environment psychology: concept and theory
	1	Influence of environment on human cognition and behaviour
	1	Urban environmental stress,
	2	Eco-philosophies: deep, social and feminist
	2	Science, policy and society interface
Unit 3	1	Environmentalism: concept and history
	4	Environmental organizations (WWF, UNEP, IUCN, WHO),
	2	Environmental justice
	1	The monetization frontier
	1	Environmental politics

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment

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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

Name of the course and code: ENVIRONMENTAL POLLUTION: EVS422J2

Teacher Incharge: Dr Aadil Hamid

Unit	No. of Lectures	Topic covered
Unit 1	1	Air pollution: Sources and classification
	1	Indoor air pollution
	2	Air quality standards and monitoring: SO ₂ , NO ₂ , CO, PM and ozone
	2	Noise pollution: sources and measurement, Noise standards
	3	Impact of air and noise pollution on human health and environment
Unit 2	2	Water Pollution: sources and types
	2	Inland water and marine pollution
	2	Biocides and heavy metals
	2	Water quality standards and monitoring.
	2	Impacts of water pollution on human health and environment
Unit 3	1	Soil pollution: causes and types
	2	Land degradation and desertification, Soil erosion: causes and impacts
	2	Fate of pesticides and fertilizers in soil
	1	Soil quality standards and monitoring
Unit 4	1	Solid waste pollution
	1	Electronic waste pollution
	1	Plastic waste pollution,
	2	Radiation exposure and human health
	1	Light pollution

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment

Head of the Department
HOD Env. Science
Shahed Hilmayun Muzaffar, M.Com
Govt. Degree College Anantnag

Department of Environmental Sciences
Government Degree College Anantnag

Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st (NEP BATCH-2023)

Session: September 2023

Name of the course and code: (ENVIRONMENT AND ECOLOGY) EVS122J

Teacher Incharge: Prof Siama Munshi

Unit	No. of Lectures	Topic covered
Unit 1	1	Environmental science: Scope and importance
	2	Components of environment: Atmosphere, Lithosphere,
	2	Hydrosphere, Biosphere
	1	Structure and function of ecosystem
	2	Brief account of Cryosphere and Anthroposphere (Built Environment).
Unit 2	1	Concept of population
	2	Population growth (Density dependent and density independent factors)
	2	Survivorship curves and age structure
	2	Biotic potential and carrying capacity (r and k strategists),
	3	Population interactions: Mutualism, Protocooperation, Commensalism, Competition, Herbivory, Predation, Parasitism, Community:
	2	Concept and characteristics, Ecological succession
Unit 3	1	Ecosystem: Concept, Organization and significance
	1	Types of ecosystems
	2	Food chains, Food webs and trophic levels
	1	Ecological pyramids
	2	Energy flow in ecosystems
	2	Ecosystem productivity
	2	Biogeochemical cycles: Carbon, Nitrogen, Phosphorus and Sulphur
Unit 4	2	Global and regional human population growth,
	2	Theories of human population growth (Malthusian and neo-Malthusian)
	1	Drivers of human population change
	1	Growth curves and population projections
	2	Earth's carrying capacity and ecological footprint
	1	Brief account of Anthropocene

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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HOD Env. Science
Shsheed Hameed Hussain Memorial
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Department of Environmental Sciences

Government Degree College Anantnag

Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st – 3rd

Session: May 2023 – March 2024

Name of the course and code: ENVIRONMENTAL ISSUES AND SUSTAINABILITY (EVS0221)

Teacher Incharge: Prof Siama Munshi

Unit	No. of Lectures	Topic covered
Unit 1	2	Global warming and climate change
	1	Human population explosion,
	1	Desertification
	1	Ozone layer depletion
	1	Acid precipitation
	1	Global biodiversity loss
	1	
Unit 2	2	Concept of environmental governance and environmental literacy,
	2	Environmental governance at global level (institutional arrangements)
	2	Role of NGO's and corporate in environmental decision making
	2	Constitutional provisions for environmental protection (article 21, 48A, 51A (g))
	2	National Environment Policy-2006
Unit 3	3	History and development of environmentalism (Biocentrism, Anthropocentrism, Eco centrism),
	3	Environmental movements (Greenbelt movement, Chipko, Narmada bachao and Andolan)
	2	Role of citizen science to foster environmental protection
	2	Concept of Environmental justice and stewardship
	1	Ecological footprint and sustainability,
	1	Sustainable development goals (overview)

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Samples and laboratory equipment


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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st (NEP BATCH-2023)

Session: September 2023

Name of the course and code: GGY122J GEOGRAPHY _ PHYSICAL GEOGRAPHY


Teacher Incharge: Dr Rafi Ramzan Dar

Unit	No. of Lectures	Topic covered
Unit 1	1	Introduction to Physical Geography
	2	Structure of Earth's Interior
	2	Wegner's Theory of Continental Drift
	2	Concept of Seafloor Spreading, Plate Tectonics
	2	Earthquakes: Origin, Scales of Measurement
Unit 2	3	Classification and Characteristics of Rocks
	2	Weathering: Factors and Types
	2	Endogenetic and Exogenetic Processes
	2	Landform Development: Fluvial and Glacial
	3	Davisian Cycle of Landform Evolution
Unit 3	2	Definition and Significance of Climatology
	2	Insolation and Global Energy Budget
	2	Atmospheric Pressure and Winds (Planetary, Periodic and Local Winds)
	2	Precipitation: Forms, Types and Global Distribution Patterns
	3	Atmospheric Disturbances: Tropical and Temperate Cyclones
Unit 4	3	Ocean Bottom Topography: Continental Shelf, Continental Slope, Abyssal Plain, Mid- Oceanic Ridges and Oceanic Trenches
	2	Coral Reefs: Significance, Origin and Types
	1	Tides: Origin and Types
	1	Currents: Origin and Types
	2	Oceans as Store-houses of Resources for the future

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Field trips laboratory work

Head of the Department


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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 1st – 3rd

Session: May 2023 – March 2024

Name of the course and code: GGY122N (GEOGRAPHY _ PHYSICAL GEOGRAPHY)

Teacher Incharge: Dr. Aadil M Nanda

Unit	No. of Lectures	Topic covered
Unit 1	2	Introduction to Physical Geography
	2	Structure of Earth's Interior
	2	Wegner's Theory of Continental Drift
	3	Concept of Seafloor Spreading, Plate Tectonics
	2	Earthquakes: Origin, Scales of Measurement
Unit 2	2	Classification and Characteristics of Rocks
	2	Weathering: Factors and Types
	2	Endogenetic and Exogenetic Processes
	2	Landform Development: Fluvial and Glacial
	2	Daviesian Cycle of Landform Evolution
Unit 3	3	Definition and Significance of Climatology
	3	Insolation and Global Energy Budget
	2	Atmospheric Pressure and Winds (Planetary, Periodic and Local Winds)
	2	Precipitation: Forms, Types and Global Distribution Patterns
	1	Atmospheric Disturbances: Tropical and Temperate Cyclones

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Field trips laboratory work

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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

Name of the course and code: GGY422J2: Geography: Fundamentals of Remote Sensing

Teacher Incharge: Dr Muzafar Ahmad Wani

Unit	No. of Lectures	Topic covered
Unit 1	1	Remote Sensing: Concept and Development
	1	Types of Remote Sensing (Active and Passive)
	2	Stages in Remote Sensing Data Acquisition
	2	Platforms and Sensors: Types and Characteristics
Unit 2	2	EMR& EMS
	2	Interaction of EMR with Atmosphere
	2	Interaction of EMR with Earth Surface Features
	2	Resolution and Types
Unit 3	1	Aerial Photographs and their Types
	2	Image Interpretation and its Elements
	2	Image Interpretation Keys
	2	Multi Concept in Remote Sensing
Unit 4	1	Introduction to Digital Image Processing
	2	Image Pre-processing: Radiometric and Geometric Corrections
	2	Image Enhancements: Contrast and Density Slicing
	2	Image Classification: Supervised and Unsupervised

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Computerized Cartography through GIS & RS Software's and laboratory equipment

Dr Muzafar Ahmad Wani
Head of the Department
Government Degree College Anantnag
Shakeel Muzammil Memorial
Department of Geography

Department of Geography
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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 4th (NEP BATCH-2022)

Session: September 2023

Name of the course and code: GGY422J1: Geography: Geomorphology Credits

Teacher Incharge: Dr Mohd Iqbal

Unit	No. of Lectures	Topic covered
Unit 1	2	Nature and Scope of Geomorphology
	2	Development of Geomorphology: European and American Schools
	2	Principles of Geomorphology: Uniformitarianism and Neo-catastrophism
	1	Concept of Time and Space
	2	Concept of Dynamic Equilibrium
Unit 2	1	Models in Geomorphology: Natural, Physical and General System
	2	Geological Time Scale
	2	Theories of Isostasy: Pratt and Airy
	2	Mass Movement: Controlling Factors and Types
	2	Vulcanicity and Earthquake
Unit 3	1	Evolution of Landforms
	4	Landforms: Types and Factors Controlling Landforms Development
	2	Theories and Process of Slope Development
	1	Cycle of Erosion: W.M. Davis and W. Penck
	2	Geomorphic Agents and Landforms: Fluvial, Acolian, Glacial, Karst and Coastal

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Field trips laboratory work

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Lesson Plan for the Courses Taught in the Department from March 2023 – April 2024

Semester: 3rd (NEP BATCH-2022)

Session: May 2023


Name of the course and code: Geographical thought (GGY322J)

Teacher Incharge: Dr Jahangeer Afzal

Unit	No. of Lectures	Topic covered
Unit 1	1	Changing nature of geography
	1	Fundamental Concepts in Geography
	1	Spatial Process and Pattern
	1	Areal Differentiation
		Spatial Organization
	3	Approaches in Geography; Positivism, Pragmatism, Humanistic & Behaviouralism,
	2	Dualism in Geography- Physical vs. Human, General vs. Regional, Ideographic vs. Nomothetic
	4	Dichotomies in Geography- Environmental Determinism, Possibilism, Neo-determinism, Environmentalism
Unit 2	3	Paradigms in Geography: Modernism & Post Modernism
	1	Quantitative Revolution and its Impact
	2	Impact of Darwin's Theory on Development of Geography
	2	Foundation of Scientific Geography
	1	Development of Geography in India
Unit 3	2	Contribution of Phoenicians in Geography
	1	Contribution of Greeks
	2	Contribution of Romans
	1	Dark Age in Geography
	1	Contribution of Arabs
Unit 4	1	Major Schools of Geographical Thought
	2	German- Ratzel & Alfred Hettner
	2	French- Vidal de la Blache & Jean Brunhes
	1	British- Meckinder & Stamp
	1	American- W.M Davis & E. Churchill Semple
	1	Soviet Union- V.V. Dokuchaiev & Voelkov

Resource and Materials:

- (1) Presentations
- (2) Literature comprising books and research papers
- (3) Web based resources and e-books/literature
- (4) White boards, and interactive e-boards
- (5) Maps, charts and models
- (6) Field trips laboratory work

HOD Geography
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