

Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2023-2024

Department: **Geology**

Semester: First (CCFUP)

B.Sc. Honours

Core Course (CC)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
APARUPA BANERJEE	C1T: Earth System Science	Unit 1: Earth as a planet:	Introduction to various branches of Earth Science; Origin of the Universe, Solar System and its planets; Meteorites and Asteroids; Cosmic abundance of elements; Origin of Earth-atmosphere, ocean, and life.	14/08/2023	8	46
ENAKSHI DAS		Unit 2: Solid Earth	Seismic waves and internal constitution of the Earth; Concept of isostasy; Earth's magnetic field; Geothermal gradient and internal heat of the Earth. Introduction to structure: Structural elements: planar and linear structures, concept of strike and dip, trend and plunge rake/ pitch.		10	
		Unit 3: Plate Tectonics	Concept of plate tectonics, sea-floor spreading and continental drift; Plate boundaries; Earthquake and earthquake belts; Volcanoes- types, products and their distribution.		8	
APARUPA BANERJEE		Unit 4: Hydrosphere and Atmosphere	Atmospheric circulations; Oceanic currents, tides and waves; Concepts of eustasy.		5	

LOVELY BURMAN		Unit 5: Earth surface processes	Weathering; erosion; mass wasting; Geological work of wind, river and glacier Formation of soil, soil profile and soil types		5	
		Unit 6: Understan ding the past from stratigraph ic records	Stratigraphy and nature of stratigraphic records; Fundamental laws of stratigraphy: laws of superposition and faunal succession, Absolute and relative time in Geology. Unconformity and its types, recognition of unconformity. Geological time scale.		10	

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: First

B.Sc. MINOR

Core Course-GELMI01

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus	Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
APARUPA BANERJEE	GELMI01 : Essentials of Geology	Unit-I: Introduction to geology: scope, sub-disciplines and relationship with other branches of sciences.	14/08/2023	15	31
		<p>Unit-II: Earth in the solar system, origin Earth's size, shape, mass, density, rotational and evolutionary parameters Solar System- Introduction to Various planets - Terrestrial Planets Solar System- Introduction to Various planets - Jovian Planets.</p> <p>Unit-III: Mechanical layering of the Earth: lithosphere, asthenosphere, mantle and core. Earthquake and earthquake belts: seismic waves and internal constitution of the Earth. Volcanoes and volcanism, distribution of volcanoes. Formation of core, mantle, crust, atmosphere, hydrosphere and biosphere. Convection in Earth's core and production of its magnetic field.</p>			

LOVELY BURMAN		Unit-IV: Fundamental Earth process: Plate tectonics. Plates and plate boundaries.		6	
		Unit-V: Weathering and Erosion. Landforms in deserts, glaciated region and river valleys.		10	

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: Third

B.Sc. Honours

Core Course (CC)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
ENAKSHI DAS & APARUPA BANERJEE	C5T: Igneous Petrology	Unit 1: Introduction to Igneous petrology	1. Modes of magma formation in the crust and upper mantle	06/11/2023	1	
			2. Physical properties of magma - temperature, viscosity, density and volatile content		1	
			3. Modes of emplacement of igneous rocks: volcanic, hypabyssal, plutonic		1	
		Unit 2: Forms of Igneous rock bodies	1. Mode of occurrence of Igneous rocks		1	
			2. Forms of igneous rocks		1	
		Unit 3: Texture and microstructure of Igneous rocks	1. Crystallinity, granularity, shapes and mutual relations of grains; nucleation and growth of igneous minerals		2	
			2. Description of the following textures and microstructures with their occurrence in different rocks - panidiomorphic, hypidiomorphic, allotriomorphic, porphyritic, vitrophyric, poikilitic, ophitic, sub-	2		

			ophitic, intergranular, intersertal, pilotaxitic, trachytic, graphic, granophyric, rapakivi, orbicular, corona, perthitic, myrmekitic, variolitic, speherulitic & spinifex			
			3. Binary and Ternary Phase diagrams in understanding crystal-melt equilibrium in basaltic and granitic magmas		2	40
			4. Magma generation in crust and mantle, their emplacement and evolution		2	
		Unit 4: Classification of igneous rocks	1. Bases of classification of igneous rocks: mineralogical, textural, chemical, chemico-mineralogical and associational; Norm and mode; Standard classification schemes – Niggli, Wells & Wells and IUGS. TAS diagram for volcanic rocks		3	
			2. Composition and texture of important igneous rocks: Granitoids, Pegmatite, Syenite, Monzonite, Diorite, Norite, Gabbro, Anthrothosite, Dolerite, Pyroxenites, Peridotite, Lamprophyres, Carbonatite, Rhyolite, Andesite, Dacite, Basalt, Komatiite		2	
		Unit 5: Phase Diagrams	Phase Rule and its application to eutectic, peritectic and solid solution system: Phase equilibria in the following binary and ternary systems, and their petrogenetic significance:		10	

			diopside – anorthite, forsterite – silica, albite – anorthite, albite – orthoclase, diopside – albite – anorthite, forsterite – diopside – silica and nepheline - kalsilite – silica.			
		Unit 6: Petrogenesis of Igneous rocks	1. Magma generation in crust and mantle, their emplacement and evolution	06/11/2023	2	
			2. Petrogenesis of Felsic and Mafic igneous rocks: Granitoids, Basalt, Gabbros, Anorthosite, Komatiites, Alkaline rocks, Kimberlites		4	
		Unit 7: Magmatism in different tectonic settings	1. Magmatism in the oceanic domains (MORB, OIB)		2	
			2. Magmatism along the subduction zones: Island arcs and continental arcs		2	
			3. Magmatism along continental rifts		2	
	C5P: Igneous Petrology	1. Study of important igneous rocks in hand specimens and thin sections: granite, granodiorite, diorite, syenite, nephelinyenite, gabbro, anorthosites, ultramafic rocks, basalts, andesites, trachyte, rhyolite, dacite	06/11/2023		15	25
		2. Norm calculation. Visual estimation of modes from thin sections		7		
		3. Plotting of mode in IUGS classification of plutonic rocks (Streckeisen diagram)		3		
	LOVELY BURMAN & ENAKSHI DAS	C6T: Sedimentary Petrology	Unit 1: Introduction to Sedimentology	Outline of sedimentation process: Definition of sediment; origin of sediments: mechanical and chemical sediments; source rock or provenance	06/11/2023	3

		Unit 2: Granulometry	Grain size: concept and size scale, particle size distribution, environmental connotation; particle shape and fabric; Sedimentary textures		4	33
		Unit 3: Basic hydraulics and Sedimentary structures	1. Fluid flow: Types of fluids, Laminar and turbulent flow, subcritical, critical and supercritical flows; concept of mean flow velocity, unit discharge and bed shear stress; flow profile and flow separation; particle entrainment, transport and deposition		2	
			2. Mass flow: types, mechanisms and controlling factors, process-product relationship		2	
			3. Penecontemporaneous deformation: mechanisms and controlling factors		2	
			4. Sedimentary structure: Primary and penecontemporaneous deformation structures		2	
			5. Bedform stability diagram		2	
			6. Paleocurrent analysis: Data acquisition, methodology, different palaeocurrent patterns		2	
		Unit 4: Sedimentary rocks	1. Siliciclastic rocks: Components and classification(s) of conglomerates and sandstones		3	
			2. Tectonic control on sandstone composition		1	
			3. General introduction to Mudrocks, Carbonate rocks; controlling factors of carbonate		5	

LOVELY BURMAN			deposition; components and classifications of limestone; dolomite and dolomitisation			
		Unit 5: Diagenesis	1. Concepts of diagenesis		1	
			2. Stages of diagenesis: diagenetic changes in sand and carbonate deposits, lithification		4	
	C6P: Sedimentary Petrology	1. Identification of sedimentary structures		2	22	
		2. Particle size distribution and statistical analysis		4		
		3. Paleocurrent analysis		1		
		4. Petrographic study of clastic and non-clastic rocks through hand specimens and thinsections		15		
	C7T: Paleontology	Unit 1: Fossilization and fossil record	1. Fossilization: definition of fossil, fossilization processes and modes of preservation, exceptional preservation		1	44
			2. Taphonomy: definition, different types of taphonomic filters		1	
		Unit 2: Taxonomy and Systematics	1. Taxonomy: concept of taxonomy and taxonomic hierarchy		1	
2. Biological and morphological species concept				1		
Unit 3: Evolution and History of Life		1. Theory of organic Evolution: theory, concept of adaptation and variation, Natural Selection. Precambrian – doubtful organic traces of life during the Precambrian, Ediacaran fauna		4		
		2. Paleozoic – Cambrian Explosion of life. Episodes of mass extinction		2		
		3. Plants: Appearance of angiosperma and gymnosperma		1		
		4. Appearance of fish, amphibia, reptiles, birds, mammals and		1		

			humans			
			5. Mass extinction: five major extinction episodes and their causes; effect of extinction		2	
		Unit 6: Application of fossils in Stratigraphy	1. Definitions: Biozones, index fossils, stratigraphic correlation, examples - significance of ammonites in Mesozoic paleobiostratigraphy		1	
			2. Application of fossils in Paleoenvironmental analysis		1	
			3. Fossils and paleobiogeography, biogeographic provinces, dispersals and barriers. Paleoenvironmental analysis		2	
APARUPA BANERJEE	C7T: Paleontology	Unit 4: Invertebrates and Vertebrates	1. Brief introduction to important invertebrate groups (Bivalvia, Gastropoda, Brachiopoda) and their biostratigraphic significance	06/11/2023	6	
			2. Significance of ammonites in Mesozoic biostratigraphy and their paleobiogeographic implications. Functional adaptation in trilobites and ammonoids		4	
			3. Origin of vertebrates and major steps in vertebrate evolution		2	
			4. Mesozoic reptiles with special reference to origin, diversity and extinction of dinosaurs		4	
			5. Evolution of horse and intercontinental migrations		2	
			6. Human evolution		2	
			Unit 5:		1. Introduction to Paleobotany,	

		Introduction to Paleobotany, Gondwana Flora Introduction to Ichnology	Gondwana Flora, Plants as indicator of past climate 2. Ichnology and its application in paleoecology		2	
APARUPA BANERJEE	C7P: Paleontology Lab	1. Study of fossils with various modes of preservation	06/11/2023	2	30	
		2. Study of systematic position, stratigraphic position and age of various invertebrate, vertebrate and plant fossils		4		
		3. Study of functional morphological characters of different groups (Bivalvia, Gastropods, Brachiopoda, Echinodermata, Ammonoidea, Gondwana flora, vertebrates)	6			
		4. Identification of feeding habits from vertebrate (horse, elephants, Sus) teeth	2			
		5. Hard part morphology and identification of common Brachiopoda, Anthozoa, Trilobita, Echinoidea, Gastropoda. Identification of Gondwana flora	16			

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: Third

B.Sc. Honours

Skill Enhancement Course (SEC)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus	Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
-	FIELD GEOLOGY SEC1	-	-	-	-

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: Third

B.Sc. Honours

Generic Elective (GE)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
APARUPA BANERJEE	GE-3T Fossils and Their Applications	Unit 1: Introduction to Fossils	Definition of fossil, fossilization processes (taphonomy), taphonomic attributes and its implications, modes of fossil preservation, role of fossils in development of geological time scale and fossils sampling techniques.	20/09/2023	6	38
		Unit II: Species concept	Definition of species, species problem in paleontology, speciation, methods of description and naming of fossils, code of systematic nomenclature (3)			
		Unit III: Introduction to various fossils groups	Brief introduction of important fossils groups: invertebrate, vertebrate, microfossils, spore, pollens and plant fossils. Important age-diagnostic Fossiliferous horizons of India	16	16	
		Unit IV: Application of fossils	Principles and methods of paleoecology, application of fossils in the study of paleoecology, paleobiogeography and paleoclimate			

		Unit 5: Economic importance of fossils	Implication of larger benthic and micropaleontology in hydrocarbon exploration: identification of reservoirs and their correlation. Application of spore and pollens in correlation of coal seams, spore and pollens as indicator of thermal maturity of hydrocarbons reservoirs, fossils associated with mineral deposits, fossils as an indicator of pollution.		5	
	GE-3P Fossils and Their Applications	1. Study of fossils showing various modes of fossilization		20/09/2023	3	18
		2. Study of important fossils from India (list may be prepared by the department concern)			15	

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: Third

B.Sc. General

Core Course-DSC

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
ENAKSHI DAS	DSC1C: Petrology (Theory)	Igneous Petrology	<p>Unit-I: Magma: definition, composition, types and origin; Forms of igneous rocks; textures and structures of igneous rocks.</p> <p>Unit-II: Reaction principle; Differentiation and Assimilation; Crystallization of unicomponent and bicomponent (mix-crystals); Bowen's reaction series.</p> <p>Unit-III: Mineralogical and chemical classification of igneous rocks.</p> <p>Unit-IV: Detailed petrographic description of Granite, Granodiorite, Rhyolite, Syenite, Diorite, Basalt, Gabbro.</p>	20/09/2023	8	
		Metamorphic Petrology	<p>Unit-VII: Process and controlling factors of metamorphism; Type of metamorphism. Facies, zones and grade of metamorphism; Textures,</p>		10	

			structures and classification of metamorphic rocks. Unit-VIII: Petrographic details of some important metamorphic rocks such as - slate, schists, gneiss, quartzite, marble.		4	
	DSC1CP: Practical	Igneous Petrology: Identification of rocks: On the basis of their physical properties in hand specimen; and optical properties in thin sections. Sedimentary and Metamorphic Petrology: Identification of sedimentary and metamorphic rocks both in hand specimen and thin sections.		20/09/2023		24
ENAKSHI DAS	DSC1C: Petrology (Theory)	Sedimentary Petrology	Unit-V: Processes of formation of sedimentary rocks; Classification, textures and structures of sedimentary rocks; Unit-VI: Petrographic details of important siliciclastic and carbonate rocks such as - conglomerate, breccia, sandstone, greywacke, shale, limestone	20/09/2023	8 4	12

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: Fifth

B.Sc. Honours

Core Course (CC)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
APARUPA BANERJEE & LOVELY BURMAN	C11T: Hydrogeology	Unit 1: Introduction and basic concepts	1. Scope of hydrogeology and its societal relevance. Global and Indian distribution of water resource	20/09/2023	1	
			2. Hydrologic cycle: precipitation, evapo-transpiration, run-off, infiltration and groundwater flow. Basic concept of hydrographs. Origin of groundwater, Vertical distribution of subsurface water, Genetic classification of groundwater.		3	

			3. Classification of rocks with respect to water bearing characteristics, geomorphic and geologic controls of groundwater, Types of aquifer– unconfined, confined and semiconfined. Water table and piezometric surface. Groundwater provinces in India and West Bengal.		3	
			4. Rock properties affecting groundwater: Porosity, void ratio, specific retention and Storage coefficient - specific yield, specific storage and storativity, Anisotropy and heterogeneity of aquifers		2	
		Unit 2: Groundwater flow	1. Darcy's law and its validity; Reynold's Number. Ground water velocity.		2	
			2. Intrinsic permeability and hydraulic conductivity, Transmissivity, Measurement of hydraulic conductivity in laboratory – Constant Head Permeameter and Falling (Variable) Head Permeameter. Water Table		4	

			and Piezometric surface contour maps and Groundwater flow direction, Laminar and turbulent groundwater flow			42
		Unit 3: Well hydraulics and Groundwater exploration	1. Basic Concepts (drawdown; specific capacity etc)		2	
			2. Elementary concepts related to equilibrium and non-equilibrium (Steady and unsteady) conditions for groundwater flow to a well		2	
			3. Surface-based groundwater exploration methods Introduction to subsurface borehole logging methods		4	
		Unit 4: Groundwater chemistry	1. Physical, chemical and bacteriological properties of water and water quality		3	
			2. Introduction to methods of interpreting groundwater quality data using standard graphical plots		3	
			3. Elementary concept on Groundwater pollution: Arsenic, Fluoride and Nitrate, Seawater intrusion in coastal aquifers - Ghyben-Herzberg Relation		5	

		Unit 5: Groundwater management	1. Surface and subsurface water interaction. Recharge and discharge areas. Ground water level fluctuations. Effects of Climate Change on Ground water		3	
			2. Basic concepts of water balance studies, issues related to groundwater resources development and management		3	
			3. Rainwater harvesting and artificial recharge of groundwater		2	
	C11P: Hydrogeology (Lab)	1. Preparation and interpretation of depth to water level maps and water level contour maps. Study, preparation and analysis of hydrographs for differing groundwater conditions	20/09/2023	10	20	
2. Water potential zones of India (map study)	2					
3. Graphical representation of chemical quality data and water classification (C-S and Trilinear diagrams). Simple numerical problems related to: determination of permeability in field and laboratory and Groundwater flow	8					
LOVELY BURMAN & ENAKSHI DAS	C12T: Economic Geology	Unit 1: Ores and gangues	1. Ores, gangue minerals, tenor, grade and lodes.	20/09/2023	1	
			2. Resources and reserves- Economic and Academic definitions		1	
		Unit 2: Mineral deposits and classical concepts of ore formation	1. Mineral occurrence, Mineral deposit and ore deposit		1	
			2. Historical concepts of		1	

			ore genesis: Man's earliest vocation- Mining			46	
			3. Plutonist and Neptunist concepts of ore genesis		1		
			4. Metallogenic provinces and epochs		1		
		Unit 3: Mineral exploration	1. Exploration and exploitation techniques		2		
			2. Brief idea on: Remote Sensing, Geophysical and Geochemical Explorations		6		
			3. Geological mapping at different scales, drilling, borehole logs and transverse sections		3		
		Unit 4: Structure and texture of ore deposits	1. Concordant and discordant ore bodies		2		
			2. Endogenous processes: Magmatic concentration, skarns, greisens, and hydrothermal deposits		8		
			3. Exogenous processes: weathering products and residual deposits, oxidation and supergene enrichment, placer deposits		6		
		Unit 5: Ore grade and Reserve	Assessment of ore grade and reserve, reserve estimation		2		
		Unit 6: Metallic and Non-metallic ores	1. Important deposits of India including atomic minerals: Study of geologic set up, mode of occurrence, mineralogy		6		

		and genesis of the following ore deposits in India - Iron ore in Singhbhum and Karnatake, Manganese of Central India, Copper of Malanjkhanda, lead-zinc of Zawar area, Uranium of Singh bhum.			
		2. Non-metallic and industrial rocks and minerals, in India.		4	
		3. Introduction to gemstones.		1	
	C12P: Economic Geology	1. Hand sample identification of important ores and non-metallic minerals	20/09/2023	4	
		2. Study of microscopic properties of ore forming minerals (Oxides and sulphides)		8	
		3. Preparation of maps: Distribution of important ores and other economic minerals in India		2	14

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Shahid Matangini Hazra Government College for Women
Lesson Plan for the academic session 2019-2020
Department: **GEOLOGY**
Semester: Fifth
B.Sc. Honours
Discipline Specific Elective (DSE)

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
APARUPA BANERJEE	DSE1T: Introduction to Geophysics	Unit 1: Geology and Geophysics	1. What is geophysics?	20/09/2023	1	40
			2. Interrelationship between geology and geophysics		1	
		Unit 2: General and Exploration geophysics	1. Different types of geophysical methods - gravity, magnetic, electrical and seismic; Principles of different methods. Applications of different methods. Elements of well logging		12	
			2. Corrections in geophysical data		2	
		Unit 3: Geophysical field operations	1. Data acquisition and Processing. Data reduction. Signal and noise.		4	
			2. Different types of surveys, grid and route surveys, profiling and sounding techniques a. Scales of survey b. Presentation of geophysical data		6	
		Unit 4: Application of	1. Regional geophysics, oil and gas geophysics, ore geophysics, groundwater geophysics,		4	

		Geophysical methods	engineering geophysics 2. Geological interpretation of geophysical data		2		
		Unit 5: Geophysical anomalies	1. Correction to measured quantities, geophysical, anomaly, regional and residual (local) anomalies, factors controlling anomaly		3		
			2. Depth of exploration		2		
		Unit 6: Integrated geophysical methods	Ambiguities in geophysical interpretation, planning and execution of geophysical surveys		3		
	DSE1P: Introduction to Geophysics	1. Anomaly and background- Graphical method.	20/09/2023	6	16		
		2. Study and interpretation of seismic reflector geometry.		6			
		3. Gravity anomaly: Problems on gravity anomaly.		4			
	LOVELY BURMAN & ENAKSHI DAS	DSE2T: Fuel Geology	Unit 1: Energy Resources	Different Sources of energy: Global and Indian scenario	20/09/2023	2	44
			Unit 2: Coal	1. Definition and origin of Coal		2	
				2. Basic classification of coal		1	
3. Fundamentals of Coal Petrology - Introduction to lithotypes, microlithotypes and macerals in coal				3			
4. Proximate and Ultimate				1			
5. Major coal basins of India				3			
Unit 3: Coal as a fuel			1. Concept of clean coal technology	2			
			2. Coal Bed Methane (CBM): global and Indian scenario	3			
			3. Underground coal gasification	2			
			4. Liquefaction of coal	2			
Unit 4: Petroleum			1. Chemical composition and physical properties of crudes oil	3			
			2. Origin and migration of petroleum	3			
			3. Kerogen: Maturation of kerogen; Biogenic and Thermal effect	3			

		Unit 5: Petroleum Reservoirs and Traps	1. Reservoir rocks: general attributes and petrophysical properties		2	
			2. Cap Rocks: definition and general properties		1	
			3. Hydrocarbon traps: definition, Classification of hydrocarbon traps - structural, stratigraphic and combination a. Time of trap formation and time of hydrocarbon accumulation. b. Plate tectonics and global distribution of hydrocarbon reserves c. Petroliferous basins of India		8	
		Unit 6: Other fuels	1. Nuclear Fuel		2	
			2. Gas Hydrate		1	
	DSE2P: Fuel Geology	1. Study of hand specimens of coal		20/09/2023	2	18
		2. Reserve estimation of coal			4	
		3. Section correlation and identification of hydrocarbon prospect			6	
		4. Panel and Fence diagrams			6	

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Shahid Matangini Hazra Government College for Women

Lesson Plan for the academic session 2022-2023

Department: **GEOLOGY**

Semester: FIFTH

B.Sc. General

Core Course-DSE1A

Name of the Teacher	Title of the Teaching Assignment	Dividing the Assignment into Number of Units along with detailed lesson plan as per the University Syllabus		Date of Commencement of the Assignment	Number of classes required to complete each unit	Total number of class
ENAKSHI DAS & LOVELY BURMAN	DSE1AT: Introduction to Fuel Geology(Theory)	FUEL GEOLOGY	Unit 1: Energy Resources Unit-II: Coal Unit-III: Coal as a fuel Unit-IV:. Petroleum Unit-V:. Petroleum Reservoirs and Traps Unit-VI:.Other fuels	20/09/2023	4 4 4 4 3 4	23
	DSE1AP: Introduction to Fuel Geology (Practical)		1.Study of hand specimens of coal 2. Reserve estimation of coal 3. Section correlation and identification of hydrocarbon prospect	20/09/2023	6 2 2	12

			4. Panel and Fence diagrams		2	
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