Discipline: Drilling Engineering	Semester: 4th semester	Name of the Teaching Faculty:1) MRS.SAMAPIKA DASH 2) SAZIYA KHURSHID		
Subject: Engineering Geology-II Sub code: TH.3	No of days /week class allotted:04	Semester from Date:10.03.2022 to 10.06.2022 No of weeks:15		
Week	**Class Day**	**Theory topics**	**Practical topics**	**Remarks**
1st	1st	**Stratigraphy** Stratigraphy and types of stratigraphy.	Megascopic identification of Igneous rocks in hand specimens.	
	2nd	Principles of Stratigraphy. • Principle of Uniformitarianism • Principle of Original horizontality • Principle of Superposition • Principle of Original Lateral Continuity	Megascopic identification of Igneous rocks in hand specimens.	
	3rd	Principles of Stratigraphy. • Principle of Cross-Cutting Relationships • Principle of Inclusion • Principle of Faunal Succession	Megascopic identification of Igneous rocks in hand specimens.	
	4th	Geological time scale. • Pre-Cambrian	Megascopic identification of Igneous rocks in hand specimens.	
2nd	1st	Geological time scale. • Paleozoic • Mesozoic • Cenozoic	Megascopic identification of Igneous rocks in hand specimens.	
	2nd	Stratigraphy sequence, lithology of Iron Ore Series..	Megascopic identification of Igneous rocks in hand specimens.	
	3rd	Distribution and economic minerals deposit of Iron Ore Series	Megascopic identification of Igneous rocks in hand specimens.	
	4th	Stratigraphy sequence, lithology of gondwana supergroup	Megascopic identification of Igneous rocks in hand specimens.	
3rd	1st	Two fold classification of gondwana supergroup.	Megascopic identification of Igneous rocks in hand specimens.	
	2nd	Three fold classification of gondwana supergroup	Megascopic identification of Igneous rocks in hand specimens.	
	3rd	Distribution and economic minerals deposit of Gondwana Supergroup	Megascopic identification of Igneous rocks in hand	

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		and different lower gondwana coal fields in India.	specimens.	
	4th	Stratigraphy sequence, lithology of Cuddapah Supergroup	Megascopic identification of Igneous rocks in hand specimens.	
4th	1st	Distribution and economic minerals deposit of Cuddapah Supergroup.	Megascopic identification of Sedimentary rocks in hand specimens.	
	2nd	Stratigraphy sequence, lithology of Vindhyan Supergroup.	Megascopic identification of Sedimentary rocks in hand specimens.	
	3rd	Distribution and economic minerals deposit of Vindhyan Supergroup.	Megascopic identification of Sedimentary rocks in hand specimens	
	4th	**Economic Geology** Definition of ore, ore minerals with examples.	Megascopic identification of Sedimentary rocks in hand specimens.	
5th	1st	Gangue, tenors & grade with examples.	Megascopic identification of Sedimentary rocks in hand specimens.	
	2nd	Important ore minerals of IRON ore.	Megascopic identification of Sedimentary rocks in hand specimens.	
	3rd	Mode of occurance of Iron deposits in India.	Megascopic identification of Sedimentary rocks in hand specimens.	
	4th	Distribution and uses of Iron deposits in India.	Megascopic identification of Sedimentary rocks in hand specimens.	
6th	1st	Description of mineralogy of Copper deposits.	Megascopic identification of Metamorphic rocks in hand specimens	
	2nd	Mode of occurance and origin of copper ore.	Megascopic identification of Metamorphic rocks in hand specimens	
	3rd	Distribution and uses of Copper ore deposit.	Megascopic identification of Metamorphic rocks in hand specimens	
	4th	Description of mineralogy of Lead & Zinc deposits.	Megascopic identification of Metamorphic rocks in hand specimens	
7th	1st	Origin and mode of occurance of Lead and Zinc deposits.	Megascopic identification of Metamorphic rocks in hand specimens	
	2nd	Distribution and uses of Lead & Zinc deposits.	Megascopic identification of Metamorphic rocks in hand specimens	
	3rd	Mineralogy , origin and mode of	Megascopic identification of	

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		occurance of Chromite deposits	Metamorphic rocks in hand specimens	
	4th	Distribution and uses of Chromite deposits in India.	Megascopic identification of Metamorphic rocks in hand specimens	
8th	1st	**Fossil fuels** Coal & the different ranks of coal. 1)Peat 2)Lignite 3)Sub bituminous 4)Bituminous 5)Anthracite	Interpretation of contour maps and preparation of the profile section for it.	
	2nd	Different grades of coal viz.A,B,C,D	Interpretation of contour maps and preparation of the profile section for it.	
	3rd	**Chemical properties of coal.** 1)moisture content 2)volatile matter 3)fixed carbon 4)fuel ratio	Interpretation of contour maps and preparation of the profile section for it.	
	4th	**Chemical properties of coal** 5)ash content 6)sulfur content 7)calorific value	Interpretation of contour maps and preparation of the profile section for it.	
9th	1st	In-situ theories accounting for the origin of coal	Interpretation of contour maps and preparation of the profile section for it.	
	2nd	Drift theories accounting for the origin of coal	Interpretation of contour maps and preparation of the profile section for it.	
	3rd	Description of different lower gondwana coal fields of India.	Interpretation of contour maps and preparation of the profile section for it.	
	4th	Petroleum and its composition.	Interpretation of contour maps and preparation of the profile section for it.	
10th	1st	Organic theories accounting for the origin of petroleum.	Interpretation of contour maps and preparation of the profile section for it.	
	2nd	Inorganic theories accounting for the origin of petroleum	Interpretation of contour maps and preparation of the profile section for it.	
	3rd	Migration of petroleum.	Interpretation of contour maps and preparation of the profile section for it.	

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	4th	Oil traps, its formation and types of oil traps.	Interpretation of contour maps and preparation of the profile section for it.	
11th	1st	Oil pool and its formation.	Interpretation of geological maps and preparation of the profile section for it.	
	2nd	Process of accumulation of oil.	Interpretation of geological maps and preparation of the profile section for it.	
	3rd	Description of different important oil fields of India.	Interpretation of geological maps and preparation of the profile section for it.	
	4th	Sampling and assaying	Interpretation of geological maps and preparation of the profile section for it.	
12TH	1st	Methods of preparation of sample assay	Interpretation of geological maps and preparation of the profile section for it.	
	2nd	**TYPES OF SAMPLING** • Grab Sampling • Chip Sampling • Channel Sampling	Interpretation of geological maps and preparation of the profile section for it.	
	3rd	**TYPES OF SAMPLING** • Bulk Sampling • Dump Sampling • Trench Sampling	Interpretation of geological maps and preparation of the profile section for it.	
	4th	Different methods of sampling outlined by BIS	Interpretation of geological maps and preparation of the profile section for it.	
13TH	1st	**Prospecting and exploration** Definition of Prospecting and exploration & difference between exploration and prospecting.	Interpretation of geological maps and preparation of the profile section for it.	
	2nd	Use of Multishot camera for Borehole direction test.	Interpretation of geological maps and preparation of the profile section for it.	
	3rd	Geological exploration	Interpretation of geological maps and preparation of the profile section for it.	
	4th	Description of various criteria for geological exploration	Interpretation of geological maps and preparation of the profile section for it.	
14TH	1st	Geophysical prospecting and Different methods of geophysical prospecting.	Interpretation of geological maps and preparation of the profile section for it.	
	2nd	Different methods of geophysical prospecting.	Interpretation of geological maps and preparation of the profile section for it.	
	3rd	Geo chemical prospecting and	Field visit(Gr-1)	

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		methods		
	4th	Bio-geochemical & Geo botanical Prospecting.	Field visit(Gr 2)	
15TH	1st	DOUBT CLEARING CLASS	LAB PRACTICE	
	2nd	DOUBT CLEARING CLASS	LAB PRACTICE	
	3rd	MOCK TEST	LAB PRACTICE	
	4th	MOCK TEST	LAB PRACTICE	

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