

NAGARJUNA GOVT COLLEGE NALGONDA (AUTONOMOUS),NALGONDA

RE-ACCREDITED BY NAAC WITH "A" GRADE

SEMESTER-I

PAPER-I ,LESSON PLAN

SUBJECT: PHYSICAL GEOLOGY AND MINERALOGY

NAME OF THE LECTURER : Dr.P.RAMAKRISHNA

S.N O.	Topic	HOUR S
	UNIT - I	
1	Physical Geology : General aspects , Definition of Geology	1
2	Basic assumptions of Geology	1
3	Its relationship with other sciences	1
4	Branches of Geology	1
5	Aim & Applications of Geology	1
6	Earth as a Planet :	1
7	Its shape , size & density	1
8	Movements & their effects	1
9	Origin & age of earth	1
10	Geological Process	1
11	Exogenic & Endogenic	1
12	Definition of Weathering	1
13	Types of weathering of rocks	1
14	Physical & Chemical	1
15	Definition of erosion & denudation	1
16	Cycles of erosion ; erosion , transportation & desposition ; agents of erosion	1
17	Rivers :Erosion , Transportation	1
18	deposition of river (fluvial) cycle in different stages	1
19	Development of typical land forms by river erosion & deposition	1
20	V - shaped valley, natural plain , peneplain & deltas	1
21	Waterfall , alluvial form , meander , ox - bow lake - flood plain ,	1
22	Types of rivers	1
	UNIT - II	
23	Glaciers : Definition of a glacier	1
24	Types of glaciers , Characteristics features of glaciated regions	1
25	Development of typical land forms by glacial erosion & deposition - cirque	1
26	U - shaped valley - changing valley , Rocks monadnocks	1
27	Morains , drum - line - Eskers & Varves	1
28	Groundwater - storage of ground water, stalacties & stalagmites	1

29	porosity , permeability aquifier , water table , zone of saturation	1
30	artesian well , spring , geysers development of typical land form by erosion	1
31	deposition by groundwater (Karst topography) sinkhole , cavern	1
	UNIT - III	
32	Seas : offshore profile - land forms of sea	1
33	marine deposits & coral reefs	1
34	Lacustrine deposits	1
35	Atmospheric circulation , weather & climatic changes , land , air , intercation	1
36	Earth's heat budget & global climatic changes	1
37	Wind : Development of characteristic features by wind (arid cycle) erosion & deposition	1
38	pedestal rock - mushroom topography Incelberg	1
39	Ventifacts - locus - sand dunes	1
40	Earth movements - definition of diatrophism ,epirogenic & orogenic movements	1
41	Mountains	1
42	Geosynclines	1
43	Basic concepts of isotasy , continental drift & plate tectonics	1
44	Earthquakes : Causes kinds of earthquake waves & mode of propagation	1
45	intensity of earthquakes	1
46	Richter scale - seismograph & scismogram	1
47	Effects of earthquakes	1
48	earthquakes zones - Interior of the earth	1
49	Volcanoes : Origin , products of Volcanoes	1
	UNIT - IV	
50	Mineralogy : Definition of mineral	1
51	classification of minerals into rock forming & ore forming minerals	1
52	Physical proorties of minerals - colour streak , play of colours	1
53	oplaescence , asterism , transperency	1
54	luster , luminescence , specific gravity , magnetic proorties	1
55	Electrical proorties , pyro & piezo electricity	1
56	Modes of Minerals Formation : Occurrence & association of Minerals	1
57	Chemical proorties of minerals	1
58	Ismorphism , solid solution , polymorphism	1
59	allotrpoxy , pseudomorphism , radioactivity	1
60	silicate structures	1
61	Descriptive Mineralogy : Study of physical proorties	1

62	chemical properties of & mode of occurrence of the following mineral groups	1
63	Nesosilicate : Olivine , Garnet , Aluminium silicates	1
64	Sorocilicate : Epidote	1
65	Cyclosilicate : Beryl	1
66	Insosilicate : Pyroxene ; Amphibole	1
67	Phyllosilicate : Mica , Hydrous magnesium silicate ;	1
68	Tectosilicate : Feldspars , Feldspathoids & quartz	1
69	Miscellaneous : <i>Staurolite , Tourmaline , zircon , Calcite , Corundum , Apatite</i>	1

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SEMESTER-II

PAPER-II ,LESSON PLAN

SUBJECT: CRYSTALLOGRAPHY AND OPTICAL MINERALOGY

NAME OF THE LECTURER : Dr. P. RAMAKRISHNA

S.N O.	Topic	HOUR S
	UNIT - I	
1	Crystallography : Definition of a crystal	1
2	amorphous & crystalline states	1
3	Morphology of Crystal	1
4	face , edge ,corner, solid angle , interfacial angle	1
5	Forms : Simple, combination , closed & open forms	1
6	Symmetry : Plane , axis , centre , crystallographic axes , Parameters , indices	3
7	crystallographic notation	1
8	parameter system of Weiss , index system of Miller	1
	UNIT - II	1
9	Classification of Crystals into 7 systems	1
10	Morphological study of the following classes of symmetry	1
11	Normal (Galena type) : Cubic System	1
12	Tetragonal system	1
13	Zircon type	1
14	Hexagonal system	1
15	Beryl type	1
	UNIT - III	1
16	Trigonal system	1
17	Calcite type	1
18	Orthorhombic system	1
19	Barytes type	1
20	Monoclinic system	1
21	Gypsum type	1
22	Triclinic system	1

23	Axinite type	1
24	Twinning in crystals	1
25	Definitions of twin plane	1
26	twin axis & composite plane	1
	UNIT - IV	1
27	Optical Mineralogy : Petrological microscope (polarising) its mechanical & optical parts	1
28	Behaviour of isotropic & anisotropic minerals between crossed nicols	1
29	extinction , pleochroism , interference colours	1
30	Optical properties of important minerals	1

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SEMESTER-III

PAPER-III, LESSON PLAN

SUBJECT: IGNEOUS AND METAMORPHIC PETROLOGY

NAME OF THE LECTURER: Dr. P. RAMAKRISHNA

S.NO.	TOPIC	HOURS
	UNIT - I	
1	Nature & scope of petrology	1
2	Definition of rock	1
3	Classification of rocks into igneous , sedimentary & metamorphic	1
4	Distinguishing features of three types of rocks	1
5	Igneous Rocks :Classification into plutonic , hypabyssal & volcanic rocks	1
6	Classification into plutonic , hypabyssal & volcanic rocks	1
7	Forms: Lava flows , Intrusions , sills , laccolith , batholith , dykes	1
8	Ring dykes , cone sheets , volcanic necks , phacoliths & batholiths	1
9	Structures :Vesicular , amygdaloidal , block lava	1
10	Ropy lava , pillow , flow , jointing	1
11	Definition of texture , micro - structure , devitrification	1
12	Allotrimorphic Hypidiomorphic , panidiomorphic	1
13	porphyritic , poikilitic , ophitic , intergranular ,	1
14	Reaction Structures: Corona , myrekitic , orbicular	1
15	spherulitic , pelitic structures	1
	UNIT - II	1
16	Classification of Igneous Rocks :CIPW	1
17	Tyrrell tabular classification	1
18	Descriptive Study of Following Rock Types :Granite , Granodiorite , Diorite Porphyry	1
19	Pegmatite , Aplite , Gabbro , Anthrosite , Peridotite, Syenite , Nephelinesyenite	1
20	Obsidian , Trachyte , Andesite & Basalt, Pyroxenite , Dunite , Dolerite , Rhyolite	1
21	Composition & Constitution of Magma :	1
22	Crystallisation of Magma , Uni - Component and binary system , eutectic & solid solutions	3
23	Origin of Igneous Rocks :	1
24	Bowen's reaction principle , differentiation & assimilation	1

	UNIT - III	1
25	Metamorphic Rocks :	1
26	Definition of metamorphism , agents of metamorphism , types of metamorphism	1
27	Metamorphic minerals stress & anti - stress minerals , grades & zones of metamorphism	1
28	Structures of metamorphic rocks	1
29	Cataclastic , maculose , schistose , granulose & gneissose	1
30	Textures of metamorphic rocks crystalloblastic , palimpsest , xenoblastic , idioblastic	1
	UNIT - IV	1
31	Classification of Metamorphic Rocks :	1
32	Concept of metamorphic facies	1
33	Cataclastic metamorphisms of argillaceous & arenaceous rocks	1
34	Thermal metamorphism of argillaceous	1
35	Arenaceous & Calcareous rocks	1
36	Dynamo thermal metamorphism of argillaceous , arenaceous igneous rocks	1
37	Plutonic metamorphism , metasomatism & additive processes	1
38	Definition of anatexis & palingenesis	1
39	Descriptive Study of The Following Metamorphic Rocks	1
40	Gneiss , schist , slate , phyllite , quartzite , marble , granulite , alogite , amphibolites	1
41	migmatite, gondite,	1
42	Charanockite & Khondalite	1

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SEMESTER - IV

PAPER - IV LESSON PLAN

SUBJECT : SEDIMENTARY PETROLOGY & STRUCTURAL GEOLOGY

Name of the Lecturer: Dr. P. RAMAKRISHNA

Sl. No	TOPIC	HOURS
	UNIT - I	
1	Sedimentary Rocks : Sources of sediments	1
2	mechanical & chemical weathering	1
3	Modes of transportation	1
4	Sedimentary structures , types of bedding , surface marks , deformed bedding solution structures	1
	UNIT - II	1
5	Classification of Sedimentary Rocks :	1
6	Clastic Rocks: Rudaceous, Arenaceous , Argillaceous	1
7	Non - clastic Rocks : calcareous , carbonaceous	1
8	Ferruginous , phosphatic , evaporites	1
9	Descriptive Study of the following sedimentary rocks: Sandstone , Grit , Arkose , Greywacke	1

10	Conglomerate , Breccia , Shale , limestone , Shelly limestone	1
	UNIT - III	1
11	Structural Geology :	1
12	Definition of Structural Geology	1
13	Aim & Objectives of the Structural Geology	1
14	Importance of study of structures	1
15	Primary & Secondary structures	1
16	Outcrop, Attitude of beds	1
17	Strike , dip & apparent dip	1
18	Use of clinometers	1
	UNIT - IV	1
19	Primary Structures :	1
20	Folds, Description ,	1
21	nomanclature of folds , recognition of folds in the field	1
22	Joints: Geometrical classification	1
23	genetic classification of Joints	1
24	Faults: Geometrical classification	1
25	Ggenetic classification of faults	1
26	Recognition of faults in the field Effects of faults on the outcrops	1
27	Unconformities: Definition of unconformity	1
28	Types of unconformities	1
29	Recognition of unconformities in the field distinguishing the faults from the unconformities	1
30	Definition of overlap, of flap	1
31	Cleavage, Schistosity	1
32	Foliation & Lineation	1

NAGARJUNA GOVT COLLEGE NALGONDA (AUTONOMOUS),NALGONDA

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SEMESTER-I

PAPER-I ,LESSON PLAN

SUBJECT: PHYSICAL GEOLOGY AND MINERALOGY (T.M)

NAME OF THE LECTURER : N.MATTAIAH

S.NO.	Topic	HOURS
	UNIT - I	
1	Physical Geology : General aspects , Definition of Geology	1
2	Basic assumptions of Geology	1
3	Its relationship with other sciences	1
4	Branches of Geology	1
5	Aim & Applications of Geology	1

6	Earth as a Planet	1
7	Its shape , size & density	1
8	Movements & their effects	1
9	Origin & age of earth	1
10	Geological Process	1
11	Exogenic & Endogenic	1
12	Definition of Weathering	1
13	Types of weathering of rocks	1
14	Physical & Chemical weathering	1
15	Definition of erosion & denudation	1
16	Cycles of erosion ; erosion , transportation & desposition ; agents of erosion	1
17	Rivers :Erosion , Transportation	1
18	deposition of river (fluvial) cycle in different stages	1
19	Development of typical land forms by river erosion & deposition	1
20	V - shaped valley, natural plain , peneplain & deltas	1
21	Waterfall , alluvial form , meander , ox - bow lake - flood plain	1
22	Types of rivers	1
	UNIT - II	
23	Glaciers : Definition of a glacier	1
24	Types of glaciers , Characteristics features of glaciated regions	1
25	Development of typical land forms by glacial erosion & deposition - cirque	1
26	U - shaped valley - changing valley , Rocks monadnocks	1
27	Morains , drum - line - Eskers & Varves	1
28	Groundwater - storage of ground water, stalacties & stalagmites	1
29	porosity , permeability aquifier , water table , zone of saturation	1
30	artesian well , spring , geysers development of typical land form by erosion	1
31	deposition by groundwater (Karst topography) sinkhole , cavern	1
	UNIT - III	
32	Seas : offshore profile - land forms of sea	1
33	marine deposits & coral reefs	1
34	Lacustrine deposits	1
35	Atmospheric circulation , weather & climatic changes , land , air , intercation	1
36	Earth's heat budget & global climatic changes	1
37	Wind : Development of characteristic features by wind (arid cycle) erosion & deposition	1
38	pedestal rock - mushroom topography Incelberg	1

39	Ventifacts - locus - sand dunes	1
40	Earth movements - definition of diatrophism ,epirogenic & orogenic movements	1
41	Mountains	1
42	Geosynclines	1
43	Basic concepts of isotasy , continental drift & plate tectonics	1
44	Earthquakes : Causes kinds of earthquake waves & mode of propagation	1
45	intensity of earthquakes	1
46	Richter scale - seismograph & scismogram	1
47	Effects of earthquakes	1
48	earthquakes zones - Interior of the earth	1
49	Volcanoes : Origin , products of Volcanoes	1
	UNIT - IV	
50	Mineralogy : Definition of mineral	1
51	classification of minerals into rock forming & ore forming minerals	1
52	Physical properties of minerals - colour streak , play of colours	1
53	oplaescence , asterism , transperency	1
54	luster , luminescence , specific gravity , magnetic prooprties	1
55	Electrical prooprties , pyro & piezo electricity	1
56	Modes of Minerals Formation : Occurrence & association of Minerals	1
57	Chemical prooprties of minerals	1
58	Ismorphism , solid solution , polymorphism	1
59	allotrpoxy , pseudomorphism , radioactivity	1
60	silicate structures	1
61	Descriptive Mineralogy : Study of physical prooprties	1
62	chemical prooprties of & mode of occurrence of the following mineral groups	1
63	Nesosilicate : Olivine , Garnet , Aluminium silicates	1
64	Sorosilicate : Epidote	1
65	Cyclosilicate : Beryl	1
66	Inosilicate : Pyroxene ; Amphibole	1
67	Phyllosilicate : Mica , Hydrous magnesium silicate	1
68	Tectosilicate : Feldspars , Feldspathoids & quartz	1
69	Miscellaneous : <i>Staurolite , Tourmaline , zircon , Calcite , Corundum , Apatite</i>	1

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SEMESTER-II

PAPER-II ,LESSON PLAN

SUBJECT: CRYSTALLOGRAPHY AND OPTICAL MINERALOGY (T.M)

NAME OF THE LECTURER : N.MATTAIAH

S.NO	Topic	HOURS
	UNIT - I	
1	Crystallography : Definition of a crystal	1
2	amorphous & crystalline states	1
3	Morphology of Crystal	1
4	face , edge ,corner, solid angle , interfacial angle	1
5	Forms : Simple, combination , closed & open forms	1
6	Symmetry : Plane , axis , centre , crystallographic axes , Parameters , indices	3
7	crystallographic notation	1
8	parameter system of Weiss , index system of Miller	1
	UNIT - II	1
9	Classification of Crystals into 7 systems	1
10	Morphological study of the following classes of symmetry	1
11	Normal (Galena type) : Cubic System	1
12	Tetragonal system	1
13	Zircon type	1
14	Hexagonal system	1
15	Beryl type	1
	UNIT - III	1
16	Trigonal system	1
17	Calcite type	1
18	Orthorhombic system	1
19	Barytes type	1
20	Monoclinic system	1
21	Gypsum type	1
22	Triclinic system	1
23	Axinite type	1
24	Twinning in crystals	1
25	Definitions of twin plane	1
26	twin axis & composite plane	1
	UNIT - IV	1
27	Optical Mineralogy : Petrological microscope (polarising) its mechanical & optical parts	1
28	Behaviour of isotropic & anisotropic minerals between crossed nicols	1
29	extinction , pleochroism , interference colours	1
30	Optical properties of important minerals	1

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SEMESTER-III

PAPER-III, LESSON PLAN

SUBJECT: IGNEOUS AND METAMORPHIC PETROLOGY(T.M)

NAME OF THE LECTURER: N.MATTAIAH

S.N O.	TOPIC	HOUR S
	UNIT - I	
1	Nature & scope of petrology	1
2	Definition of rock	1
3	Classification of rocks into igneous , sedimentary & metamorphic	1
4	Distinguishing features of three types of rocks	1
5	Igneous Rocks :Classification into plutonic , hypabyssal & volcainc rocks	1
6	Classification into plutonic , hypabyssal & volcainc rocks	1
7	Forms: Lava flows , Intrusions , sills , laccolith , bysmalith , lopolith , dykes	1
8	Ring dykes , cone sheets , volcanic necks , phacoliths & batholiths	1
9	Structures :Vesicular , amygdaloidal , block lava	1
10	Ropy lava , pillow , flow , jointing	1
11	Definition of texture , micro - structure , devitrification	1
12	Allotrimorphic Hypidiomorphic , panidiomorphic	1
13	porphyritic , poikilitic , ophitic , intergranular ,	1
14	Reaction Structures: Corona , myrekitic , orbicular	1
15	spherulitic , pelitic structures	1
	UNIT - II	1
16	Classification of Igneous Rocks :CIPW	1
17	Tyrrell tabular classification	1
18	Descriptive Study of Following Rock Types :Granite , Granodiorite , Diorite Porphyry	1
19	Pegmatite , Aplite , Gabbro , Anthrosite , Peridotite , Syenite , Nephelinesyenite	1
20	Obsidian , Trachyte , Andesite & Basalt, Pyroxenite , Dunite , Dolerite , Rhyolite	1
21	Composition & Constitution of Magma :	1
22	Crystallisation of Magma , Uni - Component and binary system , eutectic & solid solutions	3
23	Origin of Igneous Rocks :	1
24	Bowen's reaction principle , differentiation & assimilation	1
	UNIT - III	1
25	Metamorphic Rocks :	1
26	Definition of metamorphism , agents of metamorphism , types of metamorphism	1
27	Metamorphic minerals stress & anti - stress minerals , grades & zones of metamorphism	1
28	Structures of metamorphic rocks	1
29	Cataclastic , maculose , schistose , granulose & gneissose	1
30	Textures of metamorphic rocks crystalloblastic , palimpsest , xenoblastic , idioblastic	1
	UNIT - IV	1
31	Classification of Metamorphic Rocks :	1
32	Concept of metamorphic facies	1
33	Cataclastic metamorphims of argillaceous & arenaceous rocks	1
34	Thermal metamorphism of argillaceous	1
35	Arenaceous & Calcareous rocks	1
36	Dynamo thermal metamorphism of argillaceous , arenaceous igneous rocks	1
37	Plutonic metamorphism , metasomatism & additive processes	1

38	Definition of anatexis & palingenesis	1
39	Descriptive Study of The Following Metamorphic Rocks	1
40	Gneiss , schist , slate , phyllite , quartzite , marble , granulite , alogite , amphibolites	1
41	migmatite,gondite,	1
42	Charanockite & Khondalite	1

NAGARJUNA GOVERNMENT COLLEGE NALGONDA
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Re-ACCREDITED BY NAAC WITH "A" GRADE
SEMESTER - IV
PAPER - IV LESSON PLAN
SUBJECT : SEDIMENTARY PETROLOGY & STRUCTURAL GEOLOGY(T.M)

Name of the Lecturer: N.MATTAIAH

Sl. No	TOPIC	HOURS
	UNIT - I	
1	Sedimentary Rocks : Sources of sediments	1
2	mechanical & chemical weathering	1
3	Modes of transportation	1
4	Sedimentary structures , types of bedding , surface marks , deformed bedding solution structures	1
	UNIT - II	1
5	Classification of Sedimentary Rocks :	1
6	Clastic Rocks : Rudaceous, Argillaceous , Arenaceous	1
7	Non - clastic Rocks : calcareous , carbonaceous	1
8	Ferruginous , phosphatic , evaporites	1
9	Descriptive Study of the following sedimentary rocks: Sandstone , Grit , Arkose , Greywacke	1
10	Conglomerate , Breccia , Shale , limestone , Shelly limestone	1
	UNIT - III	1
11	Structural Geology :	1
12	Definition of Structural Geology	1
13	Aim & Objectives of the Structural Geology	1
14	Importance of study of structures	1
15	Primary & Secondary structures	1
16	Outcrop, Attitude of beds	1
17	Strike , dip & apparent dip	1
18	Use of clinometers	1
	UNIT - IV	1
19	Primary Structures :	1

20	Folds, Description ,	1
21	nomanclature of folds , recognition of folds in the field	1
22	Joints: Geometrical classification	1
23	genetic classification of Joints	1
24	Faults: Geometrical classification	1
25	Ggenetic classification of faults	1
26	Recognition of faults in the field Effects of faults on the outcrops	1
27	Unconformities: Definition of unconformity	1
28	Types of unconformities	1
29	Recognition of unconformities in the field distinguishing the faults from the unconformities	1
30	Definition of overlap, of flap	1
31	Cleavage, Schistosity	1
32	Foliation & Lineation	1

NAGARJUNA GOVERNMENT COLLEGE NALGONDA
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SEMESTER - V
PAPER - V LESSON PLAN
SUBJECT : PALAEOLOGY & INDIAN GEOLOGY

Name of the Lecturer:- I.CHANDRAIAH

Sl. No	TOPIC	HOURS
	UNIT - I	
1	Introduction of Palaeontology	1
2	Fossil & conditions of fossilization	1
3	Modes of Preservation	1
4	Uses of fossils	1
5	Brachiopoda phylum classification	1
6	Morphological characteristic studies of Brachiopoda Fossils & its Geological distribution	2
	UNIT - II	
7	Classification of Mollusca phylum	1
8	Classification of lamellibranchia & its study	1
9	Morphological characteristic study of lamellibranchia fossils& its geological distribution	2
10	Classification of Gasteropoda	1
11	Morphological characteristics study of Gasteropoda fossils and its	2

	geological distribution.	
12	Cephalopoda classification & its study	1
13	Study of Cephalopoda suture lines & types	1
14	Classification of Arthropoda phylum	1
15	Morphological characteristic study of Trilobita fossils and its geological distribution.	1
16	Echinodermata classification & its study	1
17	Morphological characteristics study of Echinodermata fossils & its geological distribution	2
18	Study of plant fossils & its geological age	2
	UNIT - III	
19	Introduction class of Stratigraphy	1
20	Principles of Stratigraphy	2
21	Lithostratigraphic & Biostratigraphic units	2
22	Chronostratigraphic units	2
23	Standard Geological time scale	2
24	Physiographic divisions of India with their stratigraphic & structural characteristics	3
25	Dharwar system Classification	1
26	Mineral resources of Dharwar system	1
27	Cuddapah system classification.	1
28	Mineral resources of Cuddapah basin.	1
29	Vindhyan system classification	1
30	Mineral resources of Vindhyan system	1
31	Kurnool system	2
	UNIT - IV	
32	Gondwana system classification & Lithology	2
33	Fossil study of Gondwana system & Economical mineral wealth of Gondwana system	2
34	Triassic of Spiti classification	1
35	Lithology of Spiti	1
36	Jurrasic of Kutch	2
37	Cretaceous of Thiruchanapally classification	1

38	Origin of Thiruchanapally formations	1
39	Classification of Deccan Traps	1
40	Origin & age of the Deccan Traps	1
41	Siwaliks system classification	1
42	Origin of the Siwaliks formation	1
43	Geology of Telangana State	2

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SEMESTER--VI

PAPER--VII

SUBJECT--HYDROGEOLOGY

Name of the Lecturer:- I.CHANDRAIAH

Serial No	Topics	Hours
	UNIT -I	
1	Introduction class of Hydrogeology	1
2	Scope and application of Hydrogeology	1
3	Concept of Hydrological cycle	1
4	Evaporation and condensation	2
5	Precipitation-Rain fall	1
6	Infiltration	1
7	Transpiration ,Evapotranspiration	2
8	Ground water and Runoff	1
9	Connate water, Juvenile water	1
10	Movement of sub-surface water	1
11	Discharge of Ground water	1
	UNIT-II	
12	Origin, Occurrence and age of ground water	2
13	Vertical distribution of subsurface water	2
14	Zone of saturation-water table,perched water table	1
15	Ground water Recharge and Discharge areas	2
	UNIT-III	
16	Definition of aquifer and its study	1
17	Aquitard, Aquiclude , Aquifuge	1
18	Prperties of Aquifers	2
19	Retention of water in rocks	1
20	Yield of water from rocks	1
21	Darcy law, Premeability	2

22	Types of aquifers-confined and unconfined aquifers	2
	UNIT-IV	
23	Study of well construction	1
24	Large diameter Bored well	1
25	Sand-point well	1
26	Types of wells	2
27	Introduction of well logging and uses of well logging	1
28	Well logging methods and its study	2
29	Introduction of Well development	1
30	Rock Well development	1
31	Screen Well development	1
32	Types of Well development techniques	1

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LECTERER NAME : K.KANAKADURGA PRASAD

DEPARTMENT : GEOLOGY

SUBJECT : ECONOMIC GEOLOGY

FINAL YEAR-V SEMESTER- PAPER VI

ACEDAMIC YEAR-2017-2018

DETAILS OF TEACHING PLAN -2017-2018

UNI T	TOPIC	Hours
I	Definition of Economic Geology and introduction	1
	Importance of economic ores and minerals	1
	ore-gangue-tenor-grade-reserves-exploration	1
	Syngenetic&Epigenetic deposits,Exogenetic&Endogenetic deposits	1
	Classification of economic minerals	1
	Economic metal ores classification	1
	Non metals or Industrial minerals classification	1
	Ores genesis -classification of Bateman-Jenson	2

	Magmatic concentration-process	1
	Magmatic deposits-temp&depth conditions	1
	Early magmatic deposits-types of deposition	1
	Late Magmatic deposits	1
	The economic ores formed by the magmatic concentration	1
	Hydro thermal deposition-process	1
	Classification of Hydro thermal deposits	1
	Types of cavity filling methods&deposits	2
	Replacement deposits	1

DETAILS OF TEACHING PLAN -2017-2018

UN IT	TOPIC	HOURS
II	Residual and Mechanical concentrations(placer deposits)	1
	Residual process	1
	The important deposits formed by residual process	1
	Placer deposits-process of formation	1
	Elluvial and alluvial placer types	2
	Beach placers and Eolian placers	1
	Sedimentation process	1
	Earth action(weathering-transportation-deposition)	1
	weathering of rocks	1
	Solutions&transportation	1
	Depositon-types of economic deposits formed	1
	Oxidation&Supergene Enrichment-defination	1
	Oxidation-formation of native metals	1

	Supergene Enrichment process	1
	The economic ores formed by the Oxidation&Supergene Enrichment process	1
	Process of Evaporation	1
	Evaporation deposits	1
III	Study of metals and ores	1
	Gold Ores-origin,occurrence	1
	Usages of Gold -Distribution of gold deposits in India	1
	Copper Ores-Origin&occurrence	1
	copper Usages-Distribution in India	1
	Lead and Zinc Origin&occurrence	1
	Lead and Zinc Usages-Distribution in India	1
	Alluminium Ores-Origin&occurrence	1

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UNIT	TOPIC	HOURS
	Magnesium Ores-Origin&Occurrence	1
	Magnesium Usages-Distribution in India	1
	Iron Ores-Origin&Occurrence	1
	Iron Usages-Distribution in India	1
	Manganese Ores-Origin&Occurrence	1
	Manganese Uages-Distribution in India	1
	Chromium Ores-Origin&Occurrence	1
	Chromium Usages-Distribution in India	1
IV	Industrial minerals Introduction	1
	The Importance of Industrial Minerals	1
	Abrasive minerals-Diamond,corundum,Garnet-Usages	1
	Refractory minerals-alluminia and magnisium -Graphite	2
	Building stones-Granite,sandtone,marbles	1
	Cement Industry-Limestone,Gypum	1
	Ceramics-china clay,feldspars,wollastonite	1

	Fossil Fuels-petroleum,Natural gas Introduction	1
	Coal-Industrial revelation	1
	Types of Coals-origin&occurrence	1
	Coal Usages-Distribution in India	1
	Petroleum Origin-Occurrence-Usages	1
	Natural gas-Origin ,Occurrence ,Usages&Distribution In India	1
	Uranium ores-Occurrence,usages-Distribution in India	1
	Thorium,Zircon-occurrence,Usages-Distribution in India	1
	The Mineral wealth of Telangana State	2
	The Mineral wealth of Nalgonda District	1

**NAGARJUNA GOVT.COLLEGE
(AUTONOMOUS)**

(ACCREDITED BY NAAC WITH A GRADE)

LECTERER NAME : K.KANAKADURGA PRASAD

DEPARTMENT : GEOLOGY

SUBJECT : GROUND WATER EXPLORATION

FINAL YEAR-VI SEMESTER- PAPER VIII

ACEDAMIC YEAR-2017-2018

DETAILS OF TEACHING PLAN -2017-

2018

UNIT	TOPIC	HOURS
I	Quality of Ground Water -introduction	1
	Physical characters of Ground water	1
	Chemical quality of ground water	2
	Bacteriological&Radiological characters of ground water	1
	Ground water Utility	1
	Suitability of ground water for drinking	1
	Special reference to fluoride Concentrations	1

	Suitability of ground water for Irrigation	2
	Suitability of ground water for Industries	1
	Grond Water Pollution-types of pollution	1
	Urban pollution	1
	Pollution by liquid waste&Solid wastes	2
	Agriculture pollution	1
	Pollution by return flows ,animal waste,	2
	Pollution by Fertilizers,Pesticides	1
	Industrial pollution	2

DETAILS OF TEACHING PLAN -2017-2018

UNI T	TOPIC	HOURS
II	Grond Water Investigation	1
	Methods of Ground Water investigation	1
	Geological method-climate,topography,rainfall	1
	Study of Lithology-structures	2
	Impact of dykes,fault zones	1
	Hydrological method-water table,surface water bodies	2
	Hydro Botanical Method	1
	Geo Physical Methods-Gravity,Magnetic,Seismic ,electric methods	2
	Aerial photography	1
	Fundamentals of Remote Sensing method-	1
	Function of Remote Sensing method	2
	Important components in Remote Sensing method	1
	Geographical Information Systems(GIS)	2
	The application of Remote sening in ground water exploration	1
III	Geo physical Methods-introduction	1
	Basic principles of Geo Physical Methods	1
	Gravity method-field applications	2

	Magnetic Method-application	2
	Seismic theory	1
	Reflection Method	1
	Refraction method	1
	Radiometric method-radio activity	1
	Electro resistivity method-Ohms Law	1
	Rocks and resistivity properties	1
	Electro resistivity method-VES	2
UNI		
T	TOPIC	HOURS
	the double log graphs-types of curves	1
	Schlumberger Method	1
	Wenner Configuration	1
IV	Management of Ground Water	1
	Ground water Balance	1
	Recharge components-Discharge Components	2
	Static Reserves-Dynamic Reserves	2
	Basin yields	1
	Coastal Aquifers-Sea water Instrusion	1
	Artificial recharge Methods	2
	Water Logging	1
	Conjunctive use of surface and ground water	1
	the important aspects in Ground water Management	2
	Well Interference-	1
	types of Over Draft	2