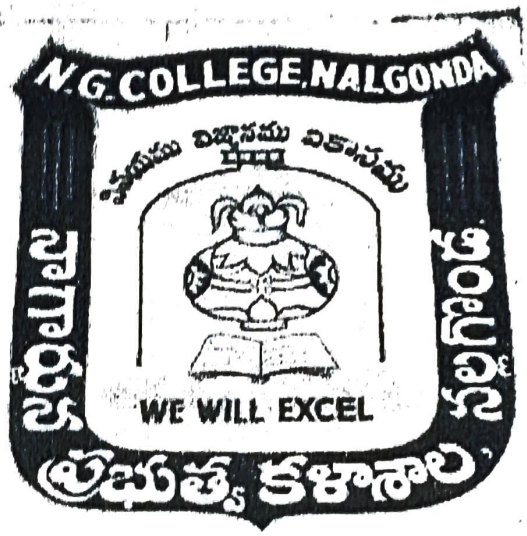
NAGARJUNA GOVERNMENT COLLEGE: NALGONDA

(Autonomous)

Affiliated to Mahathma Ghandi University

Re-accredited by NAAC with 'A' Grade

REVISED SEMESTER WISE SYLLABUS (w.e.f.2015-16)



DEPARTMENT OF GEOLOGY

COE office copy

NAGARJUNA GOVERNMENT COLLEGE: NALGONDA

(AUTONOMOUS)

Accredited by NAAC with "A" Grade

B.S.C I Year (1SEMESTER) SYLLABUS (W.e.f 2015-2016)

Subject : GEOLOGY

Name of the Module : PHYSICAL GEOLOGY, CRYSTALLOGRAPHY

Nature of the Module : Core 1

UNIT-1 (PHYSICAL GEOLOGY):

General aspects –Definition of Geology, Basics assumption of geology –its relationship with other science-Branches of geology-Aim and application of geology.

Earth as a planet-its shape ,size density-movements and their effects. Origin and age of earth,Interior of the Earth.

Geological processes-Exogenetic and endogenetic, definition of weathering-Types of weathering of rocks - Physical and chemical :Definition of erosion and denudation, cycle of erosin:Erosion,transpòrtation and deposition :agents of erosion.

Structure of the atmosphere.

Earth movements: definition of diastrophism, epierogenic and orogenic movements – mountains, geosynclines. Basic concepts of isostasy, continental drift and plate tectonics. Seafloor spreading, origin of mid oceanic ridges and trenches. Evolution of ocean and continents. origin and distribution of island arcs.

Earthquakes: Causes and kinds of earth quake waves, mode of propagation, intensity of earth quakes, richter scale ,seismograph and seismogram. Effects of earthquakes, earthquake zone-interior of the earth.

Volcanoes: origin, products of volcanoes.

UNIT-II (PHYSICAL GEOLOGY):

Rivers- erosion, transportation and deposition of river(fluvial)cycle in different stages-Development of typical landforms by river erosion and deposition-V-shaped valley fall, alluvial fan, meander, ox-bow lake, flood plain, natural levee, peniplain and delta. Types of rivers. Drainage pattern.

Glaciers: Definition of a glacier –types of glaciers-development of typical landform by glacial erosion and deposition–cirque, U-shaped valley, Hanging valley,Arete,col. Morains drumlins, kames, eskers and varves.

3/10/15

Wind: Development of characteristic features by wind erosion and deposition: pedestal rocks,ventifacts-loess-sand dunes.

Lakes: Formation of lakes, nature of lacustrine deposits.

TEXT BOOKS:

1. Homes principles of physical geology by Duff(revised 4 th edition 1978)
2. physical geology by A N strahler (1981)
3. putnamis Geology 4 th Edition by EE Larson P W Birkeland (1982)

REFERENCE:

1.Basic physical geology by E.S.Robinson (1982)

2.**The evoliving earth:** a text in physical geology by E.s. Sawkins, et al(1978)

3. physical geology by B.F. Mallory and Gagro (1979)

4. physical geology –Judson, Deffeyes and ,Hargraves.

UNIT –III (CRYARALLOGRAPHY):

Definition of crystal- amorphous and crystalline states,

Morphology of crysrals- face, edge, solid angle and interfacial angle.

Forms: simple, combination, closed and open forms

Symmetry: plane, axis , center. Crystallographic axes,

Classification of crystals in to symmetry.

Brief study of the following classes of symmetry.

I. Cubic system- Normal (Galena)
II. Tetragonal system- Zircon type
III. Hexagonal system- Beryl type

UNIT- IV(CRYATALLOGRAPHY):

Brief study of the following classes of symmetry

iv. Trigonal system- calcite type

v. Orthorhombic system-Barite type

vi. monoclinic system –Gypsum type

3/10/15

vii. Triclinic system –Axinite type .

Twinning in crystal –definition of two plane , twin axis and composite plane.

Text books :

1.A text book of mineralogy – E.S.Dana and W.E Ford .

2.Elements of crystaiiography – F.A. Wade & R.B .Mattox

3.Rutley s Elements of minerolgy –H.H. Read

References:

1. An introduction to crystallography – R .C Phillips
2. Essentials of crystallograohy – E. Flint.

NAGARGUNA GOVERNMENT COLLEGE : NALGONDA

(AUTUNOMUS)

Accredited by NAAC With "A" Grade

B.Sc I Y ear (II SEMESTER) SYLLABUS (W.e.f .2015- 2016)

Subject : GEOLOGY

Name of the Module : MINEROLOGY AND OPTICAL MINEROLOGY

Nature of the Module : Core 2

UNIT –I (MINERALOGY)

Definition of a mineral , classification of minerals in to rock forming and ore forming minerals .

Physical properties of minerals –colour, play of colours , opalescence , asterism ,transparencey, luster ,luminiscence , fluroscence ,form , hardness ,tenacity ,cleavage, parting ,fracture ,specific gravity, and magnetic properties , Electrical properties –pyro and peizo electricity.

Modes of mineral formation : occurrence and association of minerals.

Brief study of following SILICATE STRUCTURES :

1.Neso silicates

2.Soro silicates

3.cyclo silicates

4.Iono silicates

5.phyllo silicates

6.Tecto silicates

UNIT -II

Brief study of the following mineral groups:

1. Olivine,Garent, Alluminium silicates
2. Epidote
3. Beryl
4. Pyroxene, Amphibole
5. Mica
6. Feldspars, feldspthoids and silica group of minerals, Zeolites

TEXT BOOKS: Ruttley's Element of mineralogy –HH Read

Manual of mineralogy – cs Hurblent and C. klein

Mineralogy of students – M H Batey

REFERENCE :

1. AN introduction to rock forming minerals –Deer , Howie and Zussaman .
2. Elements of mineralogy – Mason and Berry

UNIT –III (OPTICAL MINEROLGY)

Introduction ,Nature of light , ordinary and polarized light , isotropic and an isotropic substances, monochromatic light , reflection and refraction ,refractive index , crystal angle and total reflection , Becke effect ,Double refraction, Birefringence, Uniaxial and Biaxial minerals.

UNIT-IV

Petrological microscope (polarizing)-its mechanical and optical parts. Constuction of Nicol Prism. Behaviour of isotropic and anisotropic minerals between crossed Nicols . Optical accessories – mica plate.Study of Characters- Cleavage, relief , pleochroism ,extinction angle, twinning and colour.

Text book:

1.Ruttleys Clement of mineralogy –IIII Reed

References:1.Optical crystallography–Wahl storm.

2.Atlas of forming minerals in their section – Mechenzie – Guford

3.Manual of mineralogy – shalley.

NAGARJUNA GOVERNEMNT COLLEGE : NALGONDA

(AUTUNOMUS)

Accedited by NAAC with "A" Grade

B.sc I year PRACTICAL PAPER-I

CRYSTALLOGRAPHY AND MINERALOGY

1.Study of symmetry and form of the Normal classes of seven system

2.Study of geomorpholgical models

3. Study of physical properties and diagnostic features of the following minerals.

Silica group : Quartz ,Jasper ,Agate, chalcedony , Amethyst , rock crystal.

Feldspar group : Orthoclase, Microcline , Anorthite.

Pyroxene Group : Enstatite, Diopside,Hypersthene,Augite.

Mica group: Muscovite, Biotite,phlogophite.

Olivine: Olivine, chrysotile

Epidote: Epidote.

Garnet: Garnet.

Aluminium silicates : Kyanite,Sillimanite, andalucite.

3. study of optical properties of minerals.

Quartz, Orthoclase, Microcline, plagioclase, Augite, Horn blende, Hypersthene, Muscovite, Biotite, Garnet, Olivine, Chlorite , Sillimanite, Leucite and Calcite.

SEMESTER-III

PAPER-III

Name of the Module : (IGNEOUS AND SEDIMENTARY PETROLGY)

Nature of the Module : Core 3

UNIT-I

Nature and scope of petrology – Definition of rock, classification of rocks into igneous, sedimentary and metamorphic. Distinguishing features of three types of rocks.

IGNEOUS ROCKS

Classification into intrusive and extrusive (plutonic, hypabasal and volcanic rocks).

Forms: Lava flows, Intrusions- Sills, Lopolith, Laccolith, phacolith, Bismalith, Batholith, Dyke, Ring dykes, Cone sheets, volcanic necks.

Structures: Vesicular, Amygdaloidal, Block lava, Ropy lava, Pillow, Flow, Prismatic, jointing, Sheeting, and Columnar.

Textures: definition of textures, Micro-structures, devitrification, Allotriomorphic, Hypidiomorpfic, Panidiomorphic, Porphyritic, Poikilitic, Ophitic, Intregranular, Interstetial, trachytic, graphic and micro-graphic textures.

Reaction structures: Corona, Spherulitic, Xenolith, Myrmeckite, Orbicular, Perilitic.

UNIT-II

Classification of igneous rocks- Bases of classification (mineralogical, chemical, textural and geological occurrence), CIPW, TYRREL tabular classification.

Descriptive study of following rock types: Granite, Granodiorite, Syenite, Nepheline syenite, Diorite, Porphyry, Pegmatite, Aplite, Gabbro, Anorthosite, Peridotite, Pyroxenite, Dunite, Dolerite, Rhyolite, Obsidian, Trachyte, Andesite and Basalt.

Composition and constitution of magmas.
Crystallisation of magma: Uni component, binary system.

Origin of Igneous Rocks - Bowen's reaction principle, differentiation and assimilation.

UNIT-III

SEDIMENTARY ROCKS

Sources of sediments- Mechanical and chemical weathering, modes of transportation, stratification, lithification and diagenesis.

Sedimentary structures - types of bedding, surface marks, deformed bedding, solution structures.
Sedimentary textures: Grain size, shape/roundness and fabric.
Heavy minerals.

UNIT-IV

Classification of sedimentary rocks:
Clastic Rocks - rudaceous, arenaceous, siliceous, and argillaceous,

Non-clastic Rocks –
(a) Chemical Non-clastic rocks : -Calcareous, Ferruginous, siliceous and evaporites.

(b) OrganicNon-Clasticrocks:- Calcareous (Carbonate),Siliceous,ferruginous,Corboneous and Phosphatic deposits.

Descriptive study of the following sedimentary rocks- Conglomerate, Breccia, Sandstone, Grit, Arkose, Graywacke, Shale, Limestone, Shelly limestone and coal.

Textbooks:
1.The principles of petrology- G.W.Tyrrel
2.Petrology- W.T.Huang.

References:

1. Petrology for students- S,R, Nockolds knox, chinnar.
2. A text book of sedimentary petrology – Verma and Prasad.
3. Petrology of.sedimentary rocks- J.T.Greensmith.
4. Petrology of the sedimentary rocks- F.H.Hatch, Wells and Wells.
5. Petrology of igneous rocks- F.H.Hatch, Wells and Wells.

3/10/15

SEMESTER-IV

PAPER IV

Name of the Module: (METAMORPHIC PETROLOGY AND STRUCTURAL GEOLOGY)

Nature of the Module: Core 4

UNIT-I

METAMORPHIC PETROLOGY

Definiton of metamorphism, Agents of metamorphism, Types of metamorphism, grades and zones of metamorphism.

Metamorphic minerals: Stress and anti-stress minerals.

Structures of metamorphic rocks: Cataclastic, Maculose, Schistose, Granulose and gneissose.

Textures of metamorphic rocks: Crystalloblatic, Palimpset, Xenonoblastic, Idioblastic.

Classification of metamorphic rocks – Crystalloblastic series, concept of metamorphic facies and types of facies.

UNIT-II

Cataclastic metamorphism of argillaceous and arenaceous rocks.

Thermal metamorphism of argillaceous, arenaceous and calcareous rocks.

Dynamothermal metamorphism of argillaceous, arenaceous and igneous rocks.

Plutonic metamorphism, metasomatism and additive processes.

Descriptive study of the following metamorphic rocks. – Gneiss, Schist, Slate, Phyllite, Quartzite, Marble, granulite, Eclogite, Amphibolite, Gondite, Charnockite, and Khondalite.

UNIT-III

STRUCTURAL GEOLOGY

Definition of structural Geology. Aim and objectives of structural Geology.Importance of study of structures.

Primary and secondary structures, Outcrop. Strike, dip and apparent dip. Clinometer and its use.

Folds- Description, nomenclature, of folds, Recognition of folds in the field.

Joints: Joints,types of joints.

UNIT-IV

Faults: Faults,types of faults.
Unconformities: Definition of unconformity, Types of unconformities.
Definition of Overlap, Offlap, Outlier, Inlier, Cleavage, Schistosity, Foliation and Lineation.

Textbooks:

1. Structural Geology- Marland F. Billings.
2. An outline of structural Geology- E.S.Hills.
3. The principles of petrology- G.W.Tyrrel
4. Petrology- W.T.Huang.

References:

1. Petrology for students- S,R, Nockolds knox, chinnar.
2. A text book of sedimentary petrology – Verma and Prasad.
3. Petrology of sedimentary rocks- J.T.Greensmith.
4. Petrology of the sedimentary rocks- F.H.Hatch, Wells and Wells.
5. Petrology of igneous rocks- F.H.Hatch, Wells and Wells.
6. Elements of structural Geology- L.U.De Setter
7. Elements of structural Geology- E.S.Hills.

PAPER-II

PRACTICALS

1. Megascopic and microscopic study of the following rocks
   IGNEOUS ROCKS: Granite, Syenite, Diorite, Gabbro, Dolerite, Rhyolite, Basalt and Pegmatite.
   SEDIMENTARY ROCKS: Conglomerate, Breccia, sandstone, grit, Arkose, Shale and Limestone.
   MATAMORPHIC ROCKS: Slate, phillite, Schist, Gneiss, Quartzite, Marble, Charnockite, Gondite, Eclogite, Amphibolite and kondalite.

2. Study of topographical maps.

3. Problems dealing with true dip and apparent dip. Bore-hole data thickness and width of the outcrop and dip of the beds (at least 4 maps).

SEMESTER-V

PAPER-V

Name of the Module: (PALAEONTOLOGY AND INDIAN GEOLOGY)

Nature of the Module: Advanced

UNIT-I

PALEONTOLOGY

Definition of paleontology, Conditions of fossilization, Modes of preservation, and uses of fossils.Micro fossils and their importance.

Phylum: Brachiopoda (Terebratula, spirifer, Rhynchonella, Productus)

UNIT-II

Phylum: Mollusca : a).Lamellibranchia(Pelecypoda): (Pecten, Gryphea, Glycimeris,Arca Cardita,Exogyra)

b). Gastropoda : (Turitella, Murex, Cyprea, Natica, Voluta)

c). Cephalopoda (Nautilus, Ammonoids, Bellemnites)

Phylum: Arthropoda (Calemene, paradoxides)

Echinodermeta- Microster,Haloster,Hemister.

Plant fossils: Glossopteris, Gangamopteris and ptylophyllum.

UNIT-III

INDIAN GEOLOGY

Definition of stratigraphy, Principles of stratigraphy.

Lithostratigraphy,Bio stratigraphy and chronostratigraphic units.Standard Geological time scale.

Physiographic divisions of India with their stratigraphic and structural characteristics.

Dharwar system,

Cuddapah system,

Vindhyan system,

Kurnool system,

UNIT-IV

Gondwana system.

Triassic of Spiti,

Jurassic of Kutch,

Cretaceous of Thiruchunapally,

Deccan Traps and their age,

Siwaliks,

Geology of Andhra Pradesh State

3/10/15

3/X/15

SEMESTER-VI

PAPER-VII

Name of the Module: HYDROGEOLOGY

Nature of the Module: Advanced Elective -1

UNIT-I

INTRODUCTION: Definition of Hydrology, Hydrogeology, Scope and application of Hydrogeology.

HYDROLOGICAL CYCLE: Concept of Hydrological cycle, Evaporation, Condensation, Precipitation-Rainfall, Infiltration, Transpiration, Evapotranspiration, Groundwater and runoff, Connate water, Juvenile water, Movement of sub-surface water, Discharge of Ground water.

UNIT-II

GROUNDWATER: Origin, occurrence, and age of groundwater, Vertical distribution of sub-surface water, Zone of aeration- soil water, vadose water, Zone of saturation- water table, perched water table, recharge and discharge areas.

UNIT-III

AQUIFERS: Definition of Aquifer, Aquitard, Aquiclude, Aquifuge. Properties of Aquifer-Porosity, retention of water in rocks, yield of water from rocks (specific yield and specific retention), Darcy law, permeability. Types of Aquifers-Confined and Unconfined.

UNIT-IV

Well constructions-Types of Wells, Well logging-Well development.

3/10/15 3/10/15

SEMESTER-V

NAME OF THE MODULE: REMOTE SENSING

Nature of the Module: ADVANCED ELETIVE -2

UNIT-I

Remote Sensing- Defination,method, scope and limitations. Energy source, its interaction with earth features.

UNIT-II

Eletro Magnetic Spectrum. Remote Sensing Platforms.Active and Passive systems.

UNIT-III

Aerial Photography: Camera lenses, films and filters.Flight mission with emphasis on planning.Flight hight and scale . Overlap and sidelap

UNIT-IV

Types of photographs Stereo Pairs and Mosaics.Study and interpretation of aerial photographs. Basic concepts of Photogrammetry.

3/10/15

3/10/15

SEMESTER-V

PAPER-VI

Name of the Module: (ECONOMIC GEOLOGY)

Nature of the Module: Applied

UNIT-I

Definition of economic geology, importance of economic minerals and rocks.Ore minerals and gangue minerals, Tenor, and Grade. Syngenetic deposits and Epigenetic deposits, Endogenetic and exogenetic processes.

Classification of Economic minerals – Metals and industrial minerals

Process of formation of mineral deposits: Bateman's classification

1.Magmatic deposits

2.Hdrothermal deposits

UNIT-II

3. Residual and Mechanical deposits (Placer deposits)

4. Sedimentation.

5. Oxidation and Supergene Enrichment.

6.Evoporaties

UNIT-III

Study of ore deposits of

Gold, Copper, Lead, Zinc, Aluminium, Magnesium,Iron, Manganese, Chromium, with respect to their mineralogy, uses, mode of occurrence, Origin and distribution in India.

UNIT-IV

Mode of occurrence, origin and Distribution of the **industrial minerals** in India for the following **industries:**

Abrassives, Refractories,Building stones,Cement,Ceramics.

Fossil fuels: Coal, origin and types of coal – coal deposits of India.

Oil and natural gases: Origin and migration.

Atomic minerals: Uranite,monozite, zircon, and their use.

Mineral resources of **Andra Pradesh and Nalgonda district.**

Text books

1. Indian mineral resources: S. Krishnaswamy.
2. Introduction of India's Economic minerals : N.L. Sharma and K.S.V. Ram.
3. Geology and mineral resources of Andhra Pradesh: N.V.B.S. Dutt.
4. Mineral resources of Andhra Pradesh: Dr. P.K. Raman.

References

1. Indian mineral book: (1997) Indian Bureau of mines.
2. Fuel minerals: A.K. Brown & Dey.

3/X/15

3/10/15

SEMESTER-VI
PAPER-VIII

Name of the Module : GROUND WATER EXPLORATION

Nature of the Module : Applied Elective-I

UNIT-I

QUALITY OF GROUND WATER : physical,chemical & Bacteriological characteristics of ground water.Suitability of ground water for drinking (with speciel reference to fluoride contentment) Irrigation &Industrial purposes.

POLLUTION OF GROUND WATER: pollution in relation to water use –urban , industrial& Agriculture sourse and causes of pollution .Brief account of saline water intrusion.

UNIT –II

GROUND WATER INNVESTIGATION: scope of investigation ,methods of ground water explorations ,introduction on remote sensing techniques –fundamentals of remote sensing.Application of remote sensing &GIS (Geographical information system)with reference to water resources.

UNIT-III

GEOPHYSICAL EXPLORATI ON : Basic principles of Geophysical exploration methods-magnetic,gravity,seismic,electrical and radiometric methods-Schlumberger and wenner configuration.

UNIT-IV

MANEGEMENT OF GROUNDWATER : Groundwater balance,recharge,(natural and artificial),static and dynamic reserves,coastal aquifers.Important aspects of Ground Water Management.

Text books :

1.Groundwater Hydrogeology by todd
2.Hydrogeology by davis and dewist
3.Hydrogeology by karanth.
4.Groundwater Assesssment,development and Manegement by karanath.
5.Applied Hydrology by Fetter
6.Applied principles of Hydrogeology by mannigs

3/10/15

3/10/15

SEMESTER-VI

Name of the Module: GEOLOGY OF NALGONDA

Nature of the Module :Applied Elective -2

UNIT-I

Geomorphology of Nalgonda district-Area distribution, boundaries-Global Position, Climate-Soils.

UNIT-II

Lithology of Nalgonda district, Rock types Occurence of Rocks by areawise distribution- major Rock types and their Structural features.Dykes and their impact on ground water Occurence, Pegmatites and its impacts on health factors (Flourosis).

UNIT-III

Major Industries of Nalgonda district–with Special Refernce to Cement Industries – building stones and Dimension stones.

UNIT-IV

Mineral Wealth of Nalgonda district-Uranium, Quartz, Copper, Iron, Corrundum and Steatite deposits etc.

3/10/15

3/10/15

PAPER-III

PRACTICALS

1. Drawing and description invertebrate and plant fossils as per the list mentioned in the theory syllabus.

2. Megascopic study, mode of occurrence, distribution in India and uses of the following economic minerals, Haematite, Magnetite, Pyrite, Pyrolucite, Psilomelane, Chalcopyrite, Malachite, Azurite, Bauxite, Chromite, Galena, Sphalerite, Magnesite, Gypsum, Asbestos, Steatite, Graphite, Monozite, Ilmenite, Zircon, Fluorite, Barites, Corundum, Topaz, Calcite, Kaolinite, Kyanite, Sillimanite, Garnet, Mica.

3. Study of toposheets and fieldwork in the neighboring areas.

4. Calculation of Tenor and tonnage factor.

5. Field Geology practical of 3 periods per week over and above the normal workload.

3/10/15

PRACTICALS

PAPER-IV

GROUNDWATER EXPLORATION

1. Grain size analysis- uniformity co-efficient.
2. Electrical Resistivity – Schlumberger method and VES.
3. Analysis of stream flows.
4. Drainage basin Problems.
5. Ground Water Problems.

Field work :- 3 periods per week (Batch strength 12).

*Field training camp for10 days (compulsory)*during vacation.

Faculty of Science

B.Sc. I Yr. I Semester (Bac & Imp) Examination, Mar/Apr 2015

GEOLOGY - I

Time: 2 ½ Hrs. Max.Marks: 70

SECTION - A (5 x 2 = 10)

Answer the following questions.

1. Seismograph.
2. Ox-bow lake.
3. Solid angle.
4. Twin plane.
5. Calcite symmetry.

SECTION - B (4 x 5 = 20)

Answer any FOUR of the following questions.

6. Describe the interior of the earth.
7. Explain effects of earthquakes.
8. Write an essay on drainage pattern.
9. Write about the forms of Beryl type.
10. Describe symmetry of normal class of the Orthorhombic system.
11. Explain about the formation of lakes.

SECTION - C (4 x 10 = 40)

Answer the following questions.

12. (a) Explain aims and objectives of Geology.
    (b) Write an essay on cycle of erosion.

    (OR)

    (c) Write an essay on Volcanoes.
    (d) Describe physical weathering of rocks.

13. (a) Explain erosion land forms of river.
    (b) Descrbe deposition land forms of Glaciers.

    (OR)

    (c) Explain geological action of winds.
    (d) Describe lacustrine deposits.

14. (a) Explain morphologcial features of Crystals.
    (b) Explain symmetry elements of crystals.

    (OR)

    (c) Describe normal class of Cubic system.
    (d) Describe normal class of Tetragonal system.

15. (a)Explain normal class of Monoclinic system.
    (b) Explain normal class of Triclinic system.

    (OR)

    (c) Describe normal class of Orthorhombic system.
    (d) Write an essay twinning.

3/10/15

(తిప్పి చూడండి)

TENTATIVE SCHEME OF EVALUATION

Course: B.Sc.
Semester: II
Max. Marks: 70

Subject: Geology
Module: Mineralogy and Optical mineralogy
Time: 2:30 Hours

PART – A
(Very Short Questions)

I. Answer all the Questions — 5 X 2 = 10

1.
2.
3.
4.
5.

PART – B
(Short Questions)

II. Answer any Four of the following — 4 x 5 = 20
(At least one Question from each unit)

6.
7.
8.
9.
10.
11.

PART – C
(Essay type Questions)

III. Anwer the following questions — 4 X 10 = 40

12. A)
B)

(Or)

C)
D)

13. A)
B)

(Or)

C)
D)

14. A)
B)

(Or)

C)
D)

15. A)
B)

(Or)

C)
D)

Internal Assessment – 30 Marks

Internal Periodical Test- 20 (Best of Two)

Co-Curricular Activities – 10 Marks

(Assignment-5, Seminar-5)

3/15

3/10/15

TENTATIVE SCHEME OF EVALUATION

Course: B.Sc.
Semester: III
Max. Marks: 70

Subject: Geology
Module: igneous & sedimentary petrology
Time: 2:30 Hours

PART – A
(Very Short Questions)

5 X 2 = 10

I. Answer all the Questions

1.
2.
3.
4.
5.

PART – B
(Short Questions)

4 x 5 = 20

II. Answer any Four of the following
(At least one Question from each unit)

6.
7.
8.
9.
10.
11.

PART – C
(Essay type Questions)

4 X 10 = 40

III. Anwer the following questions

12. A)
B)

(Or)

C)
D)

13. A)
B)

(Or)

C)
D)

14. A)
B)

(Or)

C)
D)

15. A)
B)

(Or)

C)
D)

Internal Assessment – 30 Marks

Internal Periodical Test- 20 (Best of Two)

Co-Curricular Activities – 10 Marks

(Assignment-5, Seminar-5)

3/10/15

3/10/15

Faculty of Sciences

B.Sc. **III Yr. V** Semester(Bac & Imp) Examination, Mar/Apr 2015

GEOLOGY

Paper - V

Time: 2 ½ Hrs. Max.Marks: 40

SECTION - A (4 x 8 = 32)

Answer the following questions.
ఈ క్రింది ప్రశ్నలకు సమాధానములు వ్రాయుము.

1. (a) Define fossil and mention uses of fossils.
శిలాజమును నిర్వచించుము. మరియు శిలాజాల ఉపయోగములను తెలియజేయుము.

(or)

(b) Describe Brachiopoda.
బ్రాకియోపాడను వర్ణించుము.

2. (a) Draw a neat sketch of calemene and mention the functions of its body parts.
కేలిమీన్ యొక్క చక్కని పటము గీయుము మరియు దానిలోని శరీర భాగముల పనులను తెలియజేయుము.

(or)

(b) Describe Gondwana fossils.
గోండ్ వానా శిలాజాలను వర్ణింపుము?

3. (a) Describe in detail principles of stratigraphy.
స్తరశాస్త్ర నియమాలను వివరముగా వర్ణించుము.

(or)

(b) Describe cuddapah system.
కడప వ్యవస్థను వర్ణింపుము.

4. (a) Give the startigraphy of Cretaceous of south and mention its important fossils.
దక్షిణ భారతదేశ క్రిటేషియస్ శిలల స్తరీభవన క్రమమును తెలియజేయుము మరియు వానిలోని ముఖ్యమైన శిలాజాలను తెలియజేయుము.

(or)

(b) Describe geology of Andhrapradesh and mention its mineral riches.
ఆంధ్రప్రదేశ్ యొక్క భూవిజ్ఞానశాస్త్రమును వర్ణించుము. దానిలోని ఖనిజ సంపదను తెలియజేయుము.

SECTION - B (4 x 2 = 8)

Answer any four questions.
ఈ క్రింది వానిలో ఏవేని 4 ప్రశ్నలకు సమాధానములు వ్రాయుము.

5. Micro fossils. (మైక్రోశిలాజాలు)
6. Condition of fossilization. (శిలాజీకరణకు కావలసిన పరిస్థితులు)
7. Nautilus. (నాటిలస్)
8. Micraster. (మైక్రాస్టర్)
9. Kolar schistbelt. (కోలార్ షిస్ట్ బెల్ట్)
10. Basal conglomerate. (ఆధార కంగ్లామరీట్)
11. Intra trappeans. (ఇంట్రా ట్రాపియన్లు)
12. Mammalian fossiles of siwaliks (సివాలిక్‌ల యొక్క క్షీరదశిలాజాలు)

*****

Faculty of Science

B.Sc. III Yr. V Semester(Bac & Imp) Examination, Mar/Apr 2015

GEOLOGY

Paper - VI

Time: 2 ½ Hrs. Max.Marks: 40

SECTION - A (4 x 8 = 32)

Answer the following questions.
ఈ క్రింది ప్రశ్నలకు సమాధానములు వ్రాయుము.

1. (a) Write an essay on magmatic deposits.
మాగ్మా సాంద్రీకరణ నిక్షేపాలపై ఒక వ్యాసము వ్రాయుము.

(or)

(b) Describe the Bateman's classification of mineral deposits.
ఖనిజ నిక్షేపాల యొక్క బేట్‌మేన్ వర్గీకరణను వివరింపుము.

2. (a) Write about the oxidation and supergene enrichment.
ఆక్సీకరణ మరియు ఉపరిజన్య సంపృద్ధి మండలాలను వివరింపుము.

(or)

(b) Write an essay on placer deposits.
ప్లేసర్ నిక్షేపాల గూర్చి ఒక వ్యాసము వ్రాయుము.

3. (a) Describe the mineralogy, origin and distribution of iron ore deposits of India.
భారతదేశములోని ఇనుపధాతు నిక్షేపాల ఖనిజాలు, ఉద్భవము మరియు విస్తరణను వివరింపుము.

(or)

(b) Write an essay on Lead and Zinc deposits of India.
భారతదేశములోని సీసము - తుత్తునాగము నిక్షేపాల గూర్చి ఒక వ్యాసము వ్రాయుము.

4. (a) Describe the coal deposits of India.
భారతదేశములోని బొగ్గు నిక్షేపాలను వివరింపుము.

(or)

(b) Write an essay on origin and migration of oil and natural gas deposits.
నూనె మరియు సహజవాయు నిక్షేపాల ఉద్భవము మరియు కదలికలపై ఒక వ్యాసము వ్రాయుము.

SECTION - B (4 x 2 = 8)

Answer any four questions.
ఈ క్రింది వానిలో ఏవేని 4 ప్రశ్నలకు సమాధానములు వ్రాయుము.

5. Ore and gangue (ధాతువు మరియు ఆసార ఖనిజము)
6. Industrial minerals (పరిశ్రమల ఖనిజాలు)
7. Sedimentation (అవక్షేపితాలు)
8. Evaporatcs (బాష్పీభవన ఉత్పాదితాలు)
9. Gold minerals (బంగారం ఖనిజాలు)
10. Aluminium (అల్యూమినియం)
11. Cement (సిమెంట్)
12. Atomic minerals (అణుధార్మిక ఖనిజాలు)

* * * * *

Faculty of Sciences

B.Sc. III Yr. VI Semester-End Examination, Mar/Apr 2014

GEOLOGY

(GROUNDWATER EXPLORATION)

Paper - VIII

Max.Marks: 40

me: 2 ½ Hrs.

SECTION - A (4 x 8 = 32)

swer the following questions.
క్రింది ప్రశ్నలకు సమాధానములు వ్రాయుము.

(a) Write down physical, chemical and bacteriological characteristics of ground water.
భూజలము యొక్క భౌతిక, రసాయనిక మరియు బాక్టీరియా సంబంధ లక్షణాలను తెలియజేయుము.

(or)

(b) Explain the suitability characterstics of ground water for drinking purpose.
త్రాగుటకు అనువైన అంతర్జల లక్షణాలను వివరింపుము.

2. (a) Write an essay on Remote sensing techniques used in the investigation of ground water.
భూజలము యొక్క అన్వేషణలో ఉపయోగింపబడు సుదూరగ్రాహక పద్ధతులపై ఒక వ్యాసము వ్రాయుము.

(or)

(b) Explain use of geological and geomorphological methods for ground water exploration.
అంతర్జల అన్వేషణ లో ఉపయోగపడే భూవిజ్ఞాన మరియు భూస్వరూప పద్ధతులను వివరించుము.

3. (a) Explain electrical resistivity method in the ground water exploration.
అంతర్భామ జల అన్వేషణలో ఉపయోగింపబడు విద్యుత్ నిరోధకత విధానమును వివరింపుము.

(or)

(b) Explain basic principles of different geo-physical exploration methods.
అంతర్భామ జలాన్వేషణలో వివిధ రకాల భూభౌతిక పద్ధతుల నియమాలను తెలుపుము.

4. (a) Describe ground water balance, recharge and discharge.
అంతర్భామజల మిగులు, పునఃపోషణ మరియు విసర్జలను వర్ణింపుము.

(or)

(b) Write an essay on Ground Water Management.
అంతర్భామజల నిర్వాహణపై ఒక వ్యాసము వ్రాయుము.

SECTION - B (4 x 2 = 8)

Answer any four questions.
ఈ క్రింది వానిలో ఏవేని 4 ప్రశ్నలకు సమాధానములు వ్రాయుము.

5. Fluoride contain in drinking water (త్రాగె నీటిలోని ఫ్లోరైడ్ శాతము)
6. Saline water intrusion (లవణ జల అంతర్గమం)
7. Fundamentals of Remote sensing (సుదూర గ్రాహక ప్రాధాన్యతలు)
8. Magnetic method (అయస్కాంత పద్ధతి)
9. Radiometric methods (రేడియోమెట్రిక్ పద్ధతులు)
10. Coastal aquifers (తీరజలమయ స్తరాలు)
11. Water table (జలమట్టము)
12. Static reserve (స్థితిక నిల్వ)

*****

Panel of Examiners for Geology

Semester I&II------ Core-

1. Dr.M.Muralidhar,Head&Professor of Geology,Osmania University, Hyderabad.
2. Prof. Ratnakar,Dept of geology,College of science,O.U.Hyderabad
3. Dr.G.Prabhakar, Asst. Professor of Geology, P.G.College of Science, Saifabad.

Semester III& IV------ Core 3&4

1 Dr.A.Narsing Rao,,Professor of Geology, Osmania University,Hyderabad
2 J.Panduranga Reddy,Professor-Dept of geology,College of science,O.U. Hyderabad.
3.Dr. Linda Prabhakar babu,assist professor,college of science,O.U.Hyderabad

Semester V------ Advanced Elective -1&2

1.. Dr.M.Muralidhar,Head&Professor of Geology,Osmania University, Hyderabad.
2.A.narasinga Rao,Professor ,Dept of geology, College of science,O.U.Hyderabad
3.J Rathnakar,Professor,Dept of geology,College of science,O.U,Hyderabad

Semester VI------ Applied Elective -1&2

1. Sri.P.Veeraiah, Lecturer in Geology, Mahatma Gandhi University,Nalgonda.
2. Dr.Panduranga Reddy, Associate Prof. of Geology, Osmania University, Hyd.
3. Dr.G.Yadagiri,Principal MVS Govt.college,Mahaboob Nagar
4. Dr.A.Narasinga Rao,Professor,Dept of Geology,O.U.Hyderabad.

General Elective

1. Dr.Yadagiri ,Principal,MVS Govt College,Mahaboob Nagar
2. J.Rathnakar,Professor,College of science,O.U.Hyderabad.
3. P.Veeraiah,Lecturer in Geology,M.G.University,Nalgonda.

3/10/15

3/10/15