

# ANDHRA KESARI UNIVERSITY



## MINOR

**Subject: Geology**

**w.e.f. AY 2023-24**

### COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs. /Week	No. of Credits
I	II	1	Geology and Branches of Geology	3	3
			Geology and Branches of Geology Practical Course	2	1

**SEMESTER-II**  
**COURSE 1: GEOLOGY & BRANCHES OF GEOLOGY**

Theory

Credits: 3

3 hrs/week

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**Programme Objectives**

The paper is designed to learn about the subject Geology and various branches of geology. In every unit all the branches of Geology were briefly discussed and a gist of complete geology is given. It is an optional under Minor Subject.

**Programme outcomes**

The paper will give a brief picture of subject Geology and its branches. The student will get a complete knowledge of what are the different branches that make the subject Geology.

**Unit 1**

Introduction – Scope of Geology – Physical Geology & Geomorphology – Definition, origin and age of earth, interior of earth – geomorphological cycle, weathering and erosion, geological work of wind, river, glacier, ocean, underground water – Geodynamics – Definition, continental drift, sea-floor spreading, brief idea of plate tectonics – Environmental Geology – Concept, definitions of atmosphere, hydrosphere, lithosphere, biosphere. 15 hours

**Unit 2**

Crystallography – Definition, Crystal parameters, symmetry elements, description of crystal classes, systems – Mineralogy – Definition and characters of mineral, chemical composition and diagnostic physical properties of minerals – Petrology – Definition, Igneous Petrology, types, origin, forms textures, structures of igneous rocks – Sedimentary rocks – origin, classification, textures, structures – Metamorphic rocks – process and products of metamorphism, factors, zones, grades, textures and structures of Metamorphic rocks. 15 hours

**Unit 3**

Structural Geology – Definition, Elementary idea of types of deformation, Folds, Faults, Joints, unconformity, outcrop, dip, strike – Economic geology – Definition, ore and ore deposits, gangue minerals, classification of economic minerals, brief outline of process of formation of mineral deposits – Stratigraphy & Indian Geology – Principles, Geological Time Scale, Physiographic divisions of India, out line of Precambrian successions, Dharwar, Cuddapah, Vindhyan, Dhilli Supergroups. 15 hours

**Unit 4**

Palaeontology – Definition, Fossils, mode of preservation, significance of fossils, definition and geological distribution of brachiopods, pelecypods, cephalopods, trilobite, echinoidea - Hydrology – Definition, Hydrological cycle, precipitation, evaporation, transpiration, infiltration, porosity, permeability, vertical distribution of groundwater, aquifers, types of aquifers. 15 hours

**Unit 5**

Geochemistry – Introduction, idea of periodic table, cosmic abundance of elements, Geochemical cycle, Gold Schmidt's geochemical classification of elements, major, minor and trace elements in igneous, metamorphic and sedimentary rocks, isomorphism, polymorphism – Mineral Exploration – Brief idea on geological, geochemical and geophysical prospecting –

Remote Sensing and GIS – Fundamentals of Remote Sensing, Sensors, brief idea of Digital Image processing – Introduction to GIS , components of GIS, tools for map analysis.

15 hours

**Suggested Readings**

Text Book of Geology – G.B.Mahapatra  
Engineering and General Geology – Parbin  
Singh.



ANDHRA KESARI UNIVERSITY-ONGOLE, PRAKASAM DISTRICT  
Single Minor Programme from the Year 2023-24 Onwards  
Programme- B.Sc. Honours in Geology Question Paper, Semester-II  
Course 1- Geology and Branches of Geology

Time: 3 Hours

Total Marks: 75

SECTION –A

Section –A Contains Eight Short Answer Questions and Answer any Five Questions  
5X5=25 Marks

Note: Draw diagrams wherever necessary

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

SECTION –B

Section –B Contains Ten Essay Answer Questions. Answer any Five Questions  
10X5=50 Marks

Note: Draw diagrams compulsory

- 11a.
- or
- 11b.
- 12a
- or
- 12b
- 13a
- or
- 13b
- 14a
- or
- 14b
- 15a
- or
- 15b