

AMMI-11 MINING GEOLOGY-II

UNIT-1 OBJECTIVE

- 1.1 This unit deals with the topics like forces acting in the earth's crust,
- 1.2 Deformation caused by them, attitude of beds etc.,
- 1.3 Structural Geology- Stratified rocks and their structures- Attitude of beds- Strike and dip-
- 1.4 Thickness of beds- Folds- genesis, classification, identification in field,
- 1.5 Impact on landscape, mineral deposits and mining
- 1.6 Unconformities- Types, importance and identification- Faults
- 1.7 Definition, mechanism of faulting, classification, impact of faulting on topography,
- 1.8 Significance of faults in mining- Joints- definition and characteristics, classification, occurrence of joints in igneous, sedimentary and metamorphic rocks
- 1.9 Differences between joints and faults- Overlap- Inlier and outlier, their importance.

UNIT-2 ECONOMIC GEOLOGY

- 2.1 Ore minerals and gangue minerals
- 2.2 Syngenetic and epigenetic deposits
- 2.3 Processes of ore formation- Magmatic concentration, Sublimation,
- 2.4 Contact metasomatism, Hydrothermal processes, Sedimentation, Evaporation,
- 2.5 Residual and mechanical concentration,
- 2.6 Oxidation and supergene enrichment, Metamorphism

UNIT-3 THE ORIGIN AND OCCURRENCE OF DIFFERENT MINERALS AND EMPHASIZES THEIR DISTRIBUTION IN INDIA

- 3.1 Origin, occurrence, distribution and uses of minerals of coal, Iron, lime stone, Lead,
- 3.2 Zinc, Copper Manganese, Chromite,
- 3.3 Beach sands, Rock Phosphate, Clay and Graphite.

UNIT-4 BASIC PRINCIPLES OF STRATIGRAPHY AND DEFINITION OF FOSSIL, THEIR PRESERVATION AND USES

- 4.1 Stratigraphy- Definition principles of Stratigraphic correlation
- 4.2 Geological time scale
- 4.3 Indian stratigraphic scale physiographic division's
- 4.4 Economic minerals occurring in different systems,
- 4.5 Metallogenic epochs and provinces
- 4.6 Fossils- Conditions, mode of preservation and uses.

UNIT-5 MINERAL WEALTH OF INDIA

- 5.1 Definition, classification and importance
- 5.2 Sampling- Definition, types, preservation of core samples and importance.
- 5.3 Mineral wealth of India- Mineral wealth of Andhra Pradesh
- 5.4 Industrial uses of different minerals.

UNIT-6 FINDING ORE DEPOSITS USING GEOLOGICAL

6.1 Geophysical and geochemical knowledge

6.2 Introduction to different methods of prospecting for mineral deposits

6.3 Geological, geophysical, geochemical, geobotanical, aerial photography and remote sensing.

Reference Books:

1. Principles of Engineering Geology – Parbin Singh.
2. Principles of Engineering Geology – K.M.Bangar.

