

Paper-II : PETROLOGY

Time: 3 hrs

MM 50

UNIT-I

Introduction to Petrology. Igneous rocks: Forms, structures, textures and microstructures. Composition of magma, Classification of igneous rocks.

UNIT-II

Processes of differentiation, gaseous transfer within liquid; immiscibility, and assimilation. Description of the following rock forming families : granite - granodiorite, syenite - diorite - gabbro, feldspathoidal - syenite, ultrabasic and ultramafic rocks.

UNIT-III

Metamorphic rocks: Definitions, controls of metamorphism. Metamorphic processes and reactions. Types of metamorphism - contact, cataclastic, regional and ocean floor metamorphism.

UNIT-IV

Texture and structure of metamorphic rocks. Nomenclature and description of important metamorphic rocks. Metasomatism, anatexis, and migmatization. Sedimentary rocks : Processes of formation of sediments, diagenesis. Textures of sedimentary rocks.

UNIT-V

Major sedimentary structures - primary, secondary and biogenetic and their significance. Classification of sedimentary rocks. Type of arenites, carbonate rocks, and argillites.

Paper-III : STRATIGRAPHY

Time: 3 hrs

MM 50

UNIT-I

Principles of stratigraphy. Stratigraphic classification. Stratigraphic correlation. Problems of Early Precambrian stratigraphy. Brief idea about the process of early crustal evolution. Major Precambrian Provinces of India. Physical division of India and their characteristics.

UNIT-II

Geological Time Scale and its equivalent formations in India. Precambrian stratigraphy of Rajasthan, Central India, Jharkhand, Bihar, Orissa, Eastern Ghat and Southern India.

UNIT-III

Middle and Late Proterozoic platforms; Cuddapah, Vindhyan and their equivalents. Precambrian belts of extra -Peninsular region.

UNIT-IV

Geology of Gondwana Supergroup and Palaeozoic stratigraphy of India, their distribution, division, lithology, fossil content and economic importance.

UNIT-V

Mesozoic and Cenozoic geology of India, their distribution, division, lithology and fossil content.