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## Geology Syllabus for Chattisgarh Group-I Services

The Geology Syllabus for Chhattisgarh State Civil Services Preliminary Exam-2011 is given below. The examination will be held on 6 May 2012 (Sunday) by the Chhattisgarh Public Service Commission. Acquaint yourself with the break-up of Geology syllabus into various sections.

Geology

### Paper-I

1. General Geology, Geomorphology, Structural Geology palaeontology and Stratigraphy
  - a. General Geology-Elementary ideas of origin and interior of the Earth. Dating of rocks by radioactive methods; age of the Earth. Volcanoes-causes and products, volcanic belts, Earthquakes causes, geological effect and distribution, relation to volcanic belts. Geosynclines and their classification. Isostracy. Mountains types and origin, Brief ideas about continental drift. Origin of continents and oceans.
  - b. Geomorphology-Relief features: Topography and its relation to structures and lithology, Major landforms Drainage system. Geomorphic features of Indian subcontinent.
  - c. Structural Geology-Folds, Faults their nomenclature, classification recognition and their effect of outcrops Joints their classification and importance. Unconformity. Overlap, overlap, outliers and inliers. Definition and classification of foliation and lineation. Top and bottom criteria for determining the younging direction.
  - d. Palaeontology-Modes of preservation and utility of fossils General idea about classification and nomenclature organic evolution and the bearing of palaeontological studies on it. Morphology. Classification and geological history including evolutionary trends of brachiopods, Lamellibranchs-castropods ammonoids trilobites echinoids and corals, Gondwana flora and its importance.

- e. Stratigraphy-Principles of Stratigraphy. Stratigraphic Classification and nomenclature. Standard stratigraphical scale. Detailed study of various geological formations of Indian subcontinent. Brief study of climates and igneous activities in India subcontinent during geological past Palaeogeographic reconstruction.

## Paper-II

1. Crystallography, Mineralogy, Petrology and Economic Geology
  - a. Crystallography-Crystalline noncrystalline substances classification of crystals in 32 classes of symmetry. Millers system of crystallo graphic notation, Interfacial angles and their measurement by simple niometer. Twinning and twin laws. Crystal Irregularities
  - b. Optical Mineralogy-General principles of optics. Polorised light Isotropism and anisotropism, Double refraction: Nicol Prism and polarising microscope construction and their working. Study of Relief, Becke effect. Pleochroism, extinction and its angle and interference colour.
  - c. Mineralogy-Elements of crystal chemistry types of bondings Ionic radi coordination number. Isomorphism and psudomorphism. Structural classificatin of silicates, study of the following rock forming minerals with respect to the physical chemical and optical properties feldspars pyroxenes, amphiboles Micas garnets, olivine feldspathoids, quartz, calcite kyanite andalusite sillimanite, staurolite.
  - d. Petrology-Magma. Its generation, nature and composition simple phase diagrams of binary and tertiary systems, and their significance, Bowen's Reaction Principle, Magnetic differentiation, assimilation, Textures and structure and their petrogenetic significance. Classification of igneous rocks. Petrography and petrogenesis of important rock-types. Processes of formation of sedimentary rocks. Diagenesis and lithification. Textures and structures and their significance. Classification of sedimentary rocks. Elastic and non-elastic Heavy Minerals and their significance in provenance studies. Petrography of common rock types. Variables of metamorphism. Types of metamorphism, metamorphic grades, zones and facies Textures, structures. And nomenclature of metamorphic rocks. Petrography and petrogenesis of important rock types.
  - e. Economic geology-Concept of ore, ore mineral gangue tenor of ores, processes of formation of mineral deposits common forms and structures of ore deposits, Classification of ore deposits, Controls of ore deposition, Study of important metallic and non metallic deposits, Oil and natural gas fields and opal fields of India. Mineral wealth of India.