

GEOLOGY DAILY ANSWER WRITING PROGRAMME (DAW)

Improve your Answer writing expression in matured manner over the Practice of more than 36 to 42 trial Test. Identify your mistakes & rectify solutions for those deviations in your preparation.

Test No	Syllabus / Subjects / Topics
PAPER I	
1	1. General Geology: The Solar System, Meteorites, Origin and interior of the earth and age of earth.
2	Volcanoes-causes and products, Volcanic belts ; Earth quakes- causes ,effects , Seismic zones of India.
3	Island arcs , trenches and mid-ocean ridges; Continental drifts; Seafloor spreading, Plate tectonics; Isostasy
4	2. Geomorphology and Remote Sensing: Basic concepts of geomorphology; Weathering and soil formations; Landforms, slopes and drainage
5	Geomorphic cycles and their interpretation; Morphology and its relation to structures and lithology; Coastal geomorphology Applications of geomorphology in mineral prospecting, civil engineering; Hydrology and environmental studies; Geomorphology of Indian subcontinent.
6	Aerial photographs and their interpretation-merits and limitations; The Electromagnetic spectrum; Orbiting satellites and sensor systems.
7	Indian Remote Sensing Satellites; Satellites data products; Applications of remote sensing in geology; The Geographic Information Systems (GIS) and Global Positioning System (GPS) - its applications.
8	3. Structural Geology: Principles of geologic mapping and map reading, Projection diagrams, Stress and strain ellipsoid and stress-strain relationships of elastic, plastic and viscous materials; Strain markers in deformed rocks;
9	Behaviour of minerals and rocks under deformation conditions; Folds and faults classification and mechanics; Structural analysis of folds, foliations, lineations, joints and faults, un-conformities; Time-relationship between crystallization and deformation.
10	4. Paleontology: Species- definition and nomenclature; Megafossils and Microfossils; Modes of preservation of fossils; Different kinds of microfossils; Application of microfossils in correlation, petroleum exploration, paleoclimatic and paleoceanographic studies;
11	Evolutionary trend in Hominidae, Equidae and Proboscidae; Siwalik fauna; Gondwana flora and fauna and its importance; Index fossils and their significance.
12	5. Indian Stratigraphic: Classification of stratigraphic sequences: litho-stratigraphic, bio-stratigraphic, chro-nostratigraphic and magneto stratigraphic and their interrelationships; Distribution and classification of Precambrian rocks of India;
13	Study of stratigraphic distribution and lithology of Phanerozoic rocks of India with reference to fauna, flora and economic importance; Major boundary problems- Cambrian/Precambrian, Permian/Triassic, Cretaceous/Tertiary and Pliocene/Pleistocene;
14	Study of climatic conditions, paleo geography and igneous activity in the Indian subcontinent in the geological past; Tectonic framework of India; Evolution of the Himalayas.
15	6. Hydro geology and Engineering Geology: Hydro logic cycle and genetic classification of water; Movement of subsurface water; Springs; Porosity, permeability, hydraulic conductivity, transmissivity and storage coefficient, classification of aquifers; Water-bearing characteristics of rocks;
16	Groundwater chemistry; Salt water intrusion; Types of wells; Drainage basin morphometry; Exploration for groundwater; Groundwater recharge; Problems and

	management of groundwater;
17	Rainwater harvesting; Engineering properties of rocks; Geological investigations for dams, tunnels highways, railway and bridges; Rock as construction material; Landslides-causes, prevention and rehabilitation; Earthquake-resistant structures.
	:::PAPER II:::
18	1. Mineralogy: Classification of crystals into systems and classes of symmetry; International system of crystallographic notation; Use of projection diagrams to represent crystal symmetry; Elements of X-ray crystallography.
19	Physical and chemical characters of rock forming silicate mineral groups; Structural classification of silicates; Common minerals of igneous and metamorphic rocks; Minerals of the carbonate, phosphate, sulphide and halide groups; Clay minerals.
20	Optical properties of common rock forming minerals; Pleochroism, extinction angle, double refraction, birefringence, twinning and dispersion in minerals.
21	2. Igneous and Metamorphic Petrology: Generation and crystallization of magmas; Crystallization of albite-anorthite, diopside-anorthite and diopside-wollastonite-silica systems; Bowen's Reaction Principle; Magmatic differentiation and assimilation;
22	Petrogenetic significance of the textures and structures of igneous rocks; Petrography and petrogenesis of granite, syenite, diorite, basic and ultrabasic groups, charnockite, anorthosite and alkaline rocks; Carbonatites; Deccan volcanic province.
23	Types and agents of metamorphism; Metamorphic grades and zones; Phase rule; Facies of regional and contact metamorphism; ACF and AKF diagrams; Textures and structures of metamorphic rocks;
24	Metamorphism of arenaceous, argillaceous and basic rocks; Minerals assemblages Retrograde metamorphism; Metasomatism and granitisation, migmatites, Granulite terrains of India.
25	3. Sedimentary Petrology: Sediments and Sedimentary rocks: Processes of formation; diagenesis and lithification; Clastic and non-clastic rocks-their classification, petrography and depositional environment;
26	Sedimentary facies and provenance; Sedimentary structures and their significance; Heavy minerals and their significance; Sedimentary basins of India.
27	4. Economic Geology: Ore, ore minerals and gangue, tenor of ore, classification of ore deposits; Process of formation of minerals deposits; Controls of ore localization; Ore textures and structures; Metallogenic epochs and provinces;
28	Geology of the important Indian deposits of aluminium, chromium, copper, gold, iron, lead zinc, manganese, titanium, uranium and thorium and industrial minerals; Deposits of coal and petroleum in India;
29	National Mineral Policy; Conservation and utilization of mineral resources; Marine mineral resources and Law of Sea.
30	5. Mining Geology: Methods of prospecting-geological, geophysical, geochemical and geo botanical; Techniques of sampling; Estimation of reserves or ore;
31	Methods of exploration and mining metallic ores, industrial minerals, marine mineral resources and building stones; Mineral beneficiation and ore dressing.
32	6. Geochemistry and Environmental Geology: Cosmic abundance of elements; Composition of the planets and meteorites; Structure and composition of Earth and distribution of elements; Trace elements;
33	Elements of crystal chemistry-types of chemical bonds, coordination number; Isomorphism and polymorphism; Elementary thermodynamics.
34	Natural hazards-floods, mass wasting, coastal hazards, earthquakes and volcanic activity and mitigation; Environmental impact of urbanization, mining, industrial and radioactive waste disposal, use of fertilizers, dumping of mine waste and fly ash;
35	Pollution of ground and surface water, marine pollution; Environment protection - legislative measures in India; Sea level changes: causes and impact.
36 to 42	Comprehensive Papers, 6 for each for papers

Features of Test Series:

- ✓ 36 Topic wise Test (Question cum answer spacing format exam)
- ✓ 6 Comprehensive Test
- ✓ Evaluation & Detailed feedback.
- ✓ One to one Interaction for every student for rectifying your mistakes in answer writing framework.

Note: The Dates of Examinations are Liable to Alteration, if the Circumstances so Warrant.

So I hope that this Mains Test Series Programme will help conceptually for your UPSC mains preparation. For more details please contact office.

With All The Best. Jai Hind!!!

KAVERI'S IAS