



GOVERNMENT OF SIKKIM
DEPARTMENT OF PERSONNEL, ADMINISTRATIVE REFORMS,
TRAINING AND PUBLIC GRIEVANCES
GANGTOK

No: ER/GOS/DOP/III/26/PART FILE/67 /GEN Dated: /02/2016

NOTIFICATION

Rules for open competitive Examination to be conducted by the Sikkim Public Service Commission in 2016 for selection of candidates for appointment to the post of Assistant Geologist under Sikkim State Mines Minerals and Geology Service is notified here under for general information.

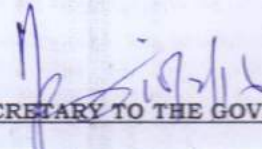
- 1) The number of vacancies to be filled up after the Examination will be specified in the Notice to be issued by the Sikkim Public Service Commission.
- 2) The Examination will be conducted by the Sikkim Public Service Commission according to syllabus and procedure as indicated in the **Appendix I** to these Rules.
- 3) The date and place of Examination will be fixed by the Sikkim Public Service Commission.
- 4) Candidate must write the answers in his/her own hand. Under no circumstance will he/she be allowed the help of a scribe to write the answers.
- 5) A candidate must pay fees as may be prescribed by the Commission.
- 6) The decision of the Commission as to the eligibility of a candidate for admission to the examination shall be final. Their admission at all stages of examination for which they are admitted by the Commission viz: main (Written) Examination and Interview Test will be purely provisional, subject to their satisfying the prescribed eligibility conditions. If on verification at any time before or after the Main (Written) Examination and Interview Test, it is found that they do not fulfill any of the eligibility conditions, their candidature for the examination will be cancelled by the Commission.
- 7) No candidate will be admitted to the examination unless he/she holds a certificate of admission issued by the Commission. Their admission to all the stages of the Examination will be purely PROVISIONAL subject to satisfying the prescribed eligibility test. Mere issue of admission certificate to the candidate will not imply that his/her candidatures has been finally cleared by the Commission.
- 8) A Candidate who is or has been declared by the Commission to be guilty or any attempt on his/her part to obtain support for his/her candidature by any means shall render him/her liable to be disqualified for admission to the competitive examination.
- 9) (a) Mobile phones, Pagers or any other communication devices are not allowed inside the premises where the examination is being conducted. Infringement of these instructions shall entail appropriate action including ban from taking the examinations.
(b) Candidates are advised in their own interest not to bring any of the banned items including mobile/phones/pagers to the venue of the examination, as arrangement for safe keeping cannot be assured.
(c) Candidates are advised not to bring any valuable/costly items to the examination halls, as safe keeping of the same cannot be assured. Commission will not be responsible for any loss in this regard.

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- 10) The Commission shall have the discretion to fix the qualifying marks in all subjects in the written Examination.
- 11) A candidate, who obtains such minimum qualifying marks in the written examination, as may be fixed by the Commission, shall be called for interview. In the interview, there will be a minimum of 40 marks or as assigned by the Commission at their discretion.
- 12) The form and manner of announcement of results of the examinations shall be decided by the Commission. The Commission will not enter into any correspondence with any candidate regarding results.
- 13) After the examination and interview, the names of the successful candidates will be arranged by the Commission in the order of merit based on marks awarded to each candidate. Candidates shall be considered for appointment to the available vacancies in the order in which their names appear in the merit list.
- 14) A candidate who is or has been declared by the Commission guilty of impersonation or of submitting false and fabricated documents which have been tampered with or of making statements which are incorrect or false or of suppressing material information or of attempting to use unfair means in the examination hall or otherwise, or resorting to any or other irregular or improper means for obtaining admission to the examination hall may, in addition to rendering himself liable to criminal prosecution, be debarred:-
 - By the Commission permanently or for specified period for admission to any examination or appearance at any of the interviews held by the Commission for selection of candidates,
 - By the State Government from any employment under them.
- 15) Candidates, already in Government service or in government owned undertaking or similar organization, whether in permanent or temporary capacity or as work charged employee shall be, required to submit their application alongwith No objection Certificate of their employer.
- 16) Success in the examination confers no right to appointment unless Government is satisfied after such enquiry as may be considered necessary that a candidate having regard to his/her character and antecedents is suitable in all respect for appointment.
- 17) A candidate must be in good health and free from any physical defect likely to interfere with the discharge of his duties as an officer of the Service. A candidate who (after such medical examination as may be prescribed by the competent authority) is found not to satisfy these requirements will not be appointed.
- 18) If a candidate's handwriting is not legible, a deduction may be made in this account from the total marks otherwise accruing to him/her.
- 19) No travelling and daily allowance will be paid for the journey performed in connection with the examination, interview and medical examination. All other matters not specified or for which no provision has been made in these rules shall be regulated by rules and orders applicable to the Service to which recruitments are being made.
- 20) The candidate must obtain the qualifying marks decided by Sikkim Public Service Commission in the written examination.
- 21) The candidate on selection and during the period of probation/apprenticeship/training, pay shall be governed by the Notification No. 489/GEN/DOP, dated 31/10/2011.

By Order and in the name of the Governor.


JOINT SECRETARY TO THE GOVERNMENT

Copy to:-

SCHEME AND SYLLABUS OF EXAMINATION FOR THE PURPOSE OF FILLING UP THE POST OF ASSISTANT GEOLOGIST UNDER MINES, MINERALS & GEOLOGY DEPARTMENT

The examination will consist of 2 papers:-

PAPERS	SUBJECT	FULL MARKS	TIME ALLOWED
PAPER-I	General English & General Knowledge	150	2.30 hours
PAPER-II	Geology	300	3.00 hours

VIVA-VOCE/PERSONALITY 40

PAPER-I: GENERAL ENGLISH:-

The question will be designed to test the candidate's understanding and command of the English language. *The question will be of Conventional Type.*

ENGLISH

Candidate will be required to answer questions designed to test their understanding of English and workman like use of words. The pattern of questions would be broadly as follows:-

1. Comprehension of given passage.
2. Precise writing.
3. Usages and Vocabulary.
4. Short essay.
5. Translation.

GENERAL KNOWLEDGE

General Knowledge: Knowledge of current events of local, National and International importance and of such matter of everyday observation and experience in their scientific aspects as may be expected of any educated person who has not made a special study of any scientific subject. The paper will also include questions on Modern history (from 1857 onwards) of India, Indian culture, Indian policy, Indian economy and Geography of India of such nature as candidates should be able to answer without Special Study and questions on the techniques of Mahatma Gandhi. The question will be objective type.

VIVA-VOICE : The candidates will be interviewed by the Commission who will have before them a record of his career. He will be asked questions on matters of general interest. The object of the interview is to assess the personality suitability of the candidate for the service post.

The test is intended to judge the mental caliber of candidate. In broad terms this is really an assessment of not only his intellectual qualities but also social traits and his interest in current affairs. Some of the qualities to be judged are mental alertness, critical powers of assimilation, care and logical exposition, balance of judgment, variety and depth of interest, ability for social cohesion and leadership intellectual and moral integrity.

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PAPER - II

The question will be CONVENTIONAL TYPE and will cover areas of knowledge of the following subject and topics:-

1. General Geology : The Solar System, meteorites, origin and interior of the earth and age of earth; Volcanoes—causes and products, Volcanic belts. Earthquakes—causes, effects, seismic zone of India; Island arcs, trenches and mid-ocean ridges; Continental drift; Seafloor spreading, plate tectonics. Isostasy.

2. Geomorphology and Remote Sensing : Basic concepts of geomorphology. Weathering and soil formations; Landforms, slopes and drainage. 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 sub-continent. Aerial photographs and their interpretation—merits and limitations; The Electromagnetic spectrum. Orbiting Satellites and Sensor Systems. Indian Remote Sensing Satellites. Satellite data products; Applications of remote sensing in geology; The Geographic Information System (GIS) and Global Positioning System (GPS)—its applications.

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. Behaviour of minerals and rocks under deformation conditions. Folds and faults classification and mechanics; Structural analysis of folds, foliations, lineations, joints and faults, unconformities; Time relationship between crystallization and deformation.

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; Evolutionary trend in Hominidae, Equidae and Proboscidae. Siwalik fauna. Gondwana flora and fauna and its importance; Index fossils and their significance.

5. Indian Stratigraphy: Classification of stratigraphic sequences: lithostratigraphic, biostratigraphic, chrono-stratigraphic and magnetostratigraphic and their interrelationships; Distribution and classification of Precambrian rocks of India; 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; Study of climatic conditions, paleogeography and igneous activity in the Indian subcontinent in the geological past. Tectonic framework of India. Evolution of the Himalayas.

6. Hydrogeology and Engineering Geology :

Hydrologic 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; Groundwater chemistry. Salt water intrusion. Types of wells. Drainage basin morphometry; Exploration for groundwater; Groundwater recharge; Problems and management of groundwater; 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.

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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.

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.

Optical properties of common rock forming minerals; Pleochroism, extinction angle, double refraction, birefringence, twinning and dispersion in minerals.

8. Igneous and Metamorphic Petrology: Generation and crystallisation of magmas. Crystallisation of albite—anorthite, diopside—anorthite and diopsidewollastonite—silica systems. Bowen's Reaction Principle; Magmatic differentiation and assimilation. 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. Types and agents of metamorphism. Metamorphic grades and zones; Phase rule. Facies of regional and contact metamorphism; ACF and A KF diagrams; Textures and structures of metamorphic rocks. Metamorphism of arenaceous, argillaceous and basic rocks; Minerals assemblages. Retrograde metamorphism; Metasomatism and granitisation, migmatites. Granulite terrains of India.

9. Sedimentary Petrology : Sediments and Sedimentary rocks: Processes of formation; diagenesis and lithification; Clastic and non-clastic rocks-their classification, petrography and depositional environment; Sedimentary facies and provenance. Sedimentary structures and their significance. Heavy minerals and their significance. Sedimentary basins of India.

10. Economic Geology : Ore, ore mineral and gangue, tenor of ore. Classification of ore deposits; Processes of formation of mineral deposits; Controls of ore localisation; Ore textures and structures; Metallogenic epochs and provinces; 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, National Mineral Policy; Conservation and utilization of mineral resources. Marine mineral resources and Law of Sea.

11. Mining Geology : Methods of prospecting—geological, geophysical, geochemical and geobotanical; Techniques of sampling. Estimation of reserves of ore; Methods of exploration and mining-metallic ores, industrial minerals, marine mineral resources and building stones. Mineral beneficiation and ore dressing.

12. 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. Elements of crystal chemistry-types of chemical bonds, coordination number. Isomorphism and polymorphism. Elementary thermodynamics. 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. Pollution of ground and surface water, marine pollution. Environment protection—legislative measures in India; Sea level changes: causes and impact.