

Geologists Examination to Be Held on 13th May 2016 (Download PDF)

(April 15, 2016)

Union Public Service Commission (UPSC) conducts a competitive examination for recruitment and selection to the post of Geologist, Geophysicist and Chemist Group 'A' in GSI and Junior Hydro-geologist (Scientist 'B'), Group 'A' for Central Ground Water Board.

Exam will be held on **13th May 2016**, **Registration** for the IGS has **completed** up to **4th March 2016**, and **notifications** were available form **6th February 2016**.

Exam Pattern of IGS 2016:

The written exam is the most important part. Candidates will have to appear in the written examination which shall be included following papers. The table details the complete information with respect to the Combined Geo Scientist/Geologists Exam Pattern.

Part-I: Combined Geo Scientist/Geologists written Exam Pattern

Sr. No	Paper/Subject	Duration	Marks
1	General English	3 Hours	100

Category – I: Geologists

2	Geology Paper I	3 Hours	200
3	Geology Paper II	3 Hours	200
4	Geology Paper III	3 Hours	200

Category – II: Geophysicists

5	Geophysics Paper I	3 Hours	200
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6	Geophysics Paper II	3 Hours	200
7	Geophysics Paper III	3 Hours	200

Category – III: Chemists

8	Chemistry Paper I	3 Hours	200
9	Chemistry Paper II	3 Hours	200
10	Chemistry Paper III	3 Hours	200

Category – IV: Jr. Hydro-geologists

11	Geology Paper I	3 Hours	200
12	Geology Paper II	3 Hours	200
13	Hydro-geology	3 Hours	200

COMBINED GEO SCIENTIST/GEOLOGISTS WRITTEN EXAM PATTERN

Part-II: Personal Interview/Personality Test – 200 Marks

All candidates who will qualify the written test shall be eligible to be called for the Personal Interview/Personality Test. The maximum marks allotted for this round is 200 as stated in the Combined Geo Scientist/Geologists Exam Pattern.

IGS 2016 Syllabus for Witten Exam

Geologists

(a) Geology Paper I

1. Geomorphology and Remote Sensing
2. Structural Geology
3. Geodynamics
4. Stratigraphy

5. Palaeontology

(b) Geology Paper II

1. Mineralogy and Geochemistry & Isotope Geology
2. Igneous Petrology
3. Metamorphic Petrology & Processes
4. Sedimentology
5. Environmental Geology and Natural Hazards

(c) Geology Paper III

1. Indian mineral deposits and mineral economics
2. Ore genesis and Geophysics
3. Mineral exploration
4. Geology of fuels
5. Engineering Geology

Geophysicists

(a) Geophysicists Paper I

Part A: 100 Marks

1. Solid Earth Geophysics
2. Earthquake and Engineering Seismology
3. Mathematical methods in Geophysics
4. Geophysical Inversion

Part B: 100 Marks

1. Mathematical Methods of Physics
2. Thermodynamics and Statistical Physics
3. Electrodynamics
4. Introductory Atmospheric and Space Physics

(b) Geophysicists Paper II

Part A: 100 Marks

1. Geophysical Potential Fields (Gravity and Magnetic)
2. Electrical and Electromagnetic methods
3. Seismic Prospecting
4. Borehole Geophysics (Principles of Well logging)

Part B: 100 Marks

1. Atomic and Molecular Physics and Properties and Characterization of materials
2. Nuclear and Particle Physics
3. Electromagnetic Theory
4. Classical Mechanics

(C) Geophysicists Paper III

Part A: 100 Marks

1. Radiometric Exploration/Airborne Geophysical surveys for Geological Mapping
2. Marine Geophysics
3. Geophysical Signal Processing
4. Remote Sensing and GIS applications

Part B: 100 Marks

1. Solid State Physics
2. Laser systems
3. Laser cavity modes
4. Electronics and device
5. Digital electronics, Radar systems, Satellite communications
6. Quantum Mechanics

Chemistry

Chemistry Paper I: Inorganic Chemistry

1. Chemical periodicity
2. Chemical Bonding and structure

3. Chemistry of coordination compounds
4. Acid-Base reactions
5. Precipitation and Redox Reactions
6. Organo metallic compounds
7. Nuclear chemistry
8. s-Block Elements
9. p-Block Elements
10. Chemistry of d- and f- block elements

Chemistry Paper II: Physical Chemistry

1. Kinetic theory and the gaseous state
2. Collision of gas molecules, Real gases
3. Liquid state
4. Solids
5. Thermodynamics
6. Application of Second law of thermodynamics
7. Thermodynamics and Equilibrium
8. Acids-bases and solvents
9. Solutions of non-electrolytes
10. Chemical kinetics and catalysis
11. Adsorption and Surface Chemistry
12. Electrochemistry
13. Photochemistry
14. Quantum Chemistry
15. Basic principles and application of spectroscopy
16. UV Spectra
17. PMR Spectra

Chemistry Paper III:

Part-A, Analytical Chemistry: 100 Marks

1. Theoretical basis of Quantitative inorganic analysis
2. Gravimetric Analysis
3. Sampling and treatment of samples for chemical analysis
4. Volumetric Analysis
5. Acid base titrations
6. Redox Titrations
7. Potentiometry
8. Complexometric titrations
9. Chromatographic methods of analysis
10. UV-Visible Spectroscopy
11. Flame photometry and Atomic absorption spectrometry
12. X-ray methods of Analysis
13. Inductively coupled plasma spectroscopy
14. Analysis of Minerals, Ores and Alloys
15. Analysis of petroleum and petroleum products
16. Analysis of coal and coke

PART-B (Organic Chemistry): 100 Marks

1. Basic organic chemistry
2. Organometallic compounds
3. Bonding and physical properties
4. Aldol and related reactions
5. Mechanism of some name reactions
6. Electrocyclic Reactions
7. Organic Reaction Mechanisms
8. Organic Spectroscopy

Hydrogeology

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1. Origin, occurrence and distribution of water
2. Groundwater Hydraulics
3. Groundwater Exploration and Water Well Construction
4. Groundwater Quality
5. Groundwater Management

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