

लोक सेवा आयोग
नेपाल इन्जिनियरिङ्ग सेवा, जियोलोजी समूह, जनरल जियोलोजी उप-समूह, राजपत्र अनंकित द्वितीय श्रेणी,
सहायक स्याम्पलर पदको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

पाठ्यक्रमको रूपरेखा:- यस पाठ्यक्रमको आधारमा निम्नानुसार चरणमा परीक्षा लिइने छ :

प्रथम चरण :-	लिखित परीक्षा	पूर्णाङ्क :- १००
द्वितीय चरण :-	अन्तर्वार्ता	पूर्णाङ्क :- २०

प्रथम चरण – लिखित परीक्षा योजना (Examination Scheme)

विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या X अङ्कभार	समय
सेवा सम्बन्धी	१००	४०	वस्तुगत बहुवैकल्पिक (Multiple Choice)	५० प्रश्न X २ अङ्क = १००	४५ मिनेट

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	२०	मौखिक

द्रष्टव्य :

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
२. लिखित परीक्षामा यथासम्भव निम्नानुसार प्रश्नहरु सोधिनेछ ।

Unit	1	2	3	4	5	6	7	8
No. of Questions	10	5	5	7	8	10	5	

३. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरुको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
४. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरु परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्भन्नु पर्दछ ।
५. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको अन्तर्वार्तामा सम्मिलित गराइनेछ ।
६. पाठ्यक्रम लागू मिति : २०७२/०५/३१ गते देखि

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पत्र/ विषय :- सेवा सम्बन्धी

1. Mathematics and Statistics

1.1. Mathematics

- 1.1.1. Fraction and division
- 1.1.2. Percentage
- 1.1.3. Unitary method
- 1.1.4. Profit and loss
- 1.1.5. Square and square root
- 1.1.6. Measurement of area and volume of regular surface
- 1.1.7. Mensuration
- 1.1.8. Matrix and determinant
- 1.1.9. Indices
- 1.1.10. Set theory
- 1.1.11. Simple algebraic formulae and algebraic equations
- 1.1.12. Graphs of simple equations
- 1.1.13. Linear and quadratic equations
- 1.1.14. Plane geometrical figures and its properties
- 1.1.15. Trigonometric functions and ratios, Pythagoras theorem
- 1.1.16. Height and distance
- 1.1.17. Coordinate geometry (distance formula, equation of straight lines, angle between two lines and equation of circles)
- 1.1.18. Sequence and series

1.2. Statistics

- 1.2.1. Central Tendency : mean , median and mode
- 1.2.2. Line graph and Pie Chart
- 1.2.3. Ogive Curve
- 1.2.4. Mean deviation and standard deviation
- 1.2.5. Coefficient of deviation
- 1.2.6. Coefficient of variation

2. Science

2.1. Physics

- 2.1.1. Measurements and units
- 2.1.2. Simple machines
- 2.1.3. Force, velocity and inertia
- 2.1.4. Newton's laws of motion
- 2.1.5. Newton's laws of gravitation
- 2.1.6. Gravity, mass and weight
- 2.1.7. Pressure
 - 2.1.7.1. Atmospheric pressure
 - 2.1.7.2. Liquid pressure
 - 2.1.7.3. Pascal's law
 - 2.1.7.4. Archimedes principal and its application
- 2.1.8. Work, energy and power

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2.2. Chemistry

- 2.2.1. Classification of elements
- 2.2.2. Physical and chemical change
- 2.2.3. Chemical reaction and equation
- 2.2.4. Acid, base and salt
- 2.2.5. Gases: Hydrogen, Oxygen, Nitrogen, Carbon dioxide and Ammonia
- 2.2.6. Metals : Iron, Copper, Silver and Gold

3. Maps and their understanding (Topographical and Geological maps)

- 3.1. Definition of map
- 3.2. Classification of map
- 3.3. Elements of map
- 3.4. Map preparation
- 3.5. Use/Importance of map
- 3.6. Symbols: Types, necessity and properties
- 3.7. Scale: Small, medium and large
- 3.8. Legend and marginal information
- 3.9. Reference, Coordinate and grid system
- 3.10. Contour and its properties
- 3.11. Data collection, drawing, plotting and interpretation of maps
- 3.12. Sheet numbering in large scale maps

4. General geology

- 4.1. Origin and structure of earth (crust, mantle and core)
- 4.2. Geological time scale
- 4.3. Evolution of life
- 4.4. Fossils and fossil fuels
- 4.5. Geological Structures: Fault, fold, unconformity, etc.
- 4.6. Rocks and minerals
 - 4.6.1. Rocks: Definition and general classification (Igneous, Sedimentary and Metamorphic), major rocks types found in Nepal, soil and its characteristics
 - 4.6.2. Minerals: Definition, general classification, metallic and non-metallic minerals, some common precious stones e.g. diamond, topaz, ruby, tourmaline, amethyst, quartz, etc., Mohs scale of mineral hardness

5. Geology of Nepal Himalaya

- 5.1. Physiographic division of Nepal Himalaya: Terai, Bhawar zone, Churiya (Siwalik), Dun valleys, Mahabharat range, Middle Mountain, High Mountain, Tethys
- 5.2. Geological division of Nepal Himalaya: Terai, Siwalik, Lesser Himalaya, Higher Himalaya, Tibetan Tethys zone
- 5.3. Geo-hazards in Nepal

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6. Sampling techniques

- 6.1. Objective of sampling
- 6.2. Site selection
- 6.3. Sampling Procedures (Methodologies)
 - 6.3.1. Surface excavation
 - 6.3.2. Open pit excavation
 - 6.3.3. Auguring
 - 6.3.4. Drilling
- 6.4. Rock Samples
 - 6.4.1. Description: site description, sample location, sample ID, date and sampler.
 - 6.4.2. Sample type: grab sample, block sample (insitu), core sample
 - 6.4.3. Sample handling: packing, transporting and storing
- 6.5. Soil Sample
 - 6.5.1. Description: site description, sample location, soil moisture condition or groundwater condition, sample ID, date and sampler
 - 6.5.2. Sample type: disturbed samples, undisturbed samples
 - 6.5.3. Sample handling: packing, transporting and storing
- 6.6. Sediment sample
 - 6.6.1. Description: site description, sample location, soil moisture content, sample ID, date and sampler
 - 6.6.2. Sample type: suspended samples, bedload samples
 - 6.6.3. Sample handling: packing, transporting and storing

7. Mines and Mineral Act and Rules of Nepal

8. Civil Service Act 2049 and Civil Service Regulation 2050

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Sample Questions

1. Triangles with unequal sides and angles:
 - A) Right angled Triangle
 - B) Isosceles Triangle
 - C) Scalene Triangle
 - D) Equilateral Triangle
2. Which of the following is not true?
 - A) All points on a contour line are of the same elevation.
 - B) Widely spaced contour lines indicate gentle slope.
 - C) Closed contour lines with higher elevation towards the center indicate depression.
 - D) Equally spaced contour lines indicate uniform slope.
3. Tectonically, Nepal is divided into:
 - A) Three tectonic zone
 - B) Four tectonic zone
 - C) Five tectonic zone
 - D) Six tectonic zone
4. Rock samples can be collected from the field in the form of:
 - A) Grab samples
 - B) Block samples
 - C) Core samples
 - D) All of the above
5. Which of the following minerals is not listed as a very precious mineral in the Mines and Minerals Rules of Nepal
 - A) Gold
 - B) Rubby
 - C) Thorium
 - D) Silver