S–4481	Sub. Code
	23BGE1C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Geology

GENERAL GEOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What are the types of volcanoes?
2. Define ‘Stalactite'.
3. Write a short note on dunes.
4. Define water table.
5. Define Airy’s theory.
6. What are the types of glaciers?
7. Name the landforms produced by fluvial process.
8. What is meandering?
9. What is coral reef?
10. What is meant by ocean currents?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the types of volcanoes.

Or

(b) Describe the causes and effects of earthquake.

12. (a) Explain the concept of isostasy.

Or

(b) Enumerate and explain the types of sand dunes with sketch.

13. (a) Explain

(i) River capture

(ii) River meandering

(iii) Stream rejuvenation

(iv) River terraces

(v) Braided streams

Or

(b) Describe the concepts and evidences of continental drift.

14. (a) Explain the landforms formed by groundwater.

Or

(b) Describe the development of river valley.

15. (a) Explain the types and origin of coral reefs.

Or

(b) Give a detailed note on sea, ocean, waves, tides and currents.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain volcanoes and types of volcanic eruptions with neat sketch.

17. Describe the mountain chain and classification of mountains.

18. Explains the landforms formed by fluvial process.

19. Describe the origin of glaciers, types and movements of glaciers.

20. Explain the origin of lakes, classification of lake deposits and Indian lakes.

———————

S–4482

Sub. Code
23BGE1C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Geology

GEO STATISTICS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define the scope of statistics.
2. Define frequency polygon.
3. Define median.
4. Define Combined arithmetic mean.
5. What is Dispersion?
6. What is Quartile deviation?
7. Define the linear least square method.
8. Define the method of least square method
9. Define Rank correlation.
10. Define dependence.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain definition and Scope of statistics.

Or

(b) Discuss in detail on Ogives.

12. (a) Explain the definition, calculation of mean and its limitations.

Or

(b) Explain the merits of combined arithmetic mean.

13. (a) Explain Quartile deviation.

Or

(b) Explain Absolute measures of dispersion.

14. (a) Explain non-linear least square method.

Or

(b) Explain Ordinary least square method.

15. (a) Give an account on regression equation and their properties.

Or

(b) Write elaborately on correlation.

Part C (3× 10 = 30)

Answer any **three** questions.

16. Explain Graphical representation of data.

17. Explain the term dispersion and describe absolute and relative measures.

18. Write elaborately on standard deviation.

19. Explain least square method.

20. Explain correlation and Karl Pearson's co-efficient.

———————

S–4483

Sub. Code
23BGE1S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Geology

UNDERSTANDING THE EARTH

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. What is solar system?
2. Write a short note on meteorites.
3. What are the layers of Earth?
4. Define crust.
5. Define trench.
6. What is sea floor spreading?
7. Describe the Coriolis force.
8. What is wave erosion?
9. What is the chemical composition of Earth?
10. Name the elements present in Earth.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the origin of Universe.

Or

(b) Describe the general characteristics of planets.

12. (a) Explain the internal structure of Earth.

Or

(b) Give a detailed account on Earth's magnetic field.

13. (a) Explain the concept of plate tectonics.

Or

(b) Elaborate on Mid oceanic Ridges.

14. (a) Explain the concepts of Coriolis effect.

Or

(b) Describe the oceanic current system.

15. (a) Explain the concepts of geochemical cycle.

Or

(b) Give a detailed note on isotropic fractionation.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Elaborate the Earth, its rotational and revolutional parameters and its age.

17. Describe in detail about the internal and external structures of Earth.

18. Explain the concepts of continental drift with evidences.

19. Describe the oceanic currents and its types.

20. Discuss about the chemical differentiation and composition of Earth.

———————

S–4484

Sub. Code
23BGE1FC

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Geology

FUNDAMENTALS OF GEOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. Name the inner and outer planets of the solar system.
2. Describe the size and density of the Earth.
3. What is the composition and thickness of Crust?
4. What is Conrad Discontinuity?
5. What is aggradation?
6. Define Weathering.
7. List out the layers of the Atmosphere.
8. Name two types of mass wasting.
9. List out the oceanic landforms.
10. What is submarine canyon?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give a brief note on scope and branches of geology.

Or

(b) Explain about the Nebular hypothesis.

12. (a) Write a short notes on seismic waves.

Or

(b) Explain about the Discontinuities.

13. (a) Explain the various process of Weathering.

Or

(b) Explain about the Relief features.

14. (a) Explain about the Hydrosphere and Lithosphere.

Or

(b) Define the slow flowage types in Mass wasting.

15. (a) Define Continental margins and explain the features associated with them.

Or

(b) Write a short note on submarine Canyons and its characteristics.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the concept of Nebular and Planetesimal Hypothesis.

17. Explain the principles and application of absolute and relative dating method.

18. Explain the concept of Gradation, aggradation and degradation processes.

19. Describe in detail about the El-Nino effect.

20. Discuss the formation mechanisms and geomorphological characteristics of,

    (a) Submarine Canyons

    (b) Sea Mounts

    (c) Guyots

    (d) Mid-Oceanic ridges

———————

S–4485

Sub. Code
23BGE2C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

GEOLOGY

PALAEONTOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. What is the uses of fossil?
2. What is the scope of palaeontology?
3. Define the geological history of Anthozoa.
4. Define peristome.
5. What are the parts of brachiopoda?
6. Define the suture pattern of Ammonoidea.
7. Define the geological history of trilobite.
8. What is graptoloidea?
9. What is Archaeopteryx?
10. Define Saurischian dinosaurs.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the uses of fossils.

Or

(b) Describe the uses of foraminifera and its geological history.

12. (a) Describe the morphology of Anthozoa.

Or

(b) Explain the general morphology of Crinoidea.

13. (a) Explain types of dentition pattern in pelecypoda with example.

Or

(b) Describe the suture pattern in class Cephalopoda.

14. (a) Describe the general morphology of trilobita.

Or

(b) Give a short note on lower Gondwana flora.

15. (a) Write a note on ornithistian dinosaurs.

Or

(b) Write a short note on archaeopteryx.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Discuss in detail note about Foraminifera and its geological history.

17. Describe morphology, classification and geological history of class echinoidea.

18. Give an account on phylum Brachiopoda.

19. Describe about the phylum Arthropoda.

20. Write a note on elementary idea of vertebrate fossils of India.

———————

S–4486

Sub. Code
23BGE2S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Geology

BASICS OF EARTH SCIENCES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. Define the Universe.
2. List out the inner plants of solar system.
3. Define meteors and comets.
4. What is hydrosphere?
5. What is half-life period in radioactivity?
6. What are seismic waves.
7. What are the types of fault?
8. Define unconformity.
9. What is fossilization?
10. What are the types of fossils?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Describe in detail about the inner planets of solar system.

Or

(b) Explain the main hypothesis regarding the origin of the Earth.

12. (a) Explain the layers of atmosphere.

Or

(b) Discuss the phenomenon of EI-Nino.

13. (a) Explain about the radiometric methods.

Or

(b) Write a short note on the significance of seismic waves.

14. (a) Explain in detail about the geological action of glaciers.

Or

(b) What is fold and explain their types.

15. (a) Write a short note on fossilization and its types.

Or

(b) List out the national fossil parks across India.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Provide a detailed overview of the Solar system.

17. Discuss the types and significance of satellites.

18. Describe about the Earth's interior with a neat sketch.

19. Explain in detail about the seafloor spreading and its evidence.

20. Give an account on the Geological time scale.

———————

S–4487

Sub. Code
23BGE2S2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Geology

STRATIGRAPHY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** questions

1. What is lithostratigraphy?
2. List out the minerals in archaean rocks.
3. Define the structure and tectonics of vindhyan super group.
4. What are the minerals in Proterozoic rocks?
5. What is the age of saline series?
6. Define the lithology of Gondwana super group
7. Define the distribution of deccan traps.
8. List out the fossils in Trichinopoly stage?
9. Define the karewa formation.
10. Define upper Siwalik system.

Section B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the types of stratigraphic units.

Or

(b) Write a note on geological timescale.

12. (a) Discuss about Delhi super group.

Or

(b) Explain the classification of cuddapah super group.

13. (a) Write a note on Jammu & Kashmir and spiti

Or

(b) Discuss about distribution of coal deposits.

14. (a) Brief note on Cenozoic rocks.

Or

(b) Describe Triassic of spiti.

15. (a) Describe the classification of siwalik group.

Or

(b) Explain quaternary formations.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Write a detailed note on Physiographic divisions of India.

17. Give a detailed account on vindhyan super group.

18. Write a detailed note on Gondwana super group.

19. Write in detail about the cretaceous of Trichinopoly.

20. Enumerate in detail the tertiary formations.

———————

S–4488

Sub. Code
23BGE3C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Geology

MINERALOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define a mineral.
2. What is Phosphorescence?
3. Define plane polarized light.
4. What are Nicol Prisms?
5. Define Pleochroism.
6. What are Uniaxial minerals?
7. List the Quartz varieties.
8. What are the uses of Beryl?
9. What are Orthopyroxemes?
10. List a few Mica group minerals.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Enumerate the physical properties of minerals depending upon light.

Or

(b) Describe the Types of Cleavages.

12. (a) Compare Refraction and Reflection with suitable diagrams.

Or

(b) Describe the Optical accessories.

13. (a) Describe Biaxial Indicatrix with a neat diagram.

Or

(b) Describe the Types of Extinction.

14. (a) Classify the Feldspar varieties.

Or

(b) Describe the Olivine group of minerals.

15. (a) Compare Zircon and Topaz.

Or

(b) Describe Andalusite and Sillimanite.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Analyze the principle of chemistry as applied to minerals.

17. Categorize the minerals into Isotropic and Anisotropic minerals.

18. Discuss various types of Extinction in minerals and Extinction angle measurements.

19. Discuss the Garnet group of minerals with respect to their solid solution, physical chemical and optical properties and their uses.

20. Categorize the pyroxene group of minerals giving their physical properties, chemical composition and optical characters.

———————

S–4489	Sub. Code
	23BGE3C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Geology

CRYSTALLOGRAPHY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Unit cell.
2. What is Axial ratio?
3. Define hemimorphic form.
4. What is Diploidal form?
5. Give four example minerals in Hexagonal system.
6. Define Trirhombohedral class.
7. Mention different classes found in Orthorhombic system.
8. Type mineral of Monoclinic system.
9. Define Twinning plane.
10. Example of interpenetration twin.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Write short notes on Miller Indices.

Or

(b) Describe contact Goniometer with a neat sketches.

12. (a) Enumerate symmetry elements and forms of normal class of Isometric system.

Or

(b) Describe Forms and combinations of the Tetragonal system.

13. (a) Enumerate hemimorphic class of Hexagonal system.

Or

(b) Add a short note on scalenohedral class of Hexagonal system.

14. (a) Describe normal class of Monoclinic system.

Or

(b) Short note on rhombic bipyramidal and rhombic pyramidal class of Orthorhombic system.

15. (a) Give a note on twinning in Feldspars.

Or

(b) Write notes on twinning in Staurolite and Calcite.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain law of Rational indices and forms with simple combinations

17. Describe the axial characters. System, symmetry elements and forms present in

    (a) Garnet.

    (b) Pyrite.

    (c) Cuprite.

18. Enumerate Dihexagonal-Bipyramidal and hexagonal Bipyramidal-Trigonal systems

19. Give detailed account on Orthorhombic system.

20. Write in detail about various laws of Twinning in crystals.

———————

S–4490

Sub. Code
23BGE3S1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Geology

GEO-HERITAGE AND GEO-TOURISM

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the role of geoconservation in sustainable tourism?
2. Define Geo-Heritage.
3. Describe Geological sites.
4. What is the importance of conserving geological sites of national importance?
5. Name one potential Geoparks in Tamil Nadu and its significance.
6. Define UNESCO.
7. Name a significant geological feature in Meghalaya.
8. What is the potential of geotourism in Uttarakhand?
9. What criteria are used to select geosites for protection?
10. Define role of local government in selection of Geosite.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Describe about the management of Geoparks.

Or

(b) Describe about the Geodiversity.

12. (a) Elucidate Geotourism and sustainable development of Geoheritage.

Or

(b) Write about the steps involved in the conservation of geological sites.

13. (a) Describe about the Thiruvakkari fossil wood park in Tamil Nadu.

Or

(b) Write about the potential geopark sites and its significance in Kerala.

14. (a) Write about the potential geopark sites and its significance in Jharkhand.

Or

(b) Describe about the Dzukou valley in Nagaland.

15. (a) Describe about the Educational value of selection of Geosites.

Or

(b) Write about Geoheritage laws in the country?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain importance and history of concepts of Geotourism and Geoparks?

17. Explain about the threats to geodiversity?

18. Write about the potential geopark sites and its significance in :

    (a) Andhrapradesh

    (b) Karnataka

19. Write about the potential geopark sites and its significance in :

    (a) Uttar Pradesh

    (b) Arunachal Pradesh

20. Discuss the guidelines and role of central government in selection of geosites.

———————