S–5839

Sub. Code
23BGE1C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

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 volcanic eruption?
2. Define isoseismal lines.
3. List out any two evidences of continental drifts.
4. Define Sea floor spreading.
5. Why is loess an important sediment?
6. Define Karst topography.
7. Differentiate between rapid and waterfall.
8. What is a 'Fjord'?
9. What are the types of oceans current?
10. How are lakes formed?

Part B (5 × 5 = 25)

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

11. (a) Explain the classification of volcanoes.

Or

(b) Explain the distribution of earthquake on Earth.

12. (a) Describe the birth of ocean in relation with the sea floor spreading.

Or

(b) Explain any one of the geological events of plate tectonics.

13. (a) Enumerate the landforms produced by wind and explain with neat sketch.

Or

(b) Give a detailed account of Karst topography and its causes.

14. (a) Describe the development of river valley.

Or

(b) Explain the drainage pattern.

15. (a) Describe the erosional features formed by glacier.

Or

(b) Differentiate between wave and tide.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a detailed note on earthquake.

17. Describe the concept of plate tectonics.

18. Explains the landforms formed by wind with a neat sketch.

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

20. Explain the landforms produced by marine processes.

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S–5840

Sub. Code
23BGE1C2

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Geology

GEOSTATISTICS

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define Geostatistics.
2. Define a histogram and explain its significance.
3. Define mode.
4. Define the term central tendancy.
5. Define Range.
6. What is standard deviation?
7. Define Least - Square method.
8. Explain the role of co-efficient 'a' in equation $Y = ax^2 + bx + c$?
9. What is correlation?
10. Define Regression.

Part B (5 × 5 = 25)

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

11. (a) Explain the scope of statistics.

Or

(b) Explain Graphical representation of data.

12. (a) Explain the measures of central tendancy in mean.

Or

(b) Describe combined arithmetic mean - merits and demerits.

13. (a) Explain mean deviation.

Or

(b) Explain standard deviation.

14. (a) Explain Ordinary or linear least square method.

Or

(b) List out merits and demerits of least square method.

15. (a) What is correlation? Explain Karl Pearson's coefficient of correlation.

Or

(b) Explain regression and its properties.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Give an account on diagrammatic representation of data.

17. Explain the central tendancy in mean, mode and median.

18. Explain the measures of dispersion.

19. Explain least square method.

20. Explain rank correlation and Spearman's rank correlation coefficient.

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S–5842

Sub. Code
23BGE1FC

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Geology

FUNDAMENTALS OF GEOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is solar system? Write the name of planets of solar system in sequence.

2. What are the merits of Nebular hypothesis?

3. Name the discontinuities in the Earth's interior.

4. Mention the types of seismic waves.

5. Define relief features.

6. List out the geomorphic agents.

7. What is El-Nino?

8. Define Hydrosphere.

9. Define Continental shelf.

10. Differentiate between Sea mounts and Guyots.

Part B (5 × 5 = 25)

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

11. (a) Explain about the Tidal and Dust cloud Hypothesis.

Or

(b) Describe in detail about the Earth as a member in the solar system.

12. (a) Write a short notes on the composition and thickness of the Crust, Mantle and Core.

Or

(b) Discuss in detail about the Radioactivity method.

13. (a) Explain the influence of Climate on Weathering and its Products.

Or

(b) Describe the role of geomorphic agents shaping the Earth's surface.

14. (a) Explain the zones of atmosphere.

Or

(b) Discuss in detail about the Mass wasting.

15. (a) Describe Ocean basins and their Distribution.

Or

(b) Explain the formation of Mid-Oceanic ridges.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the various Hypothesis proposed for the origin of the Earth.

17. Describe the interior of the Earth with a neat diagram.

18. Describe the classification of relief features into I, II and III order.

19. Discuss in detail about the types of mass wasting.

20. Describe the distribution of Ocean basins and Continents on the Earth's surface.

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S–5843

Sub. Code
23BGE2C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Geology

PALAEONTOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define fossil.
2. What is petrification?
3. Define solitary corals with an example.
4. What is the diet of echinoderms?
5. Define pedicle valve.
6. What is hinge line?
7. What are the division trilobita bodies?
8. Define graptolites.
9. Define saurischian dinosaur.
10. Define vertebrate.

Part B (5 × 5 = 25)

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

11. (a) Write an account on the uses of fossils.

Or

(b) Describe about habits and habitats of animals.

12. (a) Categorize the morphology of corals.

Or

(b) Describe the general morphology of Echinoids.

13. (a) Describe about dentition pattern of pelecypoda.

Or

(b) Describe about the general morphology of brachiopoda.

14. (a) Write short note on Gangamopteris with neat sketches.

Or

(b) Describe the shapes of theca in graptolites.

15. (a) Write note on dinosaurs.

Or

(b) Illustrate the vertebrate fossils in India.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on general morphology of foraminifera.

17. Discuss about the morphology, classification and geological history of Echinodermata.

18. Enumerate the morphology, classification and geological history of class gastropoda.

19. Summarize the morphology, classification and stratigraphi importance of Trilobita.

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

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S–5844

Sub. Code
23BGE2S1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Geology

BASICS OF EARTH SCIENCES

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Nuclear Fusion.

2. List the hypothesis for formation of Solar system.

3. Define Satellites with examples.

4. Differentiate Asteroids and Meteors.

5. Expand SIAL and SIMA.

6. Define Asthenosphere.

7. What are the three stages of deformation of rocks?

8. What is Convergent boundary?

9. What is casts in palaeontology?

10. List out the periods of the Palaeozoic era in chronological order.

Part B (5 × 5 = 25)

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

11. (a) Write a short note on Big Bang theory.

Or

(b) Distinguish between Inner and Outer planets.

12. (a) Write a brief note on layers of Atmosphere.

Or

(b) Give a note on Solstice and its types.

13. (a) What is Crust? Write it types and characteristics.

Or

(b) Write a note on U-Pb dating.

14. (a) Write a note on the types of Volcanoes based on eruption style.

Or

(b) Give a note on the terminologies of Fold.

15. (a) Write a note on application of fossils.

Or

(b) What are the different modes of preservation of fossils?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Illustrate various hypotheses on formation of Solar System.

17. Explain the El Nino and La Nina phenomenon.

18. Elucidate the interiors of the earth with neat sketch.

19. Elaborate the Geological action of glaciers in evolution of landforms.

20. Tabulate the Geologic time Scale with Eon, Era, Period and Epoch.

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S–5845

Sub. Code
23BGE2S2

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Geology

STRATIGRAPHY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Write the stratigraphic succession wherever necessary.

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Theory of Uniformitarianism.
2. List Economic importance of Archacon rocks.
3. What is Eparchaean Unconformity?
4. Brief note on stylolites and stromatolites.
5. Name the rocks in Lameta beds.
6. Characterise Spiti.
7. Define Trichy cretaceous.
8. Define infratrappeans.
9. Division of lower Siwaliks.
10. Varkala and Quilon beds.

Part B (5 × 5 = 25)

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

11. (a) Enumerate Geological Time Scale.

Or

(b) Describe the characteristics and economic importance of Archaean rocks of Peninsula.

12. (a) Write brief note on the Vindhyan equivalence in the Peninsular India.

Or

(b) Describe Kurnool group of rock.

13. (a) Describe the age of Saline series.

Or

(b) Give a brief account on Gondwana flora and fauna and its stratigraphy.

14. (a) Give a brief account of Deccan traps with reference to its geologic time units.

Or

(b) Bring out the character and divisions of Jurassic Kutch.

15. (a) Describe Tertiary formations of Karewa formations in Cambay basin.

Or

(b) Explicit on Tertiary rocks of Tami Nadu.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain principles of Stratigraphy.

17. Explain characteristics study and economic importance of Cuddapah's.

18. Elaborate the paleo climate, sedimentary history along with the classification and age of Gondwana Super group.

19. Explain stratigraphy of Cretaceous rocks of Trichinopoly.

20. Enumerate in detail about paleogeography and faunal distribution of Siwalik system.

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S–5846

Sub. Code
23BGE3C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Third Semester

Geology

MINERALOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Hardness of a mineral?
2. Define polymorphism.
3. Define Isotropism.
4. What is refractive index?
5. Define Extinction.
6. What is Quartz Wedge?
7. List the olivine group of minerals.
8. What are plagioclase feldspars?
9. What are the types of cleavages in Hornblende?
10. What do you understand by Sillimanite?

Part B (5 × 5 = 25)

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

11. (a) Describe the specific gravity measurements of minerals.

Or

(b) Compare isomorphism and pseudomorphism giving examples.

12. (a) Elucidate Double Refraction.

Or

(b) Describe the parts of a petrological microscope.

13. (a) Describe the extinction angle measurements.

Or

(b) Compare the silicate structure of chain silicates with a neat sketch.

14. (a) Describe the Feldspathoid group of minerals.

Or

(b) Classify the Garnet group of minerals.

15. (a) Compare orthopyroxenes with clinopyroxenes.

Or

(b) Describe the varieties of Mica.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Illustrate the physical properties of minerals giving neat diagrams wherever necessary.

17. Discuss the optical properties of minerals.

18. Prepare a detailed account on Uniaxial and Biaxial minerals.

19. Discuss the Feldspar group of minerals.

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

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S–5849

Sub. Code
23BGE4C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Geology

STRUCTURAL GEOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define contour line.
2. What is a Dip and strike?
3. Define stress and strain.
4. Define Syncline and Anticline.
5. What is a horst and graben?
6. Define compressional faults.
7. Define joint surface.
8. What is Columnar Joint?
9. Define an Unconformity.
10. What is Off lap?

Part B (5 × 5 = 25)

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

11. (a) Describe the parts, functions and uses of the Brunton compass and how it is used in field mapping.

Or

(b) Elucidate the parts, functions and uses of the Clinometer compass and how it used in field mapping.

12. (a) Write note on the types of stress and strain.

Or

(b) How fold are classified based on axial plane?

13. (a) What are the criteria for recognizing faults in the field?

Or

(b) Describe the geometrical classification of faults.

14. (a) Describe the repetition of outcrops due to erosion and faulting.

Or

(b) Write note on Joint sets and Joint systems.

15. (a) Describe the criteria to distinguishing unconformities from faults.

Or

(b) Explain the criteria for recognition of overlap.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the following :

(a) Outcrops and exposures

(b) Attitude of beds.

17. Write a detail account on origin of foliation and lineation.

18. Discuss the genetic classification of faults and their significance.

19. Describe the classification of joints and explain how they are related to other structures.

20. Give an detailed account on the kinds of Unconformaties with neat sketch.

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S–5850

Sub. Code
23BGE4S1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Geology

FIELD GEOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Ores.
2. What is pitting?
3. Define Strike.
4. Differentiate True dip and apparent dip.
5. What is the formula to calculate the true thickness of the bed?
6. What is repetition of outcrops?
7. Define Channel sampling
8. What are samples?
9. List the details that to be printed on the map.
10. Define Topographic map.

Part B (5 × 5 = 25)

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

11. (a) Describe guidelines for identification of outcrops in field.

Or

(b) Write a note on types of drilling.

12. (a) Write a brief note on various topographic features.

Or

(b) Give a note on importance of dip and strike measurement.

13. (a) How to calculate vertical thickness from field data? Give example.

Or

(b) Write the relationship between vertical and true thickness.

14. (a) Give a note on Cone and Quartering.

Or

(b) Elucidate car and muck sampling.

15. (a) Define Scale in map. Describe its types.

Or

(b) Describe the symbols used to indicates the structural features.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a detail note on field equipments.

17. Explain the influence of dip and slope on outcrop.

18. Discuss the conditions that influence the repetition of outcrops.

19. Define sampling. Explain the regulations for collection as per size and purity.

20. Elaborate different types of information can be included on a map.
