

F-2597

Sub. Code

7BGE1C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Geology

DYNAMIC GEOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define inner planets with example.
2. Define solar system.
3. Define types of volcanoes with examples.
4. Define half life period.
5. Define isoseismal lines.
6. Define seismograph and seismogram.
7. What is Isostasy?
8. Define mountain chain.
9. What is divergent plate boundary?
10. Define Relief feature.

Part B**(5 × 5 = 25)**

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

11. (a) Write note on Earth as a member of solar system.

Or

- (b) Write note on relation of Earth with other planets and its size and density.

12. (a) Give short account on Age of the Earth.

Or

- (b) Write note on types of volcanic eruption.

13. (a) Give an account on Seismic waves.

Or

- (b) Write note on effects and causes of earthquake.

14. (a) Write note on origin of Tectonic mountains.

Or

- (b) Give brief account Continental drift theory.

15. (a) Describe sea floor spreading.

Or

- (b) Write short note on lithospheric plates.

Part C $(3 \times 10 = 30)$ Answer any **three** questions.

16. Give detailed account on Origin of the Earth with neat sketches.
 17. Write an essay on radioactive dating method.
 18. Explain the internal structure of earth with neat sketches.
 19. Give detailed note on Isostasy.
 20. Discuss the concept of plate tectonics.
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F-2598

Sub. Code

7BGE1C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

First Semester

Geology

GEOMORPHOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define mass wasting.
2. Define Biological weathering.
3. Define sand dunes.
4. Define water table.
5. Define porosity.
6. Define stream order.
7. Define moraines.
8. Define iceberg.
9. Define abyssal plain.
10. Define shoreline.

Part B

(5 × 5 = 25)

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

11. (a) Write short note on slow flowage types.

Or

- (b) Write note on the geomorphologic agents.

12. (a) Write short note on sand dunes and their types.

Or

- (b) Write in brief about springs.

13. (a) Give an account on stream rejuvenation.

Or

- (b) Write short note on drainage patterns.

14. (a) Give a brief outline on moraine deposits.

Or

- (b) Write note on types of glacier and their movement.

15. (a) Write short note on sea mounts and guyots.

Or

- (b) Write short note on types of shorelines.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on weathering and its types.
17. Discuss the geological work and landforms produced by groundwater.

18. Describe about base level erosion and graded profile produced by river action.
 19. Give detailed account on glacial epochs and causes of glaciations.
 20. Write detailed note on origin and classification of lakes deposits.
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F-2599

Sub. Code

7BGE2C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Second Semester

Geology

PALAEONTOLOGY AND GENERAL STRATIGRAPHY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Palaeontology.
2. Define zone fossils.
3. Define halysites.
4. What is age of Echinoidea?
5. Define gryphaea.
6. Write the name of Brachiopoda having straight hing line
7. Write note on Ptilophyllum.
8. Define system.
9. Define Correlation.
10. Define bio-stratigraphy.

Part B**(5 × 5 = 25)**

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

11. (a) Write about the morphology of Textularia.

Or

- (b) Write a note on mode of preservation of fossils.

12. (a) Describe the geological history of phylum Echinodermata.

Or

- (b) Write note on phylum Ceolenterata.

13. (a) Describe the morphology of following:

(i) Productus

(ii) Turritella.

Or

- (b) Describe the morphology of phylum Brachiopoda.

14. (a) Give a brief note on lower Gondwana flora.

Or

- (b) Write a note on Arthropoda.

15. (a) Write a short note on geological time scale.

Or

- (b) Give a brief account on laws of stratigraphy.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on general morphology, classification, geological history and stratigraphic significance of Foraminifera.
 17. Write an essay about Anthozoa.
 18. Give a detail understanding on morphology and geological history of Gastropoda.
 19. Discuss about morphology and geological history of Trilobita.
 20. Explain principle of stratigraphy.
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F-2600

Sub. Code

7BGE3C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Geology

CRYSTALLOGRAPHY AND OPTICAL MINERALOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define the elements of Crystal symmetry.
2. Compare Hemimorphism and Enantionmorphism.
3. Give the symmetry of Rutile.
4. Give the symmetry of Tourmaline.
5. Write the laws of twinning.
6. Give the symmetry of Sulphur.
7. Define Isotropism.
8. Define the use of Mica plate.
9. Define Dichroism.
10. Define Extinction angle.

Part B**(5 × 5 = 25)**Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the Normal, Pyritohedral and Tetrahedral classes of Cubic system.

Or

- (b) What is interfacial angle and describe how to measure it?

12. (a) Write short note on Scheelite.

Or

- (b) Write short note on Quartz.

13. (a) Write short note on Orthoclase.

Or

- (b) Give account on the irregularities in crystals.

14. (a) Describe the construction and uses of Gypsum plate.

Or

- (b) Write short note on Brewster's law and Double refraction.

15. (a) Write brief note on Interference colour and the order of Interference colour.

Or

- (b) Describe the optical classification of minerals.

Part C**(3 × 10 = 30)**Answer any **three** questions.

16. Write a detail note on Weiss system of crystal notation.
 17. Explain the symmetry elements and forms of various classes of Tetragonal system with special reference to Vesuvianite.
 18. Explain the symmetry elements and forms of various classes of orthorhombic system with special reference to Barite.
 19. Discuss the parts and the functions of Nicol prism.
 20. Write in detail about the various optical properties of minerals.
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F-2601

Sub. Code

7BGE3C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Third Semester

Geology

MINERALOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define mineral.
2. Define Polymorphism.
3. Define Ino-silicates with neat sketch.
4. Define Physical properties of Feldspathoid group.
5. Define optical properties of Clino-pyroxene.
6. Define occurrence of Amphibole.
7. Define Physical properties of Scapolite group.
8. Define the occurrence of Biotite.
9. Composition of chlorite.
10. Define physical properties of Beryl.

Part B $(5 \times 5 = 25)$

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

11. (a) Describe Mohs scale of hardness.

Or

- (b) Give short note on physical properties of minerals.

12. (a) Write a brief account on Silicate structures.

Or

- (b) Write short notes on Na-feldspar group of minerals.

13. (a) Write short notes on Pyroxene group of minerals.

Or

- (b) Write short notes on ortho-amphibole group of minerals.

14. (a) Write a note on Zeolite group of minerals.

Or

- (b) Describe the physical and optical properties of Wollastonite.

15. (a) Describe the physical and optical properties of Talc.

Or

- (b) Write a short note on Sphene.

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

Answer any **three** questions.

16. Write an essay on scope, general characteristics and mode of occurrence of minerals.

17. Give a detail understanding on Quartz group.

18. Give a detailed note on the Garnet group of minerals.
 19. Write an essay on Rhodonite group of minerals.
 20. Write in detail about physical, chemical properties and mode of occurrence of Rutile and magnesite.
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F-2602

Sub. Code

7BGE4C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Geology

INDIAN STRATIGRAPHY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the major stratigraphic formations of India.
2. Give the type area of Archeans in Peninsular India.
3. Write any two points on Semri series.
4. Sketch the structure of Cuddapah basin.
5. What are purple sandstone beds?
6. Write on chari beds.
7. Write any two points on the palaeoclimatic conditions of deposition of Gondwana rocks.
8. List any four fossils available in Ariyallur formation.
9. What are Intertrappeans?
10. What are cuddalore sandstone beds?

Part B**(5 × 5 = 25)**

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

11. (a) Write a note on the Economic importance of Dharwars.

Or

- (b) Write a brief note on the major physiographic formations of India.
12. (a) Write a short note on the Economic importance of Cuddapahs.

Or

- (b) Write note on equivalents of Vindhyan system in the Peninsular India.
13. (a) Write a short note on Triassic formations of spiti.

Or

- (b) Write a brief note on the Jurassic formations of Kashmir.
14. (a) Write note on the palaeoclimatic conditions of deposition of Gondwana supergroup.

Or

- (b) Write short note on the marine cretaceous beds of Trichinopoly.
15. (a) Write briefly on Siwalik system.

Or

- (b) Describe Intertrapeans and Intratrapeans.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the stratigraphic divisions of India by comparing their physiography.
 17. Write an essay on the Vindhyan system, the stratigraphic succession and Economic importance.
 18. Write in detail about the marine palaeozoic formations and its significance.
 19. Write an essay on the Jurassic formations of Kutch area, its stratigraphy and geological importance.
 20. Write in detail about the quaternary formations with specific importance on Cuddalore Sandstone, Warkala beds and Quilon beds.
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F-2603

Sub. Code

7BGE4C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fourth Semester

Geology

STRUCTURAL GEOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define topographic map.
2. What is outcrop?
3. Define strain.
4. Define normal fault.
5. What is rupture?
6. Define Tectonism.
7. What is fabrics in rocks?
8. What is magnetic north?
9. Define unconformity.
10. Define bedding plane.

Part B $(5 \times 5 = 25)$

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

11. (a) Write short note on the rule of V with the outcrop.
- Or
- (b) Give an account on the identification of true and vertical thickness of a bed.
12. (a) Write short note on the shear stress.
- Or
- (b) Write about the recognition of fold in the field.
13. (a) Write short note on strike slip and dip slip fault with a neat sketch.
- Or
- (b) Give an account on thrust fault.
14. (a) Write short note on joints.
- Or
- (b) Give an account on nappe.
15. (a) Write short note on angular unconformities.
- Or
- (b) Write short note on Brunton compass and its uses.

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

Answer any **three** questions.

16. Write in detail about the preparation and uses of geological map.
17. Explain the geometry and classification of folds.

18. Discuss the genetic classification of fault.
 19. Explain in detail about the joint set and system.
 20. Write in detail about the criteria to distinguish unconformity from fault.
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F-2604

Sub. Code

7BGE5C1

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Geology

IGNEOUS PETROLOGY

(CBCS – 2017 onwards)

Time : Three Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define primary rocks.
2. What are multiple skills?
3. Define Xenolith.
4. Define columnar joints.
5. Explain Eutectic point.
6. What do you mean congruent melting?
7. What is solid solution?
8. Write abbreviation of CIPW.
9. What are mafic minerals?
10. Write the minerals present in granite rocks.

Part B**(5 × 5 = 25)**

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

11. (a) Short account on scope of petrology.

Or

- (b) Discuss discordant forms.

12. (a) Briefly describe vasicular and amygdaloidal structures.

Or

- (b) Short note on micro structures of igneous rocks.

13. (a) Explain unicomponent magma crystallization.

Or

- (b) Explain Assimilation.

14. (a) Explain Shand's saturation principles.

Or

- (b) Write short account on Tabular classification.

15. (a) Write the petrography of alkaline rocks.

Or

- (b) Brief account on pegmatite.

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

Answer any **three** questions.

16. Give a detailed account on chemical composition of earth.
 17. Explain in detail about textures of Igneous rocks.
 18. Describe Diopside – Anorthite system of crystallization and add a note on petrographic significance.
 19. Explain in detail about classification of CIPW. Write its merits and demerits.
 20. Discuss in detail about petrographic characteristics and petrogenesis of Anorthosites.
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F-2605

Sub. Code

7BGE5C2

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Geology

SEDIMENTARY AND METAMORPHIC PETROLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define graded bedding with neat sketch.
2. Define disintegration and decomposition.
3. Define terrarosa.
4. What is shale?
5. What is chert?
6. Define caliche.
7. Define contact metamorphism.
8. What is Migmatites?
9. Define metasomatic process.
10. Define pneumatolytic metamorphism.

Part B

(5 × 5 = 25)

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

11. (a) Give an account on the classification of sedimentary rocks.

Or

- (b) Write note on organic structure of sedimentary rock.

12. (a) Describe soil and its formation with neat sketch.

Or

- (b) Give a brief account on non-elastic deposits and their classifications.

13. (a) Write short note on Carbonaceous origin of sedimentary deposits.

Or

- (b) Give short note on varieties of quartz.

14. (a) Give account on anatexis.

Or

- (b) Write brief note on thermal metamorphism.

15. (a) Give brief account on petrographic description of Charnockites.

Or

- (b) Describe plutonic metamorphism and its products.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give detailed account on origin of sedimentary rocks.
17. Describe the following:
 - (a) Breccia
 - (b) Shale
 - (c) Conglomerate
18. Write an essay on organic deposits of the following
 - (a) Siliceous
 - (b) Phosphatic
 - (c) Gypsum
19. Discuss agents and kinds of metamorphism.
20. Explain petrographic description of the following:
 - (a) Slate
 - (b) Hornfels
 - (c) Schist

F-2606

Sub. Code

7BGEE1A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Geology

Elective: FIELD GEOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is traversing in field?
2. Define orientation work of samples.
3. Define clinometers compass.
4. What is true north and magnetic north?
5. Define vertical thickness of a bed.
6. What is Outcrop?
7. Define coning and quartering.
8. Define Channel Sampling.
9. What latitude and Longitude?
10. Draw the symbol of sandstone.

Part B

(5 × 5 = 25)

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

11. (a) Write note on the identification of fossils during field trip.

Or

- (b) Give note on the essential equipments meant for a geological field work.

12. (a) Give note on the different drainage patterns.

Or

- (b) Write short note on the influence of dip and ground slope on outcrops.

13. (a) Write short note on the measurement of true dip angle of an. outcrop..

Or

- (b) Give note on the measurement of height of a hillock using a compass.

14. (a) Write short note on grid sampling and car sampling.

Or

- (b) Give note on core hole sampling.

15. (a) Give short note on geological map and report preparation.

Or

- (b) Write note on plotting the attitude of a bed.

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

Answer any **three** questions.

16. Explain the methods of preparing a lithology map.
 17. Write detail note on mapping of various topographic features and its representation on a map.
 18. Write an essay on identification of the repetition of outcrop.
 19. Explain the various methods sampling.
 20. Discuss the preparation of a detail geological map and report.
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F-2608

Sub. Code

7BGEE2A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

Fifth Semester

Geology

**Elective – HYDROGEOLOGY AND ENGINEERING
GEOLOGY**

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Runoff.
2. Define water table.
3. What is secondary opening?
4. Define permeability.
5. What is water quality standard?
6. Explain artificial recharge.
7. Write important engineering properties of rock.
8. Write the causes of landslide.
9. Explain Embankment dams.
10. Define Coastal erosion.

Part B

(5 × 5 = 25)

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

11. (a) Explain hydrological cycle with neat sketch.

Or

- (b) Short note on vertical distribution of water.

12. (a) Short account on aquifer properties of rocks.

Or

- (b) Explain Darcy's law with sketch.

13. (a) Give a short account on biological qualities of groundwater.

Or

- (b) Describe groundwater exploration techniques.

14. (a) Short note on strength and elastic properties of rocks.

Or

- (b) Discuss the geological investigations required for highways.

15. (a) Short account on types of tunnels.

Or

- (b) Briefly discuss about coastal erosion.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Define aquifers. Elaborate types of aquifers with neat sketch.
 17. Discuss in detail about groundwater movement.
 18. Detailed account on groundwater status of Tamil Nadu.
 19. Write an essay on role of geology in civil engineering.
 20. Enumerate geological investigation required for dam site selection.
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