

**FIFTH SEMESTER U.G. (CUCBCSS—UG) DEGREE [SPECIAL]
EXAMINATION, NOVEMBER 2020**

Geology

GLY 5B 13—METAMORPHIC GEOLOGY

Time : Three Hours

Maximum : 80 Marks

Draw neat sketches wherever necessary.

Section A

Answer all questions.

Each question carries 1 mark.

1. The preferential solution of parts of crystals suffering particularly high stresses during deformation.
2. The rock type that was present before metamorphism.
3. Moderate P, moderate T facies of regional metamorphism, covering the higher metamorphic grades of progressive regional metamorphism.
4. A rock composed of angular fragments in a finer-grained matrix.
5. The zone of metamorphic rocks surrounding an igneous intrusion, which were metamorphosed by the heat of the intrusion.
6. Metamorphic fluid responsible for incipient charnockite formation.
7. Arrangement of metamorphic rocks in certain orogenic belts especially in the circum-Pacific region in which a high-pressure and a low pressure metamorphic belt occur side by side, the high-pressure belt being situated on the oceanic side of the associated low pressure belt.
8. A type of migmatite with alternating layers of leucosome and mesosome + melanosome.
9. Type of banding in metamorphic rocks in which quartz and feldspar bands alternate with bands of ferromagnesian minerals.
10. A metamorphic fabric in which large grains of metamorphic minerals enclose smaller grains of other minerals.

(10 × 1 = 10 marks)

Turn over

Section B (Short Answer Type Questions)

*Answer at least five questions.
Each question carries 4 marks.
All questions can be attended.
Overall Ceiling 20.*

11. Isograd.
12. UHP metamorphism.
13. Greenstone.
14. Metamorphic zone.
15. Diagenesis.
16. Lineation.
17. Metasomatism.
18. Non-penetrative.
19. Pyroxene hornfels facies.
20. Sieve texture.
21. Strain.
22. Suture zone.

(5 × 4 = 20 marks)

Section C (Paragraph Type Questions)

*Answer at least four questions.
Each question carries 7.5 marks.
All questions can be attended.
Overall Ceiling 30.*

23. Upper Temperature Limits to Metamorphism.
24. Charnockite.
25. Barrovian zones.
26. Kerala Khondalite Belt.
27. Retrograde metamorphism.
28. Reaction rim/symplectites.
29. Baric types of metamorphism.
30. Snowball texture.

(4 × 7.5 = 30 marks)

Section D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Describe the metamorphic facies concept and explain the features of the important classes of the metamorphic facies.
32. Describe the reactions and changes that occur during the progressive metamorphism of calcareous rocks.
33. Describe the different types of metamorphism.
34. Describe the different tectonic settings of metamorphism.

(2 × 10 = 20 marks)

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**FIFTH SEMESTER U.G. DEGREE (SPECIAL) EXAMINATION
NOVEMBER 2020**

(CUCBCSS—UG)

Geology

GLY 5B 12—SEDIMENTOLOGY

Time : Three Hours

Maximum : 80 Marks

Draw neat sketches wherever necessary.

Part A (Objective Type Questions)

*Answer all questions.
Each question carries 1 mark.*

1. Small dendritic bifurcating upstream rivulets commonly found in the beaches.
2. Glauconite rich sands are known as.
3. Coarse crystalline calcites are known as.
4. Small spherical or subspherical accretionary bodies greater than 2 mm. in diameter.
5. Minor accumulations of calcium carbonate associated with arid climate.
6. A special type of phosphatic accumulation generally a bird manure.
7. Example for organic deposit.
8. A sedimentary rock which exhibits fissility.
9. The universal primary structure in sedimentary rocks.
10. The term used to denote grains greater than $1/256$ mm. and less than $1/16$ mm.

(10 × 1 = 10 marks)

Part B (Short Answer Type Questions)

*Answer at least five questions.
Each question carries 4 marks.
All questions can be attended.
Overall Ceiling 20.*

11. Permeability.
12. Dolomite.

Turn over

13. Sole marks.
14. Argillites.
15. Grit.
16. Micrite.
17. Tillite.
18. Reefs.
19. Swash marks.
20. Chert.
21. Diagenesis.
22. Coquina.

(5 × 4 = 20 marks)

Part C (Paragraph Type Questions)

*Answer at least four questions.
Each question carries 7½ marks.
All questions can be attended.
Overall Ceiling 30.*

23. Argillaceous rocks.
24. Bauxite.
25. Size and shape of grains.
26. Organic deposits.
27. Classification of sedimentary rocks.
28. Carbonaceous deposits.
29. Types of stratification.
30. Sediment transport.

(4 × 7½ = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Give an account of the classification of sandstones.
32. Describe in detail about the processes involved in the formation of sedimentary rocks.
33. Give a detailed account of non-clastic sedimentary structures.
34. Explain about chemical deposits.

(2 × 10 = 20 marks)

**FIFTH SEMESTER U.G. DEGREE (SPECIAL) EXAMINATION
NOVEMBER 2020**

(CUCBCSS—UG)

Geology

GLY 5B 11—IGNEOUS PETROLOGY

Time : Three Hours

Maximum : 80 Marks

Draw neat sketches wherever necessary.

Section A

Answer all questions.

Each question carries 1 mark.

1. An igneous rock which is characterized by a 'spinifex texture' indicative of quenching is _____.
2. A melting wherein a phase melts to a liquid with the same composition as the solid is known as _____.
3. An igneous rock formed by slow cooling has large interlocking crystals with a grain size greater than 25 mm in length is _____.
4. A region where igneous activity has occurred over a distinct period is known as _____.
5. What is a 'Volcanic froth'?
6. A magma diversification method used to explain the association of sulphides in a silicate magma is _____.
7. The intrusive equivalent of phonolite is _____.
8. A point in the phase diagram where the liquids curves and solidus intersect is known as _____.
9. A pluton that has a surface exposure of less than 100 sq km is _____.
10. Define the 'trachytic texture'.

(10 × 1 = 10 marks)

Section B (Short Answer Type Questions)

Answer at least five questions.

Each question carries 4 marks.

All questions can be attended.

Overall Ceiling 20.

11. Consanguinity.
12. Panidiomorphic texture.
13. Liquid line of descent.
14. Bysmalith.

Turn over

- | | |
|-------------------------|----------------------------------|
| 15. Dacite. | 16. Exsolution. |
| 17. Metaluminous rocks. | 18. Primary and parental magmas. |
| 19. Devitrification. | 20. Peritectic point. |
| 21. Diorite. | 22. Perlitic fracture. |

(5 × 4 = 20 marks)

Section C (Paragraph Type Questions)*Answer at least **four** questions.**Each question carries 7.5 marks.**All questions can be attended.**Overall Ceiling 30.*

23. Mineralogy, texture and mode of occurrence of lamprophyres.
24. CIPW classification of igneous rocks with merits and demerits.
25. Types of variation diagrams and their uses in igneous petrology.
26. Pyroclastic deposits.
27. Textures formed by the mutual relationship between crystals and non-crystalline/glassy materials.
28. Petrographic characteristics and origin of ultramafic rocks.
29. Concordant forms of plutonic igneous rocks.
30. Petrogenetic significance of the forsterite-silica incongruent melting system.

(4 × 7.5 = 30 marks)

Section D (Essay Type Questions)*Answer any **two** questions.**Each question carries 10 marks.*

31. Give detailed account of the structures of igneous rocks and their significance.
32. Explain the crystallization sequence and petrogenetic significance of the ternary system Albite-Anorthosite-Diopside.
33. Describe the mode of occurrence, texture, mineralogy, classification and petrogenesis of anorthosites with suitable Indian examples.
34. Explain the magma differentiation and the causes of the diversification of igneous rocks. Add a brief note on the petrogenetic significance of Bowen's reaction series.

(2 × 10 = 20 marks)

**FIFTH SEMESTER U.G. DEGREE (SPECIAL) EXAMINATION
NOVEMBER 2020**

(CUCBCSS—UG)

Geology

GLY 5B 09—STRATIGRAPHY AND PHYSIOGRAPHY OF INDIA

Time : Three Hours

Maximum : 80 Marks

Draw neat sketches wherever necessary.

Section A

Answer all questions.

Each question carries 1 mark.

1. The Cretaceous/Tertiary (K/T) boundary is marked by the enrichment of _____ element which is more abundant in extra-terrestrial bodies than in the earth.
2. Define Cenomanian transgression.
3. The primary objective of the International Commission on Stratigraphy (ICS) is _____.
4. The chronostratigraphic equivalent of 'period' is _____.
5. The lowest formation of Cuddapah Supergroup is _____.
6. The period on the Geological Time scale renowned for the first appearance of the trilobites is _____.
7. What is a Stratotype ?
8. The thrust fault that continues all along 2200 km of the Himalaya Mountain belt is _____.
9. The time duration of the Paleogene period is _____.
10. _____ develop in the mudflats of tidal reaches or flood plains when the mud dries up and shrinks.

(10 × 1 = 10 marks)

Section B (Short Answer Type Questions)

Answer at least five questions.

Each question carries 4 marks.

All questions can be attended.

Overall Ceiling 20.

- | | |
|-----------------------|----------------------|
| 11. Karewa formation. | 12. Lineage biozone. |
| 13. Nonconformity. | 14. Mobile belts. |

Turn over.

- | | |
|---------------------------|-----------------------------|
| 15. Supergroup. | 16. Walther's Law. |
| 17. Indo-gangetic plains. | 18. Eonothem. |
| 19. Saline Series. | 20. Eparchean Unconformity. |
| 21. Epeirogenesis. | 22. The Bundelkhand gneiss. |

(5 × 4 = 20 marks)

Section C (Paragraph Type Questions)*Answer at least four questions.**Each question carries 7.5 marks.**All questions can be attended.**Overall Ceiling 30.*

23. Evolution of Himalayan Mountain chains.
24. Lithofacies and their significance in stratigraphy.
25. Range zone.
26. Godavari River System.
27. Correlation using biological criteria.
28. Absolute age dating methods.
29. Major geological events during the Cenozoic Era.
30. Imperfections in geological records.

(4 × 7.5 = 30 marks)

Section D (Essay Type Questions)*Answer any two questions.**Each question carries 10 marks.*

31. Describe the lithostratigraphic classification with suitable examples from the stratigraphy of India.
32. Give a detailed account of the physiographic divisions of India.
33. Describe the basic laws of stratigraphy and their significance.
34. Describe the geographic distribution, stratigraphy, age, and economic significance of Deccan traps.

(2 × 10 = 20 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Geology

GEO 5D 01—UNDERSTANDING THE EARTH

(2019 Admissions)

Time : Two Hours

Maximum : 60 Marks

*Answer all questions.
Draw neat sketches wherever necessary.*

Section A*Answer at least eight questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. Gutenberg discontinuity.
2. Granite.
3. Pangaea.
4. Benioff Zone.
5. Guyots.
6. Tombolo.
7. Epicenter.
8. Pyroclasts.
9. Solifluction.
10. Deflation.
11. Cirques.
12. Sedentary soils.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least **five** questions.
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.*

13. Earth's Crust and its composition.
14. Concept of Rock Cycle.
15. Constructive Plate Boundaries.
16. Mid-oceanic Ridges.
17. Intensity and Magnitude Scales.
18. Seismic and volcanic belts of the world.
19. Depositional features of wind.

(5 × 5 = 25 marks)

Section C

*Answer any **one** question.
The question carries 11 marks.*

20. Discuss the plate tectonic theory highlighting on the evidences and its significance.
21. Give an account of the geological action of rivers.

(1 × 11 = 11 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Geology

GEO 5B 12—METAMORPHIC PETROLOGY

(2019 Admissions)

Time : Two Hours

Maximum : 60 Marks

*Draw neat sketches wherever necessary.***Section A***Answer at least **eight** questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. Deviatoric stress.
2. Fabric.
3. Augen structure.
4. Gneiss.
5. Quartzite.
6. Grade of metamorphism.
7. Isograd.
8. Shock metamorphism.
9. Skarn.
10. Blueschist facies.
11. Metasomatism.
12. Prograde metamorphism.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least **five** questions.
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.*

13. Chemographic diagrams.
14. Paired Metamorphic belts.
15. Limits of metamorphism.
16. Types of metamorphism.
17. UHP and UHT metamorphism.
18. Agents of metamorphism.
19. Metamorphic fluids.

(5 × 5 = 25 marks)

Section C

*Answer any **one** question.
The question carries 11 marks.*

20. Classification of metamorphic rocks.
21. Metamorphic textures.

(1 × 11 = 11 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Geology

GEO 5B 11—IGNEOUS PETROLOGY

(2019 Admissions)

Time : Two Hours

Maximum : 60 Marks

*Draw neat sketches wherever necessary.***Section A***Answer at least eight questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. Lava.
2. Sill.
3. Primitive magma.
4. Devitrification.
5. Mural joints.
6. Reaction rim.
7. Salic minerals.
8. Tie lines.
9. Solidus.
10. Porphyritic texture.
11. Stocks.
12. Euhedral crystals.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least five questions.
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.*

13. Equigranular texture.
14. Discordant forms.
15. Bowen's Reaction Series.
16. Magmatic differentiation.
17. Color Index.
18. Gabbro.
19. Lamprophyres.

(5 × 5 = 25 marks)

Section C

*Answer any one question.
The question carries 11 marks.*

20. Albite-Anorthite System and its petrogenetic significance.
21. Structures of Igneous rocks.

(1 × 11 = 11 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Geology

GEO 5B 10—STRATIGRAPHY AND SEDIMENTOLOGY

(2019 Admissions).

Time : Two Hours

Maximum : 60 Marks

*Answer all questions.**Draw neat sketches wherever necessary.***Section A***Answer at least eight questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. Offlap.
2. Catastrophism.
3. Index fossil.
4. Acme Zone.
5. Biofacies.
6. Diastem.
7. Skarn.
8. Cross bedding.
9. Guano.
10. Terra rossa.
11. Oolitic texture.
12. Concordant bedding.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least **five** questions.
Each question carries 5 marks.
All questions can be attended.
Overall Ceiling 25.*

13. Concept of Uniformitarianism.
14. Biological correlation.
15. KT Event.
16. Argillaceous sedimentary rocks.
17. Textures of sedimentary rocks.
18. Diagenesis.
19. Chronostratigraphic classification.

(5 × 5 = 25 marks)

Section C

*Answer any **one** question.
The question carries 11 marks.*

20. Discuss the stratigraphic principles put forwarded by Nicholas Steno.
21. Briefly discuss the various structures of sedimentary rocks with neat sketches.

(1 × 11 = 11 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Geology

GEO 5B 09—STRUCTURAL GEOLOGY AND GEOTECTONICS

(2019 Admissions)

Time : Two Hours

Maximum : 60 Marks

*Answer all questions.
Draw neat sketches wherever necessary.*

Section A*Answer at least eight questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 24.*

1. Contours.
2. Topographic map.
3. Width of outcrop.
4. Chevron fold.
5. Slickensides.
6. Non-conformity.
7. Outlier and inlier.
8. Schistosity.
9. Reverse fault.
10. Mohorovicic discontinuity.
11. Mantle plume.
12. Polar wandering.

(8 × 3 = 24 marks)

Turn over

Section B

*Answer at least **five** questions.*

Each question carries 5 marks.

All questions can be attended.

Overall Ceiling 25.

13. Geologic maps and rock symbols.
14. Shear zones.
15. Boudin structure.
16. Crenulation cleavage.
17. Earth's crust.
18. Mechanism of rock deformation.
19. Sea floor spreading.

(5 × 5 = 25 marks)

Section C

*Answer any **one** question.*

The question carries 11 marks.

20. Explain the origin and classification of joints in rocks.
21. Describe the features associated with different types of plate margins.

(1 × 11 = 11 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5D 01—UNDERSTANDING THE EARTH

Time : Two Hours

Maximum : 40 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.**Each question carries 1 mark.*

1. Define a divergent-type of plate boundary.
2. What is an ultra low-velocity zone (ULVZ) ?
3. The characteristic igneous rock found in the island-arc tectonic setting is _____.
4. What is a glacial drift ?
5. _____ forms when mafic lava erupts on the seafloor or in another body of water.
6. What are guyots?
7. What is an oxbow lake
8. What is the 'elastic rebound theory' for earthquakes' ?
9. What are playa lakes ?
10. _____ occurs when water-soaked sand behaves like a liquid during an earthquake.

(10 × 1 = 10 marks)

Part B (Short Answer Type Questions)*Answer any five questions.**Each question carries 2 marks.*

11. Seafloor spreading.
12. Discontinuities in the interior of the Earth.
13. Relationship between rock cycle and plate tectonics.

Turn over

14. Aeolian erosional landforms.
15. Seismic belts of the world.
16. Measurement of magnitude and intensity of earthquakes.
17. Eruption styles of volcanoes.

(5 × 2 = 10 marks)

Part C (Paragraph Type Questions)

*Answer any two questions.
Each question carries 5 marks.*

18. Coastal landforms.
19. Types and causes of landslides.
20. Glacial erosional Processes and development of landforms.

(2 × 5 = 10 marks)

Part D (Essay Type Questions)

*Answer any one question.
The question carries 10 marks.*

21. What is the process of weathering ? Using relevant examples, describe the various types of weathering that occur in igneous and metamorphic rocks. What role does weathering play in soil formation ?
22. Explain the various erosional and depositional landforms produced by the action of running water.

(1 × 10 = 10 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5B 13—METAMORPHIC GEOLOGY

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.**Each question carries 1 mark.*

1. A _____ is the area surrounding an igneous intrusion that has been metamorphosed as a result of the heat released by magma.
2. The presence of shatter cones is indicative of _____ type of metamorphism.
3. What is a slaty cleavage ?
4. _____ is a gneiss with mineralogy and texture indicative of its derivation from a sedimentary rock protolith.
5. Define a decussate texture.
6. Name a typical mineral that indicates ultra-high temperature metamorphism of mafic granulites.
7. _____ are textures that have survived metamorphism and are inherited from the original rock type.
8. An example of retrograde metamorphism is _____.
9. What is an isograd ?
10. Name the typical amphibole that defines the rocks of blueschist facies metamorphism.

(10 × 1 = 10 marks)

Turn over

Part B (Short Answer Type Questions)

*Answer any ten questions.
Each question carries 2 marks.*

11. Anatexis.
12. Marble.
13. Metamorphic differentiation.
14. Stress and anti-stress minerals.
15. Metamorphic facies series.
16. Porphyroblastic and lepidoblastic texture.
17. Geothermobarometry.
18. Metasomatism.
19. Metamorphic grades.
20. Schistosity.
21. Prograde metamorphism.
22. Mylonite.

(10 × 2 = 20 marks)

Part C (Paragraph Type Questions)

*Answer any five questions.
Each question carries 6 marks.*

23. P-T-t paths and their significance in the origin of metamorphic rocks.
24. Classification of metamorphism based on geological setting.
25. Paired metamorphic belts.
26. The Charnockite Problem.
27. Role of fluids in metamorphism.
28. Mineral paragenesis.
29. Amphibolite facies metamorphism.
30. Metamorphism at convergent plate boundaries.

(5 × 6 = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
The question carries 10 marks.*

31. Give a detailed account of the metamorphism of argillaceous rocks.
32. Describe the types of metamorphic structures, their formation mechanism, and geologic significance.
33. Describe the thermal and regional metamorphism of basic igneous rocks.
34. Explain in detail the variables of metamorphism.

(2 × 10 = 20 marks)

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FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5B 12—SEDIMENTOLOGY

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.**Each question carries 1 mark.*

1. A sediment is said to be _____ when the grains become well-sorted and well-rounded due to mechanical abrasion of the grains during transportation.
2. A carbonate-rich mud or mudstone containing clays and silt in various proportions is known as _____.
3. The size of the cobbles varies from _____ mm to _____ mm.
4. Define a 'Sedimentation unit'.
5. A soft, siliceous sedimentary rock derived from diatomaceous earth that occurs naturally is _____.
6. What are bioherms ?
7. The process of transporting sediments by bouncing the sediment particles along the riverbed is known as _____.
8. Define a Pisolite.
9. Cross-laminations wrapped with silt or clay distinguish _____ type of bedding, which forms in environments where flow strengths vary greatly.
10. _____ refers to how closely particle's shape approaches that of a perfect sphere.

(10 × 1 = 10 marks)

Part B (Short Answer Type Questions)*Answer any ten questions.**Each question carries 2 marks.*

11. Loess.
12. Solution breccias.
13. Dolomitisation.
14. Siderite.

Turn over

15. Diagenesis.
16. Sparry calcite.
17. Fissility.
18. Arkose.
19. Duricrust.
20. Arenaceous rock.
21. Coprolites.
22. Terra Rossa.

(10 × 2 = 20 marks)

Part C (Paragraph Type Questions)

*Answer any five questions.
Each question carries 6 marks.*

23. Carbonaceous Deposits.
24. Disintegration and decomposition of rocks.
25. Autochthonous and allochthonous limestones.
26. Siliceous and ferruginous deposits of organic origin.
27. Origin of Cherts.
28. Packing and permeability of sedimentary rocks.
29. The matrix- and soda- problems of graywackes.
30. Formation of Bauxite.

(5 × 6 = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Give an account of the classification, origin, and geological significance of conglomerates.
32. Describe in detail the mechanical structures of sedimentary rocks.
33. Describe the origin, distribution, and geological significance of heavy minerals with reference to suitable Indian resources.
34. Explain the texture, mineralogy and chemical composition, origin, and geologic significance of shales.

(2 × 10 = 20 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5B 11—IGNEOUS PETROLOGY

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.**Each question carries 1 mark.*

1. The soda-rich variant of a mafic igneous rock that exhibits characteristic pillow structures is _____.
2. The characteristic feature of larvikite is _____.
3. _____ texture forms when slow cooling is pursued by rapid cooling during the formation of igneous rocks.
4. The unconsolidated, spheroid- and/or teardrop-shaped droplets of molten/ semi-molten lava ejected from a felsic volcanic eruption are known as _____.
5. The volcanic equivalent of ijolite is _____.
6. The process through which highly alkaline magmas rich in CO₂ may diverge into two liquids, one rich in silica and alkalies, and the other rich in carbonates, is known as _____.
7. Name the rock that is a heteromorph of mica-syenite.
8. Define the igneous structure 'Boss'.
9. The crystal shape that is adequately developed in two spatial directions than the third direction is _____.
10. _____ is the point on a phase diagram where the maximum permissible phases are in equilibrium.

(10 × 1 = 10 marks)

Part B (Short Answer Type Questions)*Answer any ten questions.**Each question carries 2 marks.*

11. Peridotite.
12. Reaction principle.
13. Assimilation.
14. Incongruent melting.

Turn over

15. Crystallites and microlites.
16. Ignimbrites.
17. Ring dyke.
18. Kimberlite.
19. Equilibrium crystallization.
20. CIPW Norm.
21. Columnar basalt.
22. Daly's gap.

(10 × 2 = 20 marks)

Part C (Paragraph Type Questions)

*Answer any five questions.
Each question carries 6 marks.*

23. Petrographic characteristics and origin of pegmatites.
24. Albite-Anorthite solid solution system.
25. Pyroclastic deposits.
26. Intergrowth and overgrowth textures of igneous rocks.
27. Petrogenesis of alkaline igneous rocks.
28. Petrogenetic significance of the albite-anorthite-diopside ternary system.
29. Causes for the diversification of magmas.
30. Classification of igneous rocks based on silica saturation and alumina saturation.

(5 × 6 = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Explain the various forms of intrusive igneous rocks and their significance.
32. Describe the mode of occurrence, texture, mineralogy, classification and petrogenesis of gabbro.
33. What is a two-component phase diagram? Describe the crystallization sequence and petrogenetic significance of the Diopside-Anorthite eutectic system.
34. Give a detailed account of the composition and constitution of magmas with special mention to the primary and parental magmas.

(2 × 10 = 20 marks)

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5B 10—INDIAN GEOLOGY

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.**Each question carries 1 mark.*

1. The pericratonic rift basin formed on the western continental margin of India during Jurassic period is _____.
2. The western coast of India is named as _____.
3. The common term to denote the marine facies of Cretaceous of Narmada valley in Peninsular India is _____.
4. The term 'Gondwana' was coined by _____.
5. The Proterozoic group of India characterized by diamond bearing conglomerates is _____.
6. Oligocene- L. Miocene sequence of Assam that form the source rocks of coal and petroleum is _____.
7. Equivalent of Warkalli formations in Tamilnadu is known as _____.
8. Age of Deccan traps exposed in north and central India is _____.
9. The upper stage of Cuddapah system is represented by _____.
10. Type locality of charnockite group of rocks is _____.

(10 × 1 = 10 marks)

Turn over

Part B (Short Answer Type Questions)

*Answer any ten questions.
Each question carries 2 marks.*

11. Intertrappean beds.
12. Kerala Khondalite Belt.
13. Lameta series.
14. Eparchean unconformity.
15. Champion gneiss.
16. Raialo series.
17. Sargur schist.
18. Papaghni series.
19. Laterite.
20. Vengad formation.
21. Pleistocene glaciation.
22. Lesser Himalayas.

(10 × 2 = 20 marks)

Part C (Paragraph Type Questions)

*Answer any five questions.
Each question carries 6 marks.*

23. Cenomanian transgression.
24. Siwalik System.
25. Singhbhum craton.
26. Intrusive rocks of Kerala.
27. Gondwana coal Formations.
28. Peninsular Gneissic Complex.
29. Dharwar Rocks.
30. Karewas of Kashmir.

(5 × 6 = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Write an essay on classification of Cretaceous of Thiruchirapalli.
32. Give a detailed account of Stratigraphic sequences of Kerala.
33. Illustrate the lithology, classification and geological significance of Vindhyan Super Group.
34. Paleozoic rocks exposed in different parts of India.

(2 × 10 = 20 marks)

CHMK LIBRARY UNIVERSITY OF CALICUT

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Geology

GLY 5B 09—STRATIGRAPHY AND PHYSIOGRAPHY OF INDIA

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.***Part A***Answer all ten questions in one word or one sentence each.*

1. Name a relict mountain from Peninsular India.
2. An unconformity which is not evident and formed due to non-deposition than by erosion is _____.
3. Relatively stable part of the continental crust is known by the term _____.
4. The lower subdivision of Carboniferous period used in North America only is _____.
5. The stratigraphic condition where the younger formation underlie the older ones is _____.
6. A major stratigraphic unit of India well-known as a Large Igneous Province of the sub-continent is _____.
7. The period observed as 'age of dinosaurs' is _____.
8. Fundamental unit of biostratigraphic classification is _____.
9. The second largest river of India known as 'Dakshin Ganga' is _____.
10. The time-span representing largest period of earth's history is _____.

(10 × 1 = 10 marks)

Part B (Short Answer Type Questions)*Answer any ten questions.**Each question carries 2 marks.*

- | | |
|--------------------|---------------------------|
| 11. Geochronology. | 12. Indo-Gangetic Plains. |
| 13. Marker bed. | 14. Palaghat Gap. |

Turn over

15. Nonconformity.
16. Geosyncline.
17. Mesozoic era.
18. Coromandel Coast.
19. Leaked fossils.
20. Correlation.
21. Uniformitarianism.
22. Nicholas Steno.

(10 × 2 = 20 marks)

Part C (Paragraph Type Questions)

*Answer any five questions.
Each question carries 6 marks.*

23. East flowing rivers of Kerala.
24. Absolute age.
25. Principle of Lateral continuity.
26. Stratigraphic correlation.
27. Southern Granulite Terrain.
28. Zone concept in Biostratigraphy.
29. Marine transgressions and regressions.
30. Standard Stratigraphic Column.

(5 × 6 = 30 marks)

Part D (Essay Type Questions)

*Answer any two questions.
Each question carries 10 marks.*

31. Give a detailed account of different types of stratigraphic classification.
32. Illustrate the classification of mountains with special reference to mountains of India.
33. Write an essay on formal divisions of Geological Time Scale.
34. Elucidate the importance of breaks in stratigraphic record and its types with neat sketches.

(2 × 10 = 20 marks)