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(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course—IGNEOUS PETROLOGY

(Common for B.Sc. Geology and B.Sc. Geology and Water Management)

[2013 to 2016 Admissions]

Time : Three Hours

Maximum Marks : 80

Draw neat sketches wherever necessary.

Part A

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

Name the following :

1. The volcanic equivalent of granite.
2. The most abundant element present in magma.
3. Name a glassy igneous rock.
4. The plutonic equivalent of dacite.
5. The essential mineral of syenite.
6. Name an intermediate rock.
7. Name the rock containing quartz and oligoclase as its essential minerals.
8. Name the rock type usually associated with island arcs.
9. The dominant rock type in deep ocean floor.
10. A dyke rock type widely distributed in parts of Kerala.

(10 × 1 = 10)

Part B (Short Answer Questions)

*Answer any eight questions in not more than 100 words each.
Each question carries 2 marks.*

11. Oversaturated rocks and Acid rocks.
12. Anorthosites.
13. Felsic and mafic minerals.
14. Ultrabasic and ultramafic rocks.
15. Diorite.
16. Hypabyssal rocks.
17. Carbonotite.
18. Spherulitic structure.
19. Devitrification.
20. Mural jointing.
21. Eutectic crystallization.
22. Trachyte.

(8 × 2 = 16)

Turn over

Part C (Short Essays)

Answer any six questions in not more than 300 words each.

Each question carries 4 marks.

23. Pyroclastic components and its deposits.
24. Classification of igneous rocks based on mineralogy and chemistry.
25. CIPW classification scheme.
26. Structures of extrusive igneous rocks.
27. Magmatic differentiation processes.
28. Mineralogy, texture and origin of basalt and gabbro.
29. Bowen's reaction series.
30. Porphyritic and poikilitic texture.
31. Mineralogy, texture and origin of dunite and peridotite.

(6 × 4 = 24)

Part D (Essay Questions)

Answer any two questions in not more than 1000 words each.

Each question carries 15 marks.

32. Give an account of various forms of intrusive igneous rocks. Explain the factors controlling their formation.
33. Describe the various aspects considered in the study of textures of igneous rocks. Give an account of various textures of igneous rocks.
34. Give an account of IUGS classification scheme for plutonic igneous rocks.
35. Explain the term solid solution. Give an account of a Albite-Anorthite system. Explain the formation of 'Zoned Plagioclase'.

(2 × 15 = 30)