

Name :

Reg. No:

THIRD SEMESTER M.Sc. (CUCSS) DEGREE EXAMINATION, DECEMBER 2015

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Applied Geology (2014 Admission)

GEL 3C 10 – IGNEOUS & METAMORPHIC PETROLOGY

Time : Three Hours

Maximum : 36 Weightage

*Draw diagrams wherever necessary.
Answer all questions.*

Part A

Answer all the questions in two or three sentences each:

- | | |
|--------------------|----------------------------------|
| 1. Reaction series | 2. Igneous cumulates |
| 3. Ophiolites | 4. Mingling of magmas |
| 5. Eutectic Point | 6. Peacock's Alkali – lime index |
| 7. Mode | 8. Pillow lava |
| 9. Pegmatite | 10. Katazone |
| 11. Augen Gneiss | 12. Polymetamorphism |
| 13. Eclogite | 14. Mineral paragenesis |

(14 x 1 = 14 Weightage)

Part B

Answer any seven questions, each not exceeding a paragraph:

15. Use of trace elements in the study of origin of igneous rocks
16. Variation diagrams
17. Significance of Albite-Anorthite-Orthoclase System.
18. Albite – Anorthite system
19. Source material for basaltic magmas
20. Kimberlites
21. Genetic significance of metamorphic texture
22. Retrograde metamorphism
23. Origin of charnockites
24. Metasomatism

(7 x 2 = 14 Weightage)

Part C

Write essays on the following:

25. Give an account of the origin of granitoid rocks.
(OR)
26. Describe the Forsterite-Silica system.
27. Compare the concepts of metamorphic grade and metamorphic facies with suitable examples.
(OR)
28. Give an account of ACF, AKF and AFM diagrams and their uses.

(2 x 4 = 8 Weightage)