

2024
B.A./B.Sc.
Fourth Semester
CORE – 8
GEOLOGY
Course Code: GLC 4.11
(Metamorphic Petrology)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Define metamorphism. Explain in detail the factors controlling metamorphism. 2+12=14
2. Illustrate impact metamorphism and fault zone metamorphism with suitable examples. 14

UNIT-II

3. Describe the concept of metamorphic facies. Discuss how the presence of specific minerals within a metamorphic rock can indicate facies in which it is formed. 4+10=14
4. Illustrate mineralogical phase rule with suitable example. 14

UNIT-III

5. Elaborate textures as indicators of time relation between deformation and metamorphism with suitable diagrams. 14
6. Write notes on the following: 7×2=14
 - (a) Retrograde metamorphism
 - (b) Metamorphism and tectonism

UNIT-IV

7. Explain in detail the role of fluids in metamorphism. 14
8. Write notes on the following: 7×2=14
- (a) Origin of migmatites
 - (b) Metasomatism

UNIT-V

9. Write notes on the following: 7×2=14
- (a) Khondalites
 - (b) Schists
10. What are eclogites? Write an elaborate note on its classifications, composition, and origin. 14
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