2022

B.A./B.Sc.

Fourth Semester

CORE – 8

GEOLOGY

Course Code: GLC 4.11

(Metamorphic Petrology)

Total Mark: 70 *Pass Mark: 28*

Time: 3 hours

Answer <u>five</u> *questions, taking* <u>one</u> *from each unit.*

UNIT–I

1. How are metamorphic rocks formed? Discuss in detail the role of pressure and temperature in metamorphism. 4+10=14

2. Explain in detail the regional and cataclastic type of metamorphism. 14

UNIT–II

3. Define metamorphic facies. Discuss the facies of regional metamorphism. 2+12=14

4. Write notes on the following: 7×2=14
   (a) Metamorphic grade
   (b) Structures of metamorphic rocks

UNIT–III

5. Define prograde metamorphism. Explain the ACF component of low grade metamorphic rock assemblages with neat diagram. 4+10=14

6. Write notes on the following: 7×2=14
   (a) Metamorphism at oceanic spreading ridge
   (b) Retrograde metamorphism

UNIT–IV

7. Explain in detail the nature and origin of migmatite.   14

8. Write notes on the following: 7×2=14
   (a) Anatexis
   (b) Metasomatism

UNIT–V

9. Differentiate between foliated and non-foliated metamorphic rocks. Explain in detail the nature, mineral composition and origin of gneiss.

    4+10=14

10. Write notes on the following: 7×2=14
    (a) Schist
    (b) Quartzite

_____