2022
M.Sc.
First Semester
CORE – 03
GEOLOGY
Course Code: MGLC 1.31
(Igneous & Metamorphic Petrology)

Total Mark: 70 *Pass Mark: 28*
Time: 3 hours

Answer five *questions, taking* one *from each unit.*

UNIT–I

1. Define magma. Write in detail about the different agents affecting magma generation. 2+12=14

2. Write notes on the following: 7×2=14
   (a) TAS chemical classification of igneous rocks
   (b) Intraplate magmatism

UNIT–II

3. Write notes on the following: 7×2=14
   (a) Komatiites
   (b) Alkaline rocks

4. What are mafic igneous rocks? Write in detail about the evolution and petrology of Deccan Traps. 2+12=14

UNIT–III

5. Discuss how geochemistry is beneficial in inferring the petrology and genesis of igneous rocks. 14

6. Write explanatory notes the following: 7×2=14
   (a) Application of major elements in geology
   (b) Application of stable isotope

UNIT–IV

7. Explain the role of index minerals in determining the grade of metamorphism. 14

8. Write notes on the following: 7×2=14
   (a) Textures of thermal metamorphism
   (b) Clockwise P-T-t path of metamorphism

UNIT–V

9. Explain the concept of metamorphic facies along with schematic temperature, pressure/depth curve. 14

10. Write notes on the following: 7×2=14
    (a) Granulite facies
    (b) Geothermometry
