Total No. of Printed Pages—3

3 SEM TDC GEOH (CBCS) C 7

2021

(Held in January/February, 2022)

GEOLOGY

(Core)

Paper : C–7

(Metamorphic Petrology)

Full Marks : 53
Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—1

(*Marks* : 15)

1. *(a)* "Metamorphism is defined as the result of heat, pressure and chemically active fluids." Discuss this critically. 7

(b) Write short notes on any *two* of the following : 4×2=8

(i) Metamorphic zones

(ii) Metamorphic facies

(iii) ACF and AKF diagrams

UNIT—2

(*Marks* : 12)

2. *(a)* Discuss the first and second laws of thermodynamics. 5

(b) Discuss the Gibbs free energy and its relation to P and T. 5

Or

Discuss the univariant and bivariant reactions and their significances. 5

(c) Write a short note on any *one* of the following : 2

(i) Clausius-Clapeyron equation

(ii) Mineralogical phase rule

UNIT—3

(*Marks* : 13)

3. *(a)* Describe the classification of metamorphic rocks on the basis of texture. Give suitable examples. 7

(b) Briefly discuss the relationship between metamorphism and deformation. 6

UNIT—4

(*Marks* : 5)

4. Write short notes on any *two* of the following : 2½×2=5

(a) Metasomatism

(b) Role of fluids in metamorphism

(c) Origin of migmatites

UNIT—5

(*Marks* : 8)

5. Write short notes on any *four* of the following : 2×4=8

(a) Quartzite

(b) Amphibolite

(c) Schist

(d) Gneiss

(e) Charnockite

(f) Phyllite

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