

Code No. : B02/306

Second Semester Online Examination, May-June, 2022

M. Sc. GEOLOGY

Paper III

METAMORPHIC PETROLOGY

Time : Three Hours]

[Maximum Marks : 80

Note : Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.

UNIT-I

1. (A) What is cataclastic metamorphism ? 2
- (B) Define contact metamorphism ? 2
- (C) Write a note on the concept of metamorphic facies. (word limit 200-250) 4

OR

Discuss the classification of metamorphic rocks in brief.

- (D) Describe the textures of metamorphic rocks alongwith sketches.

(word limit 400-450) 12

P.T.O.**OR**

Describe various agents and types of metamorphism.

UNIT-II

2. (A) What is A, C. and F in the ACF diagram ? Write the formula of calculation of A, C and F. 2
- (B) What is migmatite ? 2
- (C) Write a note on charnockite. (word limit 200-250) 4

OR

Write a note on granulite.

- (D) Describe AFM diagrams with neat sketch. (word limit 400-450) 12

OR

What are paired metamorphic belts ? Discuss the significance of paired metamorphic.

UNIT-III

3. (A) Write down the mineral assemblage of eclogite facies. 2

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(B) What does the appearance or disappearance of any specific mineral indicate in a metamorphic terrain ? **2**

(C) Write a note on pneumatolysis.
(word limit 200-250) **4**

OR

Discuss retrograde metamorphism in brief.

(D) Describe the characteristics, temperature pressure conditions and mineral assemblages of facies of low pressure.
(word limit 400-450) **12**

OR

Describe the characteristics, temperature pressure conditions and mineral assemblage of facies of very high pressure.

UNIT-IV

4. (A) How are paired metamorphic belts related to plate tectonics ? **2**

(B) What are pressure temperature time paths ? **2**

(C) Discuss anatexis and origin of migmatites in the light of experimental studies.
(word limit 200-250) **4**

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OR

Write a note on ocean floor metamorphism.

(D) Describe salient features of ultra high temperature and metamorphism and ultra high pressure metamorphism.

(word limit 400-450) **12**

OR

Define metamorphic differentiation. Discuss various mechanisms of metamorphism differentiation.

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