

2021

GEOLOGY — HONOURS

Fifth Paper

(Unit - I)

Full Marks : 50

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Group - A

(Palaeontology – I)

Marks : 30

Answer *any three* questions.

1. What is a cladogram? Give an outline of the principle of cladistic taxonomy. 4+6
2. Provide a brief morphologic description along with necessary illustration(s) of the dorsal side of the cephalon of a trilobite. How will you distinguish between shallow and deep marine trilobites? 8+2
3. Describe the calycal morphology of a rugosa coral. How will you distinguish between a rudistid bivalve and a rugosa coral? 7+3
4. Write short notes on *any two* of the following : 5×2
 - (a) Binomial nomenclature
 - (b) Imperfections of fossil record
 - (c) Index fossil
 - (d) Types in taxonomy.
5. Write the functional significance of *any two* of the following : 5×2
 - (a) Septal fluting in cephalopod
 - (b) Adductor muscle scar(s) of bivalve
 - (c) Pore pair in the ambulacra of irregular echinoid
 - (d) Major apertural modifications in gastropoda.

Please Turn Over

Group - B

(Metamorphic Petrology – II)

Marks : 20

6. Briefly describe the regional metamorphism of mafic rocks emphasizing the mineral assemblages, key reactions and characteristic textures. 4+3+3

Or,

Briefly mention the construction procedure for ACF and AKF diagrams. Add a note on their applicability in metamorphic petrology. 4+4+2

7. Write short notes on the paired metamorphic belts. 5

Or,

What do you mean by granulite? State your answer with suitable examples. 5

8. Write short notes on the facies series of Miyashiro. 3

Or,

What do you mean by petrogenetic grid? 3

9. Write short notes on index minerals. 2

Or,

What do you mean by crustal anatexis? 2
