

Total number of printed pages—4

1 (Sem-2) GLG

2024

GEOLOGY

Paper : GLG0200104

(Rocks and Rock-forming Minerals)

Full Marks : 45

Time : Two hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct option : 1×5=5

(a) Minerals are—

(i) inorganic substances

(ii) having distinct chemical composition

(iii) having fixed atomic structure

(iv) All of the above

Contd.

(b) How many cleavage sets are present in the mineral quartz ?

- (i) One
- (ii) Two
- (iii) Three
- (iv) None of the above

(c) The mineral having hardness 3 in Moh's scale of hardness is

- (i) Quartz
- (ii) Feldspar
- (iii) Calcite
- (iv) None of the above

(d) Which of the following rocks contains the least amount of silica ?

- (i) Granite
- (ii) Gabbro
- (iii) Dunite
- (iv) Basalt

(e) Which of the following rocks is formed at the lowest grade of metamorphism ?

- (i) Slate
- (ii) Phyllite
- (iii) Schist
- (iv) Gneiss

2. Write short notes on **any five** of the following : $2 \times 5 = 10$

- (a) Poikilitic texture
- (b) Ripple mark
- (c) Schistose structure
- (d) Intrusive igneous rocks
- (e) Grade of metamorphism
- (f) Moh's scale of hardness
- (g) Forms of minerals
- (h) Forms of Extrusive igneous rocks
- (i) Vesicular and amygdaloidal structure
- (j) Non-clastic texture

3. Write on **any four** of the following : $5 \times 4 = 20$

- (a) Classification of minerals
- (b) Mineral Cleavage and fracture
- (c) Physical properties and Chemical composition of orthoclase and hornblende
- (d) Petrographic notes on Granite and gabbro

- (e) Clastic texture of sedimentary rocks
- (f) Petrographic notes on sandstone and limestone
- (g) Factors of metamorphism
- (h) Laccolith and Lopolith

4. Answer **any one** of the following : 10

(a) What is magma? Write on the composition and types of magma.

2+8=10

(b) Describe the processes of formation of sedimentary rocks.

(c) Define metamorphic rocks. Write a note on various textures of metamorphic rocks.

2+8=10

(d) Describe the classification of igneous rocks based on mineralogical and chemical criteria.

5+5=10