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Time : 2½ Hours**GEOLOGY****Subject Code**

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Total No. of Questions : 5**(Printed Pages : 7)****Maximum Marks : 55**

INSTRUCTIONS : (i) All questions are compulsory.

- (ii) Draw neat labelled diagram wherever necessary.
- (iii) Answer each question on a fresh page.
- (iv) Write the question numbers and sub-question numbers clearly.
- (v) Draw neat labelled diagrams wherever necessary.
- (vi) Answers to the questions carrying **1** mark should be written in **1 to 10** words.
- (vii) Answers to the questions carrying **2** marks should be written in about **50** words.
- (viii) Answers to the questions carrying **3** marks should be written in about **80** words.
- (ix) Answers to the questions carrying **4** marks should be written in about **120** words.
- (x) Select the correct alternative for multiple choice questions and rewrite the statement.

1. (A) Complete the following statement by choosing the correct alternative given below the statement and write the completed statement : 1

The continuous outermost solid layer of the earth is

- Asthenosphere
- Oceanic crust
- Mantle
- Continental crust

- (B) What do you understand by the term “Volcanic Block” ? 1

- (C) Which landform is created at an initial stage of divergence of two continental plates ? State an example. 2

- (D) How are cinder cones formed ? 2

Or

How are Dome mountains formed ?

- (E) What is Gutenberg discontinuity ? State its significance. 2

- (F) Explain in brief : 3

- Formation of Andes mountains
- Formation of Composite volcano.

2. (A) Complete the following statement by choosing the correct alternative given below the statement and write the completed statement : 1

A very coarse grained clastic sedimentary rock of varied composition is termed as

- Argillaceous rock
- Arenaceous rock
- Rudaceous rock
- Calcareous rock

(B) State the parent rock of Gneiss. 1

(C) Give an account of grain size and its relationship with rate of cooling in igneous rocks. Give an example of igneous rock of inequigranular texture. 2

(D) Distinguish between shale and sandstone based on grain size and mineral composition. 2

(E) Explain the various grades of metamorphism. 2

(F) Explain the following : 3

- Contact metamorphism
- Directive texture.

Or

Explain the following :

- Degree of crystallinity
- Clastic texture.

3. (A) Complete the following statement by choosing the correct alternative given below the statement and write the completed statement : 1

A joint that strikes parallel to the dip of a bed is known as

- Bedding joint
- Oblique joint
- Strike joint
- Dip joint

(B) Draw a neat labelled diagram of a plunging fold. 1

(C) Define the term outcrop. Which structural feature is observed in the rocks outcropped at Gilbert Hill, Andheri Mumbai ? 2

(D) With a neat labelled diagram explain the formation of an angular unconformity. 2

(E) Explain the following : 2

- Tensional joints
- Master joints.

(F) With a neat labelled diagram explain the following : 3

- Normal fault
- Chevron fold.

Or

With a neat labelled diagram explain the following :

- Reverse fault
- Fan fold.

4. (A) Complete the following statement by choosing the correct alternative given below the statement and write the completed statement : 1

The mineral that occurs as beach sand is

- Hematite
- Galena
- Pyrolusite
- Monazite

(B) Which metal is mined from Khetri area of Rajasthan ? 1

(C) Define ore mineral. With an example state the chemical composition of the ore mineral of chromium. 2

- (D) Explain the following : 3
- Magmatic segregation
 - Cut off grade.
- (E) Explain the following : 4
- Formation of placer deposits.
 - Various kinds of vein type of hydrothermal deposits.
5. (A) Complete the following statement by choosing the correct alternative given below the statement and write the completed statement : 1
- The largest expanse of time on the standard Geological Time Scale is
- Era
 - Epoch
 - Period
 - Eon
- (B) State the age of Deccan trap volcanism. 1
- (C) State the classification of Dharwar and Cuddapah supergroups. 2

- (D) Explain the following : 3
- Cretaceous period
 - Principle of inclusion
 - Lithostratigraphic units.
- (E) Explain the various methods of stratigraphic correlation. 4

Or

Explain the various modes of preservation of fossils.