

G-4/421/21

Roll No.

M.Sc. IV Semester Examination, 2021

GEOLOGY

Paper I

[Economic Geology-I (Ore Forming Process)]

Time : 3 Hours]

[Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. Section A is objective type/multiple choice questions with no internal choice. Section B is short answer type with internal choice. Section C is long answer type with internal choice.*

SECTION A

1×10=10

(Objective Type Questions)

Choose the correct answer :

- 1.** With reference to earth history formation of ore deposits shows :
 - (a) Uniform spatio-temporal distribution
 - (b) Non-uniform spatio-temporal distribution
 - (c) Both (a) and (b) applicable
 - (d) None of above
- 2.** Sideronitic texture is typically associated with :
 - (a) Hydrothermal deposits
 - (b) Contact metasomatic deposits

P.T.O.

[2]

- (c) Late magmatic deposits
 - (d) Early magmatic deposits
- 3.** A placer deposit formed at the site of the destruction of the primary rock is called :
 - (a) Elluvial placer (b) Aeolian placer
 - (c) Colluvial placer (d) Alluvial placer
- 4.** If the colour of the gossan is black, it indicates the presence of :
 - (a) Iron (b) Manganese
 - (c) Copper (d) Graphite
- 5.** In a complex pegmatite, the zone that is richest in economic mineral is :
 - (a) Intermediate zone
 - (b) Border zone
 - (c) Wall zone
 - (d) Core zone
- 6.** Hydrothermal deposits are mostly :
 - (a) Syngenetic (b) Epigenetic
 - (c) Residual (d) Hypogenetic
- 7.** Contact metasomatic deposits are also known as :
 - (a) Orthotectic deposit
 - (b) Pyrometasomatic deposit

G-4/421/21

- (c) Orthomagmatic deposit
(d) Magmatic deposit
8. Ore deposits which are restricted to a specific stratigraphic horizon are known as :
- (a) Stratiform deposits
(b) Stratabound deposits
(c) Skarn deposits
(d) None of these
9. The ore deposits formed due to weathering do not form any metallogenic epoch because :
- (a) Weathering is not a ore forming process
(b) The process of weathering has operated at all times in the earth history
(c) Weathering process includes both chemical and mechanical processes
(d) None of the above
10. The reservoir rock at the Bombay High are predominantly :
- (a) Bioparites (b) Biomicrites
(c) Oosparites (d) Oomicrites

SECTION B**4×5=20****(Short Answer Type Questions)****Note :** Attempt one questions from each unit.**G-4/421/21**

P.T.O.

Unit-I

1. Discuss the paragenesis and zoning in ores.

Or

Describe in brief the origin of ore bearing fluids.

Unit-II

2. Discuss the structural control of ore localization.

Or

Write a note on placer deposits.

Unit-III

3. Discuss the pegmatite and megmatitic processes associated with pneumatolitic deposits.

Or

Discuss the ore deposits formed by early magmatic processes.

Unit-IV

4. Write a brief note on metasomatic process of ore formation.

Or

Discuss the formation of stratabound and stratiform deposits.

Unit-V

5. Give a brief account of origin of petroleum.

G-4/421/21

[5]

Or

Discuss the relation of plate tectonics and mineral deposition.

SECTION C

10×5=50

(Long Answer Type Questions)

Note : Attempt one question from each unit.

Unit-I

1. What are the textures of ores ? Describe various ore textures with diagram.

Or

Describe the ore deposits genetically associated with igneous activity.

Unit-II

2. Describe the oxidation and supergene sulphide enrichment processes.

Or

Discuss the wall rock alterations and skarn deposits.

Unit-III

3. What are fluid inclusions ? Discuss various types of fluid inclusions and applications of fluid inclusion studies.

[6]

Or

What are the hydrothermal processes and what are the essentials for the formation of hydrothermal deposits ? Describe the replacement deposits of hydrothermal origin.

Unit-IV

4. Describe the metamorphic process of ore formation.

Or

Discuss the principles and applications of geothermobarometry.

Unit-V

5. Discuss the various theories of origin of coal.

Or

Discuss the metallogenic epoch and provinces in global context.

★ ★ ★ ★ ★ c ★ ★ ★ ★ ★