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3 (Sem-5/CBCS) GLG HC 1

2022

GEOLOGY

(Honours)

Paper : GLG-HC-5016

(*Economic Geology*)

Full Marks : 60

Time : Three hours

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

1. Write short-answers of the following as directed : (*any seven*) 1×7=7

(a) Define gangue minerals.

(b) What is the characteristic of high grade ore? *large concentrⁿ of desir^e mineral
less impurities*

(c) Give two examples of non-metallic resources. *- Clay, ~~Quartz~~ sand gemstone*

(d) The ore deposits which are formed towards the close of the magmatic period are called _____.

(Fill in the blank)

Contd.

- (e) What is the temperature range of hypothermal deposits ?
- (f) Define positive gravity anomaly.
- (g) Resistivity traversing is also known as _____. *(Fill in the blank)*
- (h) The eluvial placer deposits occur along the _____. *(Fill in the blank)*
- (i) Write the names of largest skarn deposits.
- (j) Oxidation and supergene enrichment are occurred together. *(Write True or False)*
- (k) In which place of Andhra Pradesh, lead, zinc ore deposits are found ?
- (l) What are the common ore minerals of manganese ?

2. Write brief answers to the following questions : *(any four)* 2×4=8

- (a) Define lode.
- (b) How segregation mineral deposits are formed ?
- (c) Write the chief ores of lead with their chemical composition.

(d) What are the uses of gravity geophysical exploration method ?

(e) Write briefly about magnetic survey.

(f) Give *four* examples of ore minerals which are formed by hydrothermal process.

(g) Write the *two* ore minerals of uranium with their chemical formula.

+ urbenite
 $(UO_2)_2(PO_4)_2 \cdot 8H_2O$

carnotite $K_2(UO_2)(VO_4)_2 \cdot 3H_2O$

(h) What are different types of asbestos ?

3. Write short notes on the following :

(any three)

5×3=15

(a) Magnetic concentration process of ore deposits

(b) Placer deposits

(c) Self potential (SP) method of geophysical exploration

(d) Discordant ore bodies

(e) Mention the name of different refractory minerals

(f) Ore minerals of thorium and their distribution in India

(g) Mode of occurrence and origin of gemstone

4. Answer the following questions : *(any three)*
10×3=30

(a) Define late magmatic deposits. What are the types of late magmatic deposits? Give a brief description about the different types of late magmatic process of ore deposits. 1+2+7=10

(b) Write in detail about the hydrothermal process of ore deposits.

(c) Discuss about the types of resistivity method of Geophysical exploration.

(d) Write in detail about the seismic method of Geophysical exploration.

(e) Give a detail account on residual and mechanical concentration of ore deposits.

(f) Discuss about the metallogenic epochs and provinces.

(g) Write briefly about the mode of occurrence and distribution of copper deposits in India.

On metamorphic and igneous rocks mineral ore found in cracks, joint. The small cracks are vein and large cracks are called lodes eg:- Zn, Copper.