5 SEM TDC GEO M 3

2014

(November)

GEOLOGY

(Major)

Course : 503

(Economic Geology)

Full Marks : 48
Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

UNIT—7.1

(Principles of Economic Geology)

(*Marks* : 10)

1. What is an ore-forming fluid? Mention the different types of ore-bearing fluids. Write about the characteristic features of each type. 1+1+3=5

Or

Write on the controls of oxidation and supergene enrichment process of formation of mineral deposits. 5

2. Write short notes on any *two* of the following : 2×2=4

(a) Lithologic control of ore localization

(b) Early magmatic mineral deposits

(c) Contact metasomatism

3. Choose the correct answer : 1

Economic minerals occurring in disseminated form in the enclosing rock are examples of early magmatic deposits / late magmatic deposits / contact metasomatic deposits.

UNIT—7.2

(Types of Mineral Deposits)

(*Marks* : 15)

4. Answer as directed : 1×2=2

(a) Mantle is the prime source of all mineral components. (State true/false)

(b) The most important metallogenetic epoch of India belongs to —— period. (Fill in the blank)

5. Classify different types of chromite deposits. Mention important features of each type. State the mechanism of the formation of layered chromite complexes. 1+3+3=7

Or

Define skarn ore. Why are skarns economically important? Name a few minerals normally found in skarns. 2+3+2=7

6. Write short notes on any *two* of the following : 3×2=6

(a) Diamond deposits in kimberlites

(b) Carbonatitic ore association

(c) Porphyry copper deposit

UNIT—7.3

(Mineral Deposits of India)

(*Marks* : 15)

7. Name the two important ores of manganese with their chemical composition. Describe the origin, mode of occurrence and distribution of manganese deposits in India. Mention the two important uses of manganese. 2+1½+1½+1+1=7

Or

Mention the two important ores of lead *or* zinc with their chemical composition. Discuss geological distribution of either lead *or* zinc deposits in India. 2+5=7

8. What are the raw materials used in ceramic industry? Describe the geological distribution of these minerals in North-East India. 1+3=4

Or

Name the two important coalfields of North-East India. Write a note on Makum coalfield. 1+3=4

9. Write short notes on any *two* of the following : 2×2=4

(a) Limestone deposits of North-East India

(b) Sillimanite deposits of Meghalaya

(c) Geology of Naharkatiya *or* Moran oilfield

UNIT—7.4

(Mineral Policy)

(*Marks* : 8)

10. Answer any *two* of the following : 4×2=8

(a) Define strategic, essential and critical minerals.

(b) Write on the conservation of mineral resources.

(c) Explain important parameters of 'National Mineral Policy' of India.

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