Week 1 Assignment 1

Due on 2018-02-05, 23:59 IST
1. Mineral deposits are not only important from an economic point of view, they sometimes are important indicators of the evolution of the earth. Attempt to justify this statement with reference to some known types of deposits. [2 Points]

2. Bring out the important differences between the rock-forming silicate and ore-forming sulfide/oxide minerals. [2 Points]

3. From the periodic table, pick up elements which constitute (i) energy resources and (ii) resources for fertilizer and chemical industries. [2 Points]

4. What is enrichment factor and describe it’s relation with the crustal abundance of elements and mineral resources? [2 Points]

5. Why are tectonic boundaries susceptible to mineralisation? Also, state some world-class examples of important Mineral deposits associated with them. [2 Points]

6. What do you mean by enrichment factor? How is this parameter manifested in the formation of ore deposits of variable quantity in the earth’s crust? Explain with examples. [2 Points]

7. Why is the type of ore deposits of a metal like Cr so restricted as against copper, which forms deposits in widely varying crustal environments? [2 Points]

8. Some metals formed their deposits quite early in the history of the evolution of the crust whereas some others formed their deposits quite late. Why? [2 Points]

9. What is the reason behind the restricted occurrence of Banded Iron Formations (BIF) in the temporal spectrum? [2 Points]

10. A plot of reserve base of metals versus upper crustal abundances shows the distribution of points on distinctly near-parallel linear trends, instead of falling on a single straight line. Discuss the probable reason for such observed trends depicting such a plot. [2 Points]

11. Although crustal abundance is a first-order control of occurrence of mineral deposits in their observed quantities, there are some exceptions to the general rule. Explain why it is so, especially for metals like Cr and Cu which occur in larger quantities than what would be expected from their crustal abundance. [2 Points]

12. Although Fe occurs in the form of oxide and sulfide minerals at comparable abundance in nature, the sulfide of Fe is not considered as a resource for Iron at the moment – why? [2 Points]

13. Ore deposit formation can be visualized as the Earth’s own mechanism of beneficiation. Justify this statement citing one each of deposits resulting from endogenous and exogenous processes. [2 Points]

14. What do you understand by ‘paragenetic sequence’? How is the paragenetic sequence in an ore body deduced? Why is it necessary to deduce the paragenetic sequence in a mineral deposit? [2 Points]

15. Distinguish between ‘concordant’ and ‘discordant’ ore bodies and examples. Are all concordant ore bodies ‘syngenetic’? Give reasons to justify your answer. [2 Points]

Due Date Exceeded.
As per our records you have not submitted this assignment.