2024/SEM/EVEN/14/36/ESC/ESCC-652/111

# PG Even Semester Exam, 2024

## Earth Science

$4^{th}$ Semester

COURSE NO. ESCC-652

**[ Ore Geology and Mining Geology ]**

Full Marks : 70
Pass Marks : 28

Time : 3 hours

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

*Answer five questions, taking one from each Unit*

## UNIT-I

1. Write a detail account on classification of Ore deposits based on genetic processes. Add a note on key metallogenic process associated with magmatic rocks. 9+5=14

2. Write short notes on the following: 4+3+4+3=14
   a. Stratiform and Stratabound deposits
   b. Paragenesis of Ore
   c. Precambrian as an important metallogenic epoch
   d. Colloform texture

Turn over

## UNIT-II

3. What do you mean by fluid inclusions in minerals. Describe the principles and applications of fluid inclusion studies in Ores. 2+6+6=14

4. Write short notes on the following: 5+4+5=14
   a. Types of Ore bearing fluids and their migration.
   b. Metallogeny associated with convergent margin tectonic setting.

c. Alteration characteristics of potassic and phyllic zones.

## UNIT-III

5. Explain the metallogenic processes associated with the formation of magmatic Cu-Ni-PGE sulphide deposit. 14

6. Write explanatory notes on the following: 7+7=14

   a. Stratiform chromite deposits

   b. Porphyry copper deposits

## UNIT-IV

7. Describe Iron deposits of India in terms of their mineralogy, genesis and distribution. 3+7+4=14

8. Describe a) Copper and b) bauxite deposits of India in terms of their mineralogy and distribution. 7+7=14

## UNIT-V

9. Write an account on the classification of mining methods. Discuss the factors considered for choice of mining method. Add a note on mining hazards. 5+5+4=14

10. Write short notes on the following: 3+4+3+4=14

    a. Ocean bottom mining

    b. Room and Piller method of mining

    c. Block caving

    d. Underground mine accesses

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