

## **I . TO EXPLANATE THE FOLLOWING TERMS**

*( Ten terms , 2 marks per term, total 20 marks)*

**1. Ore Minerals; 2. Ferrous metal; 3. Precious metal; 4. Siderophilic elements; 5. Mineralization epoch; 6. Grade; 7. Hydrothermal solution; 8. Mineralization stage 9. Paragenesis; 10. Magma-related vapor-liquid hydrothermal deposit;**

## **II. SELECTING THE CORRECT TERMS FROM THE GIVEN ANSWERS**

*( Ten questions , 3 marks per question, total 30 marks)*

**1. What is the most important mineral concentrated by fractional crystallization?**

**A. Chromite; B. platinum; C. cassiterite; D. gypsum**

**2. Within the 5 ways minerals become concentrated, which of the following occur by weathering processes?**

**A. Magmatic Mineral Deposits; B. Sedimentary Mineral Deposits;**

**C. Residual Mineral Deposits; D. Hydrothermal Mineral Deposits; E. Placers**

**3. Nonmetallic substances are mainly used as?**

**A. Chemicals; B. Fertilizers; C. Building Materials; D. Chemicals and Fertilizers;**

**E. All of the above**

**4. What is an ore?**

**A. the distribution of many kinds of mineral deposits; B. sedimentary mineral deposits; C. when a mineral deposit can be worked profitably; D. cooling magma**

**5. True or False. The distribution of many kinds of mineral deposits is controlled by plate tectonics.**

**A. True; B. False**

**6. Which of the following is the best example of a renewable resource?**

**A. Cement; B. Steel; C. Water; D. Copper; E. Nickel**

**7. Copper, Gold, lead, galena, sphalerite. What is the geologic concentration process of these raw materials?**

**A. soil leaching; B. placer sorting; C. hydrothermal precipitation; D. igneous cooling; E. evaporation**

**8. Which of the following is NOT a material that comes from igneous cooling.**

**A. quartz; B. lithium; C. diamond; D. feldspar; E. gypsum**

**9. Which of the following materials is not produced by hydrothermal precipitation?**

**A. Copper; B. Galena; C. sphalerite; D. talc; E. lead**

**10. True or False, Coal is the most abundant of the fossil fuels.**

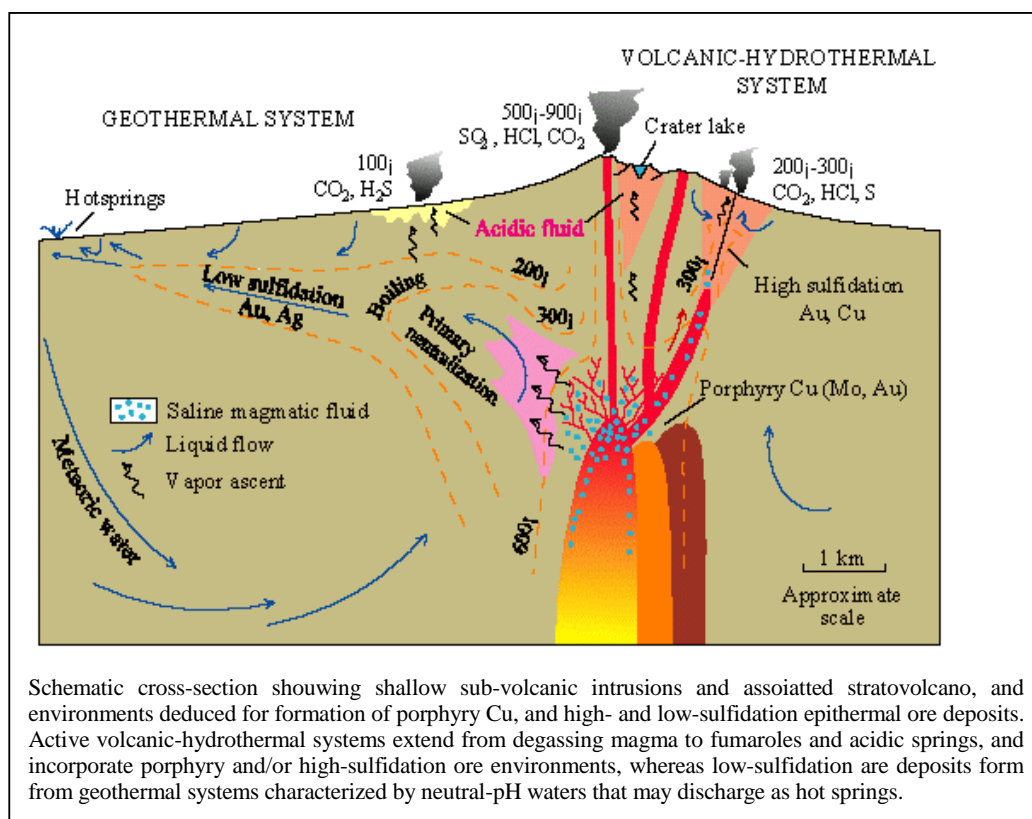
**A. True; B. False**

III. BRIEFLY ANSWER FOLLOWING THE QUESTIONS. ( 3 questions , 10 marks per question, total 30 marks) (answering questions in Chinese is allowed)

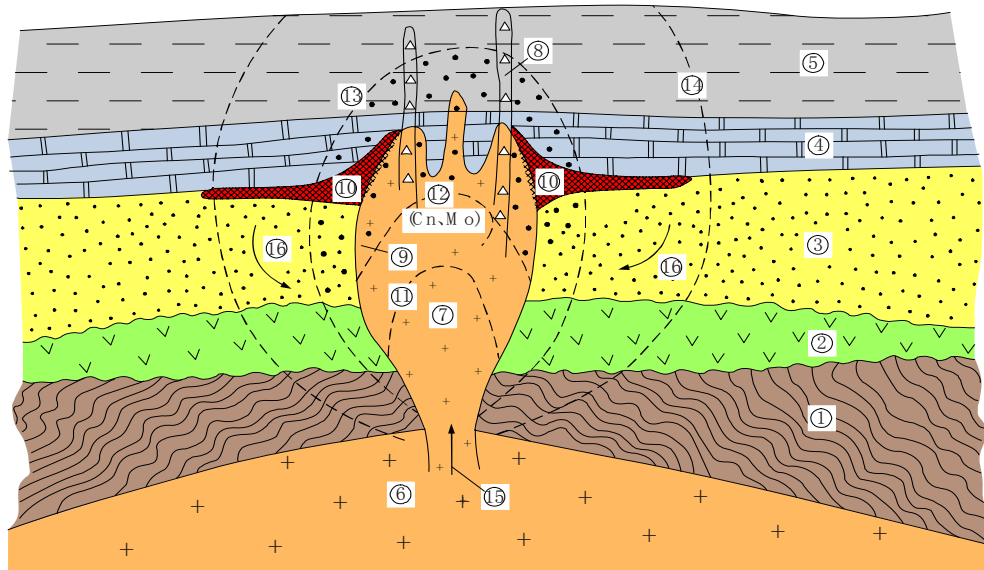
1. How many concentration processes that lead to the formation of ore deposits are there in our study?
2. Which genic kinds can the ore-bearing fluid be divided into? and explain their main characters and features?
3. What are the features of magma?

IV. EXPLANATION THE MODEL FIGURES WITH GEOLOGICAL CHARATERS OF ORE DEPOSITS (Choosing to answer 2 questions from 3 questions , 10 marks per question, total 20 marks) (answering questions in Chinese is allowed)

1. Explanation the formation conditions and processes of epithermal ore deposit by reading the following model figure.



2. To describe the main characters of zoning and alteration in porphyry copper ore deposit by unscrambling the following figures.



斑岩型铜（钼）矿床的成矿模式 ①基底岩石；②火山岩；③泥沙质岩；④碳酸盐岩；⑤泥质岩；⑥深成岩基；⑦浅成斑岩体；⑧爆破角砾岩筒；⑨带黑点的范围表示斑岩型铜钼矿化；⑩矽卡岩型矿化；⑪钾化带底界；⑫绢英岩化带底界；⑬青盘盐化带底界；⑭青盘盐化带顶界；⑮上升岩浆流体；⑯循环天水

3. To find the possible types of ore deposits and briefly give their properties from following model figure.

