Ⅰ. TO EXPLANATE THE FOLLOWING TERMS

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

1. Ore; 2. Gangue Minerals; **3.Non-ferrous metal (Base metal);** 4. **Precious metal**; **5. Sulfophilic elements**; **6. Host Rock; 7. connate water; 8. Country Rocks; 9. Alterartion; 10. Porphyry copper deposit;**

Ⅱ. SELECT THE CORRECT TERMS FROM THE GIVEN ANSWERS

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

1. What is any volume of rock containing an enrichment of one or more minerals called?

A. Mineral deposits; **B.** Mineral dumps; **C**. Mineralization; **D**. Mineral mines

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. Many kinds of mineral deposits occur in groups called_____?

A. magmatic mineral deposits; **B.** residual mineral deposits; **C.** placers;
D. hydrothermal mineral deposits; **E.** metallogenic provinces;

4. T or F, Many kinds of mineral deposits tend to occur in groups and form metallogenic provinces?

A. True; **B**. False

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

A. True; **B.** False

6. What are remains of plants and animals trapped in sediment that may be used for fuel?

A. Gangue; **B**. Residual Mineral Deposit; **C.** Mineral Deposit; **D**. Fossil Fuel
E. Placer

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

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

8. What is an example of a non-metallic resources.

A. Aluminum; **B**. Clay; **C**. Lead; **D.** Steel;

9. Which of the following is a energy resource that is a non-renewable?

A. Solar energy; **B**. Wind energy; **C**. Nuclear energy; **D.** Ocean thermal energy
E. None of the above

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

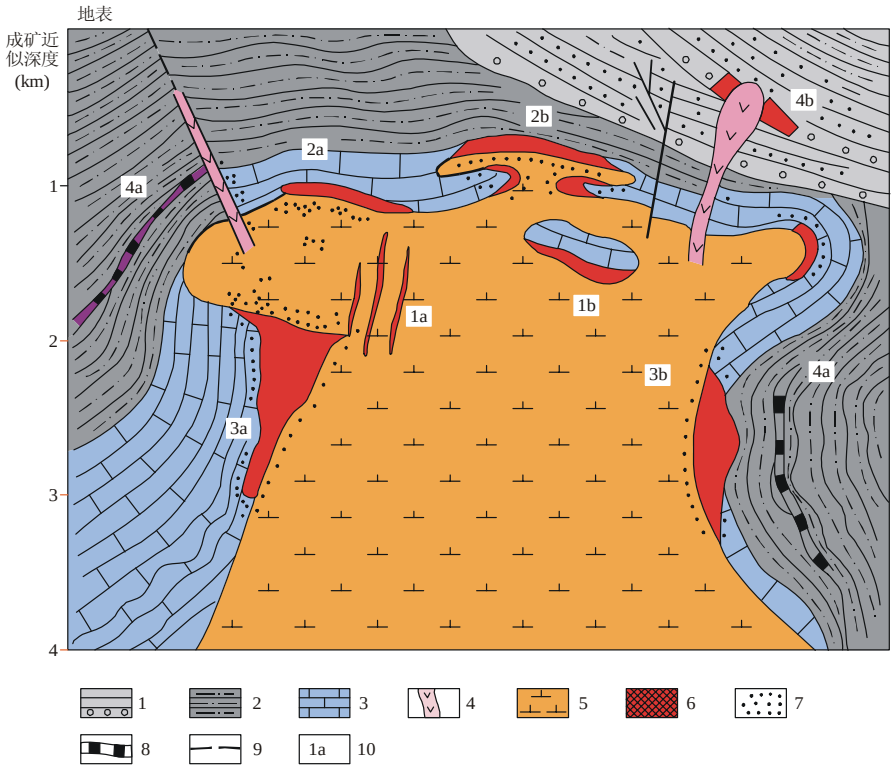
A. Copper; **B.** Galena; **C.** sphalerite; **D.** talc; **E.** lead

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. **What roles did the ore-bearing fluids play in formation of ore deposits?**
3. **What are skarn deposit formation conditions?**

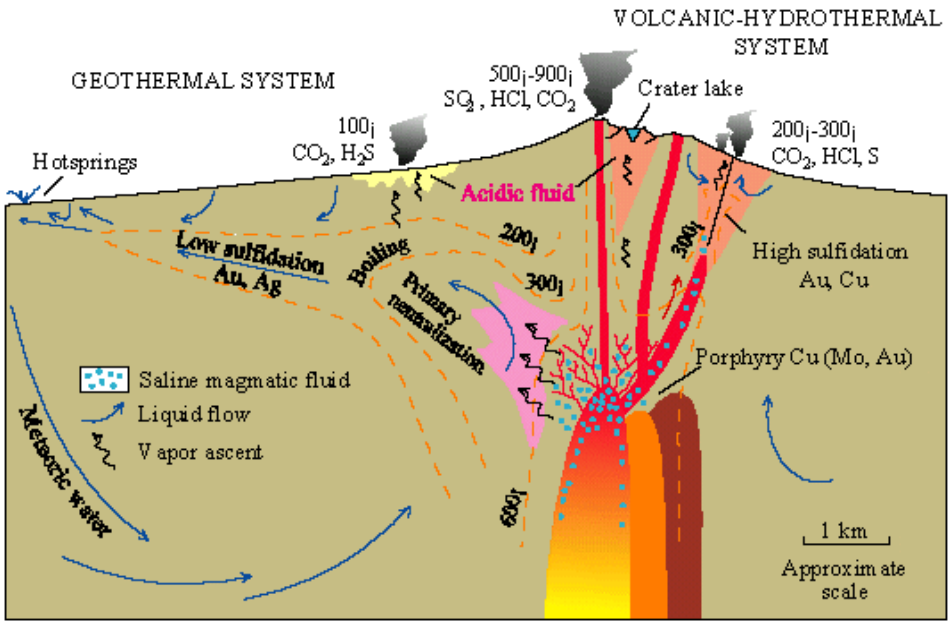
Ⅳ. EXPLANATION THE MODEL FIGURES WITH GEOLOGICAL CHARATERS OF ORE DEPOSITS *(Choicing to answer 2 questions from 3 questions , 10 marks per question, total 20 marks)* *（answering questions in Chinese is allowed）*

1. **To describe the main charaters of the ore deposit according to the following figures.**



1-砂砾岩；2-粉砂岩和泥灰岩；3-大理岩；4-中-酸性脉岩；5-闪长岩（和/或石英闪长岩、花岗岩）；6-接触交代矿体；7-蚀变带；8-沉积-接触变质改造矿体；9-断层；10-矿体产状类型编号

2. Explanation the formation conditions and processes of epithermol ore deposit by reading the following model figure.



Schematic cross-section shouwing shallow sub-volcanic intrusions and assoiatted stratovolcano, and environments deduced for formation of porphyry Cu, and high- and low-sulfidation epithermal ore deposits. Active volcanic-hydrothermal systems extend from degassing magma to fumaroles and acidic springs, and incorporate porphyry and/or high-sulfidation ore environments, whereas low-sulfidation are deposits form from geothermal systems characterized by neutral-pH waters that may discharge as hot springs.

4. To find the possible types of ore deposits and briefly give their properties