



First Level Examination in Fundamentals of Geology (G100)

Time: One Hours

PART I (Total Marks 25)

Jan., 2018

Answer the following questions: (Each question One Mark)

Choose the correct answer of the following:

1-The earth's crustal plates move

a-A few meters per year

b-a few millimeters per 1000 years

c-a few centimeters per year

d- a few millimeters a day

2-Average thickness of oceanic crust is

a-5 km

b-7 km

c-35 km

d-100 km

3-Wegener's evidence of continental drift:

a- Matching of animal and plant fossils

b-fit of continental coastlines

c- Identical rock types of same age

d- All of the above.

4-The type of plate boundary to have Earthquakes:

a-subduction

b- spreading center

c-transform fault

c-all of the above

5-Volcanoes are least likely to be associated with:

a-subduction zones b- hot spots c- transform faults d- mid-ocean ridges

6-Along what type of plate boundary does subduction occur?

a- divergent

b- transform

c- convergent

II-Crystallography and mineralogy

Indicate by the sign (✓) or (×):-

7- The Hexagonal system ($a = b = c$) ($\alpha = \beta = \gamma = 90^\circ$)

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8- Most crystals have a center of symmetry

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9- The Cubic System ($a = b = c$) ($\alpha = \beta = \gamma = 90^\circ$)

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10- Minerals can be in a gas or liquid state

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11- On Mohs hardness scale, quartz has 8

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III-Petrology

12-Types of sedimentary rocks are:

a- clastic sedimentary rocks

b- organic sedimentary rocks

d- chemical sedimentary rocks

e- all of the above

13-Clastic sedimentary rocks such as conglomerates, sandstones and shales are classified based on:

a- color

b- density

c- grain size

d- all of the above

14-The mineral composition of peridotite is plagioclase and pyroxene ?

a-True

b-False

15-Mafic rocks contain about ----- % silica.

a- 20

b-50

c-80

d- 100

16-Slate rocks is

a- regional metamorphism b-thermal metamorphism c-dynamic metamorphism

17-Agent of thermal metamorphism is

a-pressure b-temperature c- both

(Each question Two Mark)

Compared between:

18- Granites and Basalts

19- Schist and Marble

20-Oceanic and continental crust

21-Mention how can differentiate between hexagonal, trigonal and tetragonal using c-axes symmetry?

ديسمبر 2017 مجموع الدرجات: 50 الزمن: ساعتان	امتحان الفصل الدراسي الاول لطلاب الفرقة الاولى علوم شعبة الكيمياء الصناعية مقرر: أساسيات الجيولوجيا (G100)	قسم الجيولوجيا كلية العلوم جامعة أسسوط
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Answer the following questions: -

1- Define the following terms:

(10 marks)

Fracture – Cleavage – Axis of symmetry – Amorphous substances – Mantle convection

2- Write short notes on the following:

(20 marks)

- a- Wegener's evidence of continental drift.
- b- Convergent plate boundaries.
- c- Crystal system.
- d- Hardness.

3- Write True or False beside the following sentences:

(10 marks)

- a- Contact metamorphism results from the intrusion of hot magma into cooler rocks.
- b- Regional metamorphism affects broad regions of the earth's crust.
- c- Hornfels is a hard, dark, fine grained rock usually formed by contact metamorphism of sandstone.
- d- Quartzite is a rock composed of recrystallized quartz grains.
- e- Quartz is the most common mineral found in evaporate deposits.
- f- Dolomite forms when Mg-rich solutions percolate through older beds of limestone.
- g- Shale is formed by lithification of organic sediments.
- h- Chemical sedimentary rocks form by direct precipitation of minerals from solution.
- i- Peridotite is composed of quartz and feldspar.
- j- Diorite is the medium to coarse-grained plutonic equivalent of andesite.

4- Complete the following sentences:

(10 marks)

- a- is a volcanic rock, intermediate in composition between basalt and granite.
- b- contains the same minerals as granite but has a fine-grained texture.
- c- is a dark, very fine-grained volcanic rock.
- d- and are called mafic rocks because of their high magnesium and iron content.
- e- and contain large amounts of silicon and aluminum.
- f- is the manner in which a mineral reflect light.
- g- occurs where two plates move apart horizontally.
- h- occurs where plates slide horizontally past one another without the production or destruction of lithosphere.
- i- is lithified gravel.
- j- Beneath the lithosphere in the upper mantle lies a soft weak layer known as the