Kafrelsheikh University
Faculty of Science
Geology Department
Second level (Geol.)
First Term 2017/2018

Time: 2h
Subject: Structural Geology (G208)
Total Marks: 70
Date: 8/1/2018
Exam in one page

Answer the following questions

1. Write with illustration about the genetic classification of faults based on the nature of relative movement along the fault. (15 marks)

2. What is the columnar joint (support your answer with drawing)? (5 marks)

3. Write with drawing about the drag fold . (10 marks)

4. Write with illustration about stress-strain diagram and types of materials under stress. (10 marks)

5. Compare with illustration between angular unconformity and nonconformity. (10 marks)

6. Complete the following statements (20 marks)

(a)- The…….. are joints that have formed when pore fluid pressure became high as a result of vertical gravitational loading, and ……..are joints formed near the surface during uplift and erosion.

(b)- The…….. is an unconformity between parallel layers of sedimentary rocks, and……is unconformity in which the separation is a bedding plane with no obvious buried erosional surface.

(c.)- The……. are formed if there is no visible displacement of the wall rocks on either side of fracture, and ……are formed if the wall-rocks on either side have been affected by displacements along the fracture.

(d)- Folds can be classified into three main types based on mechanics causing of folding into ……..and……..and flow folding.

(e)- The vertical movements and horizontal compression are……..processes causing folding, but collapse and cambers are ……processes forming folding.

(f)- The……..fold in which its beds in the opposite limbs have parallel strike to each other on the map and……fold in which its beds in the opposite limbs have strike toward each other and the formation converges.

(g)- The……..fold in which its both limbs of fold is dip by the same amount in the same direction, but……...fold in which at least one limb has dip>90.

(h)- The nature of movement along faults is classified into two main types …….and……

(i)- Tensional stress is a force that tends to pull material apart and can form normal faults,……and……..

(j)- The compressional stress is a force that tends to push material together and leads to the formation of folds, ……..and……..

The End of Exam……BEST WISHES FOR ALL

Prof. Dr. Mohamed Z. Khedr

جيولوجيا ٢

Kafrelsheikh University
Faculty of Science
Geology Department
Second level (Geol.)
First Term 2017/2018

Time: 2h
Subject: Optical mineralogy and rock forming minerals (G206)
Total Marks: 100 (70 Written, 10 Oral, 20 Exercises)
Date: 15/1/2018
Exam in one page

Answer the following questions:

1) Define retardation (optically speaking) and explain its relation to (a) phase difference and interference color, (b) thickness (length of optical path), and (c) refractive indices. (d)What is the retardation for isotropic minerals? (15 Marks)

2) Answer the following sentences True or False: (10 Marks)

A) A mineral with more than one principal refractive index is called anisotropic
B) Light can be characterized as a transverse wave form that travels in a straight line
C) A mineral with the same refractive index regardless of vibration direction. Its indicatrix is a sphere is called uniaxial
D) The velocity of light is its wavelength multiplied by its frequency
E) Peroxenes have two set of cleavage with angle 120 degree while Amphiboles have one set of cleavage
F) Light is reflected at the same angle as the incident angle
G) Enstatite minerals are characterized by parallel extinction
H) Augite, is the most common mineral of clinopyroxene, is found in mafic igneous rocks
I) A mineral in an oil grain mount will show high relief only if it has a higher index of refraction than the oil
J) In a Becke line test, the bright line moves toward the substance with the lower index of refraction

3) Define the following terms: (20 Marks)

a- Mineral b- Pleochroism c- Releif
d- Extinctionand extinction angle e- Length-fast and length-slow

4- Biaxial interference figures, how they are observed, and draw Centred Acute Bisectrix and Centred Biaxial Optic Axis. (15 Marks)

5-Wright the chemical formulae of each of the following minerals and indicate which are isotropic, Uniaxial or biaxial: (10 Marks)

a- Olivine b- Quartz c- Calcite
d- Orthoclase e- Garnet

Best wishes
Dr. ElMetwally

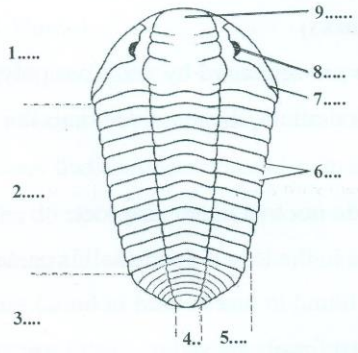
b- The suture lines in ammonites which have rounded undivided saddles and subdivided lobes is termed (ceratitic – goniatitic- ammonitic).

c- (Nautiloidea - Ammonoidea - Belemnoidea) are extinct cephalopods whose skeleton is a bullet-shaped and made up of calcite.

d- (Ecinoidea - Trilobites - Graptolites) were amongst the most important elements of marine communities between the Cambrian and the Permian.

e- The invertebrate organism living totally buried within the sediment is named (epifaunal - infaunal - Reclining).

6- Write the correct term (words) of the following illustrations. ***(5 ms)***



10..... morphology

Best wishes
Assoc. Prof. Dr. Aziz Abu Shama
mabushama2002@yahoo.com Tel: 01066255510

See the other page

Kafrelsheikh University **Faculty of Science**
Geology Department **Second year**
Examination in *Invertebrate paleontology* (G205)
Time: 2 hours **Marks: 70** **28 /12/2017**

1- Write an essay about: ***(20 Marks)***

A- The factors influence fossils preservation. ***(12 Marks)***

B- The preservation of the unaltered hard parts. ***(8 Marks)***

2- Write short note about: ***(20 Marks)***

A- Dentition and their types in Pelecypoda. ***(10 Marks)***

B- Regular echinoids. ***(5 Marks)***

C- Different shapes of cephalopod shells (use illustration also). ***(5 Ms)***

3- Make a brief Comparison between: ***(15 Marks)***

A- Brachiopoda and pelecypoda. ***(10 Marks)***

B- Septa of Rugose and scleractinian corals. ***(5 Marks)***

4- Write the <u>correct word only</u> that filling space in the following sentences. ***(5 Marks)***

a- When corallites are separated by wall, but polyps may have joined on surface of corallum, the massive corals are termed.....

b- The apical disc of echinods are described as ..... when the ocular plates do not touch the periproct.

c- The dorsal valve in the Brachiopod shell is named.....valve

d- Gastropods are found in marine and .....environments.

e- The oldest-known fossils are sedimentary structures are .....

5- Select the <u>correct word only</u> in between brackets. ***(5 Marks)***

a- Pelecypod peak is named (orthogyral – prothogyral -opisthogyral) when it is directed forward to the anterior side of shell.

See the other page

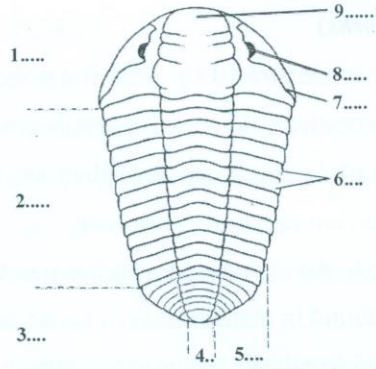
b- The suture lines in ammonites which have rounded undivided saddles and subdivided lobes is termed (ceratitic – goniatitic- ammonitic).

c- (Nautiloidea - Ammonoidea - Belemnoidea) are extinct cephalopods whose skeleton is a bullet-shaped and made up of calcite.

d- (Ecinoidea - Trilobites - Graptolites) were amongst the most important elements of marine communities between the Cambrian and the Permian.

e- The invertebrate organism living totally buried within the sediment is named (epifaunal - infaunal - Reclining).

6- Write the correct term (words) of the following illustrations. ***(5 ms)***



10..... morphology

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See the other page

Third Part INTRODUCTION OF SEDIMENARY PETROLOGY(25 Marks)

(Use drawing when possible)

A. What is the difference between ; **(9 points)**

1. Sediment & Sedimentary Rocks.
2. Clastic Rocks & Biochemical Rocks.
3. Weathering Processes & Lithification Processes.

B. What is the relationship between : **(9 points)**

1. Bowen Reaction Series (1922) ,Weathering Potential Index (WPI) of Goldich, 1938, & Carroll, 1970.
2. Wentworth & Fay (**Φ**) grain size scale.
3. Sandstone, Arkose , & Greywacke.

C. Write a short notes on: **(7 points)**

Chert, Gypsum, Coquina, Fossiliferous L.S , Dolostone, Breccia & peat.

Best regards Prof. Dr. Antar Abdel-Wahab

Kafrelsheikh University
Faculty of Science
Geology Department
Second level (Geol.)
First Term 2017/2018

Time: 2h
Subject: Petrology (G207)
Total Marks: 100 (70 Written, 10 Oral, 20 Exercises)
Date: 1/01/2018
Exam in one pages (two face)

First Part: Igneous Petrology (25 Marks)

Answer the following questions

1- What are the environments of magma formation? (5 marks)

2- What is texture? Write some of the common igneous textural terms? (5 marks)

3- What is the concept of "crustal contamination" (or "wall-rock assimilation") for producing some of the variableness of igneous rocks in suites of genetically related igneous rocks? (5marks)

4- Write an article on the Types of igneous intrusions (10 marks)

Second Part: Metamorphic Petrology (20 Marks)

Answer the following questions

1. What is contact metamorphism? Where does it usually take place? Draw a sketch showing the effect of contact metamorphism (7 marks)

2. Define the following: (10 marks)
   a. Metamorphic grade
   b. Index minerals
   c. Schistosity
   d. Gneissosity
   e. Porphyroblastic textures

3- What kind of texture is usually present in rocks produced by regional metamorphism? (3 marks)

(أسئلة الصخور الرسوبية خلف الصفحة)

Best regards

Dr. ElMetwally Lebda

Kafrelshikh University
Faculty of Science. Geology Department
Final exam. of First term

Methods of Geophysical Prospecting (1), (Second Level)
Date: 11 /1/2018
Time: 2 Hours, Degree= 70

Answer the following questions

Discuss briefly the following questions

1- Graphical smoothing as one of the major separation techniques.
2- Factors affecting the ariel extent and magnitude of gravity anomalies.
3- Diamagnetism and Paramagnetism.
4- The factors affecting the value of gravity at any point on the earth's surface.
5- Ferromagnetism and antiferromagnetism.
6- Paleomagntism (Remnant magnetizations in rocks).
7- Quantitative interpretation to evaluate faults parameters.
8- Analytic continuation technique as one of anomaly separation technique.
9- the geometrical Models of gravity anomaly of an ANTICLINE and HORIZONTAL THIN SHEET.

Best wishes