جيولوجيا

1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR (LEVEL 2) SPECIAL GEOLOGY, CHEMISTRY/GEOLOGY AND GEOPHYSICS			
	COURSE TITLE:	Principles of Stratigraphy		CODE: GE 2107
DATE:	JANUARY, 2016	SEMESTER: 1	TOTAL MARKS:100	TIME ALLOWED: 2 HOURS

Answer the following questions (Illustrate your answer with drawing):

Question 1: **(25 Marks)**

Discus briefly the different types of Stratigraphic contacts and boundries

Question 2: **(25 Marks)**

Write briefly about:

a – Relative ages
b – Differences between biostratigraphy and lithostratigraphy.
c - Isopach maps

Question 3: **(25 Marks)**

Define and discuss the following stratigraphic principles (Laws):

a- The principles of strata continuity
b- Walther's Law of facies Succession

Question 4: **(25 Marks)**

Discus briefly the outcrop stratigraphic procedures.

Best wishes

Examiners	**Prof. Dr. H. Khalil**	**Dr. M. Sobhy**

جيولوجيا

	Tanta University Faculty of Science Chemistry Department		
	Examination for Second Year Students of Special Geology Section		
	Course Title	Organic Chemistry	Course Code:2145
Date:	January 2016	Total Assessment Marks: 50	Time Allowed: 2 hrs

1) Differentiate between each of the followings: **(20 Mark)**

1. Homolytic and heterolytic fission
2. Action of HCl and O_3 on 1-butene and 2-butene
3. Preparation of alkenes and alkynes using vicinal dihalide
4. Addition of water (H_2O) on ethyne and propyne
5. Alkylation and Acylation of benzene

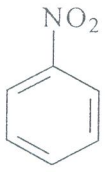
2) Write the mechanism of: **(15 Mark)**

1. Action of Chlorine (Cl_2) on propane
2. Sulfonation of benzene
3. Addition of HCl on propene in the presence and in the absence of H_2O_2

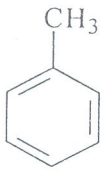
3) Complete the following equations: **(15 Mark)**

1) $2\ CH_3CH_2Cl + 2\ Na \xrightarrow{\text{ether}} A$

2) $CH_3\underset{\displaystyle Cl}{\underset{|}{C}}HCH_2CH_3 \xrightarrow[KOH]{\text{Alcoholic}} A$

3)  $\xrightarrow[AlCl_3]{CH_3Cl} A$

4) $CH_3—CH_2—CH=CH_2 \xrightarrow[H_2O]{Br_2} A$

5)  $\xrightarrow[H_2SO_4]{HNO_3} A$

EXAMINER	Prof. Dr. El-Refaei Kenawy	Dr. Mohamed Azaam

جيولوجيا ٣

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SECOND LVEL STUDENTS OFSPECIAL GEOLOGY			
	COURSE TITLE:	Final Exam of Gemstones		COURSE CODE:GE2111
DATE:	JAN. 2016	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Part1: Answer the following questions: **(32 Marks)**

1- Physical properties and origin of turquoise.
2- Composition, classification and geological record of amber.
3- Gem varieties of beryl.
4- Physical properties and origin of diamond.
5- **Write short notes on:** **(18 Marks)**

a- Treatment of gemstones.
b- Jet organic stone and momme weight of pearl.
c- Classification of gemstones.
d- Physical properties of ruby and spinel.

Part2: Discuss in brief on the following: **(30 Marks)**

1- Chemical classification for Garnet as gemstone.
2- Composition, properties, geology and uses o f Lapis Lazuli.
3- Different gemstones of macro and micro-crystalline quartz.
4- **Write on the Following:** **(20 Marks)**

a- Different techniques of enhancements for Jade.
b- Different varieties of tourmaline.
c- Write briefly on peridot and topaz.
d- Uses of Feldspars.

Examiner: Prof.Dr. Ibrahim Salem Dr. Mohamed AbdEl.Monsef

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR GRADE TWO STUDENTS OF GEOPHYSICS			
	COURSE TITLE:	Radioactivity and Geothermometry		COURSECODE: GP2109
DATE:	18JAN, 2016	SEMESTER: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Answer the following questions (Sketch maps and diagrams should be drawn whenever possible).

Part I: Radioactivity (60 Minutes, Total Marks 50)

1) Describe the difference between: **(20marks)**

a) Integral Spectrometer and Differential "window" spectrometer.

b) Nuclear forces.

3) Write on the unites of radioactivity measurements. **(10marks)**

4) What are the radioactive minerals? **(10marks)**

1) Illustrate the ground radiometric method for survey. **(10marks)**

Part II: Geothermometry (60 Minutes, Total Marks 50)

1- Discuss the geothermal regime of the different tectonic settings of the continental crust. **(20 Marks)**

2-Write on the followings :- **(20 Marks)**

a- Temperature-depth profile in the earth interior.

b- Temperature-depth profile in the oceans

c- Temperature-height profile in the atmosphere

3-Identify the followings: - **(10 Marks)**

a- Convection heat flow.

b- Geothermal gradient.

c- Geothermal reservoir.

d- Heat capacity.

EXAMINERS	PROF. SHADIA T. ELKHODARY	PROF. ZENHOM E. SALEM

TANTA UNIVERSITY FACULTY OF SCIENC CHEMISTRY DEPARTMENT			
FINAL EXAM FOR 2nd LEVEL STUDENTS (ALL SECTIONS)			
COURSE TITLE	THE CHEMISTRY OF THE TRANSITION ELEMENTS		TIME ALLOWED: 2 HOURS
CODE	CH2107		
DATE: DEC 30, 2015	TERM: FIRST	TOTAL ASSESSMENT MARKS	100

[I]. Give reasons for the following. (20 Marks)

1- Water has an abnormally low volatility than the other hydrides of gp VI.

2- Beryllium salts are ionic with acidic character when dissolved in water.

3- The difference in size between Al and Ga is less than expected.

4- Hydrofluoric acid has low acidic strength.

5- The occurrence of oxidation state I in group III elements and comment on the validity of $GaCl_2$ compounds.

[II]. A) Rank each of the following series from high to low according to the given criteria and give reasons. (20 Marks)

1- Li^+, Na^+, K^+, Rb^+, Cs^+ (Conductivity in aqueous solution)

2- BF_3, BCl_3, BBr_3 (Lewis acid strength)

3- NH_3, PH_3, AsH_3 (Donor properties and stability)

B) Illustrate the oxyacid obtained when P_4O_{10} hydrolyses.

[III]. A) Compare between the pair of the following. (20 Marks)

1- Diamond and Graphite.

2- Trimethylamine $(CH_3)_3N$ and trisilyamine $(SiH_3)_3N$ in structure and donor properties.

3- Group I and II elements in softness and reaction with water.

B) Classify the type of following hydrides, CsH, PH_3, B_2H_6, HCl and discuss their physical properties.

[IV]. A) Draw the structure of the following. (20 Marks)

1- Types of silicates (three types).

2- Diborane, beryllium hydride and beryllium halide.

B) Describe the properties and the structure of SO_2 and SeO_2.

C) Mention the structure and important applications of Teflon and chlorofluorohydrocarbons.

[V]. Choose the correct answer from the following: (20 Marks)

1- **In which of the following compounds, nitrogen exhibits highest oxidation state?**

a- HNO_3 b- NH_2OH c- N_2H_4 d- NH_3

2- **Which of the following contains P - O - P bond?**

a- Orthophosphorous acid b- Orthophosphoric acid

b- Pyrophosphorous acid c-Phosphorous acid

3- **Iodine is the element below bromine in group VII which of the following statement is not true for iodine?**

a- It is less electronegative than bromine b- It will exhibit only – I oxidation sate

c- Less effective overlap of atomic orbitals in diatomic molecule.

d- Large bond distance in diatomic molecule than that of bromine.

4- **Which of the following is/are paramagnetic Na_2O_2, Li_2O, CsO_2:**

a- Na_2O_2 and Li_2O b-Only CsO_2 c- Only Na_2O_2 d- All are paramagnetic

5- **The hybridization of atomic orbitals of boron in solid orthoboric acid and aqueous solution of orthoboric acid are:**

a- sp^3 and sp^2, respectively b- sp^3

c- sp^2 and sp^3, respectively d-sp^2

6- **The reaction of 1mole of B_2H_6 with 2mole of NH_3 at high temperature gives:**

a- Boron nitride b-Borazine c-Borane d- Borazane

7- **The structure of $AlCl_3$ is:**

a- Monomer b-Dimmer c-Trimmer d-Polymer

8- **The hydrolysis of CCl_4 under superheated steam gives:**

a- $COCl_2$ + HCl b-$C(OH)_4$ + HCl c-No reaction d-CO_2 +HCl

9- **BeO is a/an:**

a- Basic oxides b-Acidic oxides c-Amphoteric oxides d-Metallic oxides

10- **The oxygen fluoride has formula:**

a- OF_2 b- F_2O c-F_4O d-OF_4

Good Luck

Examiners	*Prof. Dr. Said Anwer* *Prof. Dr. Dina Abd El-Aziz* *Dr. Mohamed Mansour El-bendary*

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1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SOPHOMORES (SECOND LEVEL) STUDENTS OF SPECIAL GEOLOGY			
	COURSE TITLE:	Structural Mineralogy		COURSE CODE: GE2103
DATE:	9 JUNE, 2016	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

I) Write on the followings:- **(50 marks)**

1. **The molybdenite structure** **(10 marks)**
2. **The unit cell types of metallic homodesmic minerals** **(10 marks)**
3. **The structure of tectosilicates** **(10 marks)**
4. **Exsolution** **(10 marks)**
5. **The calcite structure** **(10 marks)**

II) Define: **(25 marks)**

1) **Monomict structure**
2) **Heterodesmic**
3) **Coordination**
4) **Solid solution**
5) **Screw axis**

III) Complete the following: **(25 marks)**

1) **Mineral ..... is isomorphic with .....**
2) **Very high hardness characterize.....minerals**
3) **The coordination number of spinel.....**
4) **The number of oxygen shared in the double chain inosilicate equal.....**
5) **The halite structure is identical with.....**

Examiners	Prof. Samir Mohammed Aly
	Prof. Abdelsalam Rashad

1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SECOND LEVEL STUDENTS OF (GEOLOGY) - (GEOPHYSICS) – (GEOLOGY-CHEMISTRY)			
	COURSE TITLE:	MICROPALEONTOLOGY (1)		COURSE CODE: GE 2109
DATE:	16 JUNE, 2016	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

Write short notes on the following questions. Illustrate your answers with clear drawings and give examples:

1-General shape of the unilocular test (Five only) (20 Marks)

2- Shape of the apertures (Five only) (20 Marks)

3-Factors affecting the distribution of foraminifera (20 Marks)

4- Mode of coiling (10 Marks)

5- Give Examples: (15 Marks)

A- Mixed chambers arrangement of test.

B- Surface ornamentation.

E- Lobulate periphery.

6- Choose the correct answer of the following questions: (15 Marks)

1. Microfossils are generally excellent indicators of
   a) Tectonics b) Earthquake c) paleoecology d) Paleogeography
2. Foraminifera is
   a) Unicellular animal b) Unicellular plant c) Multicellular animal
   d) Multicellular plant
3. Agglutinated foraminiferal test is formed of
   a) Calcareous wall b) Siliceous wall c) coarse or fine cemented particles
   d) Chitineous Walls
4. Porcelaneous foraminiferal test is:
   a) Perforate b) semiperforate c) imperforate d) non-perforate
5. Unilocular foraminiferal test is
   a) septate b) non septate c) simply septate d) limbate

Best wishes

Examiners	Prof. Mahmoud Faris Mohamed	Prof. Abdelfattah Ali Zalat
	Prof. Akmal Marzouk	

TANTA UNIVERSITY FACULTY OF SCIENC CHEMISTRY DEPARTMENT			
FINAL EXAM FOR 2nd LEVEL STUDENTS (ALL SECTIONS)			
COURSE TITLE	THE CHEMISTRY OF THE TRANSITION ELEMENTS		TIME ALLOWED: 2 HOURS
CODE	CH2107		
DATE: DEC 30, 2015	TERM: FIRST	TOTAL ASSESSMENT MARKS	100

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Good Luck

Examiners	*Prof. Dr. Said Anwer* *Prof. Dr. Dina Abd El-Aziz* *Dr. Mohamed Mansour El-bendary*

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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SOPHOMORES(LEVEL TWO) STUDENTS (SPECIAL GEOLOGY)			
	COURSE TITLE	OPTICAL MINEROLOGY		COURSE CODE:GE2105
DATE:	January,2016	SEMESTER FIRST	TOTAL ASSESSMENT MARKS:100	TIME ALLOWED:2 HOURS

Answer the following questions :

1- By using the polarizing microscope , explain how to determine :

a- Order of the interference colour..... (15 marks)

b- The optic sign of the uniaxial minerals.....(15 marks)

2- Write short notes on the following :

a- The factors defining interference colours.....(6 marks)

b- Importance of studying interference figures.....(7 marks)

c- Zoning and twinning.....(6 marks)

d- Extinction and extinction angle.....(6 marks)

3- Comment on the following phenomenas:

a- Twinkling.....(10 marks)

b- Relief.....(10 marks)

c- Pleochroism.....(10 marks)

4- Explain how to determine the index of refraction of the isotropic minerals with the microscope..... (15 marks)

Examiner : Prof .Abdelsalam M.R. Abouelela