	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION FOR SENIOR (FOURTH YEAR) STUDENTS OF GEOLOGY		
	COURSE TITLE:	GEOLOGY OF EGYPT & PHOTOGEOLOGY	COURSE CODE: 14051
DATE:	21/ 1 / 2013	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

I- GEOLOGY OF EGYPT (2 Hours)

Write briefly on the following:

1. Paleozoic outcrops at Um Bogma area, southwestern Sinai. (8 marks)
2. Jurassic succession at Gebel Maghara, northern Sinai. (8 marks)
3. Stratigraphic succession of the Cretaceous / Tertiary contact at Gebel Duwi ,
Quseir area. (8 marks)
4. Oligocene rocks in Egypt, their facies and paleogeography. (8 marks)
5. Distribution of Miocene rocks in Egypt and their paleogeography (8 marks)

II- PHOTOGEOLOGY (1 Hour)

Write a brief account on the following:

- 1- Electromagnetic spectral regions involved in remote sensing. (4 marks)
- 2- Advantages and disadvantages of multispectral scanners over multiple cameras. (4 marks)
- 3- Compare between vertical and low oblique aerial photographs. (4 marks)
- 4- Effect of elevation of a point on its parallax. (4 marks)
- 5- Using stereoscopes in stereoscopic vision. (4 marks)

EXAMINERS	Prof. Abdel Monem T. Abel Hamed	Prof. Mahmoud H. Ashmawy
	Prof. Mohamed Kamal Salah	Dr. Shadia Taha Al-Khodary



TANTA UNIVERSITY
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EXAMINATION FOR SOPHOMORES (FOURTH YEAR) STUDENTS OF GEOLOGY

COURSE TITLE:	Stratigraphical Micropaleontology and Mining Geology	COURSE CODE: 14052		
DATE:	13 JAN./2013	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

Part 1-Stratigraphical Micropaleontology

(40 Marks)

Answer the following questions: Illustrate your answers with clear drawings and give examples.


- 1-Bioevents at the Paleocene /Eocene (P/E) boundary.
- 2- Cretaceous/Paleogene (K/Pg) boundary layers.
- 3-Wall structure of Fusulinids.
- 4-Microfaunal characteristic groups of the Triassic and Jurassic Periods.

Part 2-Mining Geology

Write briefly on the following questions.

- 1-The materials for underground Support.
- 2-Types of explosives ,storage and transporting of explosives.
- 3-Mine drainage and Mine Ventilation.
- 4-Mine transport and vertical shafts.
- 5-Trenching,Benching,Boring and Blasting methods.

Best wishes

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SENIOR (FOURTH YEAR) STUDENTS OF GEOLOGY			
	COURSE TITLE:	PETROLEUM GEOLOGY AND HYDROGEOLOGY		PAPER NO. 14054
DATE:	JAN, 2013	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

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

Part I: PETROLEUM GEOLOGY *(120 Minutes, Total Marks 40)*

1- Give reasons on the followings : *(12 marks)*

- a) Bacteria play a role in transformation of organic matters into petroleum .
- b) The Miocene section is oil productive in the Gulf of Suez.
- c) Different pressure forces in the earth cause oil migration.


2- Write on the following subjects: *(16 marks)*

- a) Conditions required for commercial oil accumulation.
- b) Factors affecting rocks porosities.
- c) Kerogen shales.
- d) i- Organic reservoir rocks
ii- Asphaltite.

3- Comment on the causes of the following :- *(12 Marks)*

- a) Variance in the position of the pool of fold traps with depth.
- b) Some traps are from oil.

EXAMINERS	PROF.DR. NADER ELGENDY	DR. MOHAMED GAMAL ATAWIA
	DR SHADIA ABDELRAHEEM	DR. ZEINHM SALEM

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	EXAMINATION FOR SENIOR (FOURTH YEAR) STUDENTS OF GEOLOGY			
COURSE TITLE:	PETROLEUM GEOLOGY AND HYDROGEOLOGY		PAPER NO. 14054	
DATE:	JAN, 2013	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

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	COURSE TITLE:	PETROLEUM GEOLOGY AND HYDROGEOLOGY		
DATE:	JAN, 2013	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

Part II: Hydrogeology (60 Minutes, Total Marks 20)

(Sketch maps and diagrams should be drawn whenever possible).


1- Write short notes on the following subjects:- (12marks)

- a) Darcy's law.
- b) Specific yield and specific retention.
- c) The hydrologic cycle
- d) Flow nets resulting from water flows through porous media.
- e) Dug wells as a method for constructing shallow wells.

2- Answer the following (8 marks)

- a) What are the differences between steady state and unsteady state radial flow to the pumping well and which method is recommended to be used in each case for pumping data analysis.
- b) How the Radius of Influence of the depression cone could be determined from the pumping test data.
- c) Define the following
 - i) Watershed
 - ii) Stream Hydrograph
 - iii) Drainage density

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	EXAMINATION FOR SENIORS (FOURTH YEAR) STUDENTS OF GEOLOGY			
COURSE TITLE:	Final Exam of Economic Geology		COURSE CODE: I.4053	
DATE:	JAN. 2013	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 3 HOURS

Part I: Economic Geology (60 mins.)

Answer the following questions: (20 marks)

- 1- Asbestos formation and reactions between wall rocks and fluids
- 2- Complex pegmatite
- 3- Temperature of contact metasomatism and residual liquid segregation
- 4- Classification of mineral deposits in Egypt according to Abdul-Aziz Hussein, 1990 and mineral paragenesis
- 5- Cavity filling deposits

Part II: Economic Geology (60 mins.)

- 1) Defined: (6 marks)
 - (i) Manganese nodules
 - (ii) Placer minerals
 - (iii) Sedimentary iron ore
- 2) Compared between evaporation sequence of sea water and inland lakes. (3 marks)
- 3) Primary marine phosphate deposits. (3 marks)
- 4) Different types of: (6 marks)
 - (i) Bauxite deposits
 - (ii) Placer deposits
 - (iii) Lateritic nickel ore deposits
- 5) In mine site, iron and manganese ores occur as distinct sedimentary alternating layers in the same outcrop. (2 marks)

Part III: Geochemistry (20 marks) (60 mins.)

A-Explain the following:

some elements that play important role in economic life are actually rare
.e.g. Cu<Sr, Pb<Ga, Ag=REE and Rb=Ni

- 1- Hf usually does not form mineral by its own but incorporate in zircon . *Note(Zr⁴⁺ (0.80 Å); Hf⁴⁺ (0.79 Å))*
- 2- LREE are highly incompatible elements relative to HREE.
- 3- Mg proceeds Fe in olivine during magma crystallization and Ca proceeds Na in plagioclase during magmatic crystallization.
- 4- Elements which have greater $K_D = 1$ are compatible element.
- 5- Behaviour of Ba⁺² and Ni⁺² during magmatic fractionation.

B-Detect the correct and the wrong sentences, correcting the wrong ones. Explain your answers

Early stage crystallized minerals in Bowen's reaction series contain much F and As than other minerals.

1. The REE are significant to predict protholith of the metamorphic rocks.
2. Melting of ultrabasic rocks produces more incompatible elements than melting of the basic and acidic rocks.
3. The OIB are richer in LILEs than the MORB
4. The chalcophile elements are usually miscible in the silicate melts.

C-Compare between

Melts generated in SSZ in respect of FMES, HFSEs and PPGES.

1. IAV and MORB in terms of LILEs and REEs,
2. Depleted and enriched mantle,
3. Alkaline earth elements and rare earth elements.
4. The chalcophile and siderophile elements.

Examiners: Prof.Mohamed Ghonim.

Prof. Ibrahim Salem

Prof . Hassan Haraz

Prof. Mohamed Abd Elrahman