



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

FINAL EXAMINATION FOR SECOND LEVEL GEOPHYSICS STUDENTS

COURSE TITLE:	ELECTRIC METHODS (2)		COURSE CODE: GP2206
DATE: JUNE 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 60	TIME ALLOWED: 2 HOURS

Answer the following questions:

1. Explain the origin and sources of self potential (SP) phenomena. (20 marks)
2. Discuss the electrical properties of rocks and minerals. (20 marks)
3. Write in details about the following: (20 marks)
 - a. Types of electrical conduction.
 - b. The phenomena of induced polarization (IP) method.
4. Write briefly about the following: (20 marks)
 - a. Common electrode arrays in resistivity surveys.
 - b. Geological factors influencing the electrical polarization in the IP method.
 - c. Sources of noise in electrical surveys.
 - d. Ohm's Law.
5. Read well each statement and mark either (✓) if correct or (X) if wrong: (20 marks)
 - a. The response of self potential (SP) method is generally anomalously positive ()
 - b. Schlumberger array is the most common one in groundwater exploration ()
 - c. In electrical conductors, electrons can move with relative ease ()
 - d. The IP measures the polarizability of a conductive body when the current is on ()
 - e. Poring saline water around the current electrodes increases the intensity of current ()
 - f. Basic dykes have resistivity values higher than that of acidic dykes ()
 - g. Interpretation of the SP method is generally qualitative ()
 - h. The IP measurements are generally carried out using pole-pole array ()
 - i. Disseminated metallic minerals have high resistivity and chargeability values ()
 - j. VES surveys measure changes in resistivity laterally and vertically ()

Good Luck

EXAMINERS	PROF. AHMED ANTAR NIGM	PROF ABDELAZIZ L. ABDELDAYEM
	PROF. AHMED M. EL-SHISHTAWY	PROF. KHALED A. MAHMOUD

محمد رفيع

TANTA UNIVERSITY FACULTY OF SCIENCE GEOLOGY DEPARTMENT

- FINAL EXAMINATION IN GEOPHYSICS, SECOND LEVEL STUDENTS "SPECIAL GEOPHYSICS"

COURSE TITLE: THEORETICAL EXAMINATION IN "Applied magnetic method-2"

CODE/

2208

DATE / 5 / . 2015

SEMESTER / 2

TOTAL ASSESSMENT MARKS: 60

TIME / 2 Hours

WRITE ABOUT THE FOLLOWINGS:

MARKS


1-The aeromagnetic survey.-----20

2- TWO methods used in magnetic anomaly separation.-----20

3- The qualitative and quantitative magnetic interpretation-----20.

EXAMINOR : PROF./ MOHAMED REFAAT HAMMAD SOLIMAN

حسب الترتيب

 1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION FOR SOPHOMORES STUDENTS OF SPECIAL GEOLOGY AND GEOPHYSICS		
COURSE TITLE:	LITHOSTRATIGRAPHY		COURSE CODE: GE2208
DATE:	10 JUNE, 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 100
			TIME ALLOWED: 2 HOURS

Answer the following questions.

I- Complete the following sentences:

(20 marks)

- 1- Lithostratigraphy is
- 2- Flow is
- 3- Formation is
- 4- Lithostratigraphic classification is
- 5- Bed is

II- Discuss in details with drawing the lithostratigraphic units of Miocene sediments in Nile Delta.

(20 marks)

III- Compare between the following with drawing:

(30 marks)

- a- Geological cross section and stratigraphic cross section.
- b- Structure contour map and isopach map.
- c- Moghra Formation and Samalut Formation.

IV- Write notes about the followings with drawing if possible:

(30 marks)

- a- Stratotype and type localities with examples from Egypt.
- b- Criteria used for lithostratigraphic correlation.
- c- Special aspects of igneous and metamorphic rocks.

EXAMINERS	PROF. A. A. ZALAT DR. M.S. FATHY	PROF. H M KHALIL	WITH BEST REGARDS
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	FINAL EXAMINATION FOR SECOND LEVEL UNDERGRADUATE STUDENTS		
COURSE TITLE:	PALAEOMAGNETIC METHODS		COURSE CODE: GP2210
DATE:	6 JUNE , 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS:150
			TIME ALLOWED: 2 HOURS

Answer the following questions illustrating your answer by clear sketches whenever possible:

(1) Name and describe the various types of Natural Remnant Magnetization. (20marks)

(2) Outline the following:
a) Magnetic Domains. (20marks)

b) Theory of alternating-field demagnetization. (20marks)

c) Geological application of paleomagnetism. (30marks)

(3) Explain the following: (30marks)

a) Field tests of paleomagnetic stability.

b) $B = \mu_R \mu_0 H$


c) Orientation of samples.

(4) Differentiate between various types of magnetometers. (30marks)

Good Luck!

EXAMINERS	Prof.: ABDELAZIZ L. ABDELDAYEM	Prof.: SHADIA T. ELKHODARY
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION OF SECOND LEVEL GEOPHYSICS STUDENTS		
COURSE TITLE:	SEISMIC METHODS (I)		COURSE CODE: GP2202
DATE:	30 MAY, 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS: 150 TIME ALLOWED: 2 HOURS

Answer of the following questions (illustrate your answers with clear drawings):

Question (1): (30 Marks)

- A. Compare between the advantages and disadvantages of seismic methods.
- B. Write shortly on delay time.

Question (2): (30 Marks)

Explain the time-distance curve in case of refraction methods in three horizontal layers.

Question (3): (30 Marks)

Discuss the following:-

- a. Types of seismic waves.
- b. Fermat's principle.
- c. Bulk Modulus

Question (4): (30 Marks)

In case of refraction methods

- a. Mention the different ways for determines the depth in two horizontal layers
- b. How to determine the dip angle and the vertical thicknesses of inclined beds.


Question (5): (30 Marks)

Write short note on:-

- a. The Seismic data acquisition in land.
- b. The hidden and blind layer problems.
- c. 2D and 3D shooting

EXAMINERS	PROF. MOHAMED ATAF NOWEIR	DR. ALI SOLIMAN ALI
	DR. SHADIA EL KHODARY	DR. MOATAZ KHAIRY BARAKAT

جغرافيا

 1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION FOR (SECUND YEAR) STUDENTS OF GEOPHYSICS		
COURSE TITLE:	GRAVIY2		COURSE CODE: 2204
DATE: MAY	DECEMBER, 2015	TERM: SECOND	TOTAL ASSESSMENT MARKS :100
			TIME ALLOWED: 2 HOURS

1) Write a short essay on the quantitative interpretation on the following structures

With emphasis on depth determination , gravity curves and and cravity formulas

a- Spheres and cylinders

b- Horizontal and vertical dykes


c- Grabens and horsts

2) Density determination in gravity

3) Methods of separation of gravity anomalies into regional and local anomalies

4) indirect method in gravity interpretation

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 1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION FOR SECOND LEVEL STUDENTS OF GEOPHYSICS		
COURSE TITLE:	Mineralogy and petrology	COURSE CODE:GE 2222	
DATE:	23, MAY, 2015	TOTAL ASSESSMENT MARKS: 150	TIME ALLOWED: 2 HOURS

Part I: Mineralogy

Write short notes on the followings:

- 1- The structure of pyroxene (15 marks)
- 2- The ternary classification diagram of feldspar (15 marks)
- 3- The stability of silica (15 marks)
- 4- The nomenclature of olivine minerals which have single cation (15 marks)
- 5- The optical differences between:
serpentine – chlorite (15 marks)
plagioclase – microcline
hornblende – augite

Part II: Petrology

- 1-Discriminate between:
 - a- Basaltic magma and rhyolitic magma (7 marks)
 - b- Mafic and felsic minerals of igneous rocks (7 marks)
 - c- Intergranular and ophitic textures of igneous rocks (7 marks)
 - d- Continental and marine depositional environments of sedimentary rocks (7 marks)
 - e- Lower limit and upper limit of metamorphism (7 marks)
 - f- Diagnostic mineral assemblages of low grade and high grade metamorphism (7 marks)
 - g- Textures of thermal metamorphism and textures of dynamic metamorphism (11 marks)
- 2- Write short notes on:
 - a- Classification of igneous rocks based on mineral composition (mineralogy) (11 marks)
 - b- Classification of metamorphic rocks based on texture (11 marks)

Best wishes

Examiners:

Prof. Samir Aly

Prof: Gaafar El Bahariya