



المستوى الثالث

جيو فيزياء



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

FINAL EXAMINATION FOR THIRD LEVEL STUDENTS (GEOPHYSICS)

COURSE TITLE:	SPECIAL COURSE (MAGNETOSTRATIGRAPHY)	COURSE CODE: GP 3208
DATE:	JUNE 2017	TOTAL ASSESSMENT MARKS: 100
		TIME ALLOWED: 2 hrs

Answer the following questions


(Illustrate your answers with drawings whenever possible)

- 1) Differentiate between magnetic susceptibility (χ) and remanent magnetization (RM) tools used for stratigraphic investigations. (15 marks)
- 2) List five of magnetic susceptibility applications in geology and illustrate each one concisely (15 marks)
- 3) Describe the three climatic cycles that work on geologic time scale. How do they affect the magnetic susceptibility signal in marine sedimentary rocks? (20 marks)
- 2) Discuss the following:
 - a) Presentation of magnetic polarity stratigraphic data. (10 marks)
 - b) The Pliocene - Pleistocene geomagnetic polarity time scale. (10 marks)
 - c) Applications of magnetic polarity stratigraphy. (20 marks)
3. Read each of the following statements and mark either () if correct or (X) if wrong: (10 marks)
 - a) Magnetic susceptibility can fossilize a record of the Earth's magnetic field. ()
 - b) Ferrimagnetic minerals can carry a strong remanent magnetization. ()
 - c) The intensity of remanent magnetization can be used to track back the transgression-regression (T-R) cycles throughout geologic times ()
 - d) Magnetic excursion reflects the geomagnetic field variations over millions of years. ()
 - e) In a normal polarity state the magnetic north pole lies close to the geographic north pole. ()
 - f) In magnetic logging, oriented samples must be collected. ()
 - g) In a magnetic susceptibility study, samples must be stepwisely demagnetized to isolate the primary magnetic records. ()
 - h) The most complete record of the reversal pattern of the geomagnetic field since 160 Ma is preserved in the continental crust. ()
 - i) Magnetic isochrones have been used as the main source of information in the construction of the Paleozoic GPTS ()
 - j) The most precise part of the GPTS is that for the Early Mesozoic time span. ()

EXAMINERS	PROF. ABDELAZIZ L. ABDELDAYEM	PROF. SHADIA T. EL-KHODARY
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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION FOR JUNIORS STUDENTS OF GEOLOGY		
COURSE TITLE:	SUBSURFACE GEOLOGY		COURSE CODE: GE3204
DATE:	JUN., 2017	SEMESTER: SECOND	TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

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

(1) What is a log and why the logs are important for petroleum engineers? (10 Marks)

(2) Write on the followings: (30 Marks)

- a- Criteria for subsurface normal faults.
- b- Conventional resistivity logs.
- c- Nile Delta basin.

(3) What are the reasons behind the following features: (18 Marks)

- a- Facies change of certain stratigraphic sequence.
- b- Variation of sand / shale ratio in lithofacies map.

(4) Discuss the following subjects: (30 Marks)

- a- Prospecting and exploration of economic deposits.
- b- Methods for lithologic correlation.
- c- Ratio maps.

(5) Complete the following statements: (12 Marks)

- a- Structure contour maps are considered asmap, they showand used to
- b- Subsurface geology deals with.....and interpreting such.....with respect to
- c- Tectofacies map shows.....
- d-Variation of thickness of certain stratigraphic unit may be due to,and.....
- e- The simplest block diagram shows:.....
- f- Gravity Survey is useful in the following subsurface aspects:1-.....
2-..... 3-.....

EXAMINERS	PROF. DR.NADER EL GENDY	DR. SHADIA ABD EL REHIM
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