



المستوى الثالث جيولوجيا

Handwritten signature: Mohamed El-Wahed



**TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY**

EXAMINATION FOR THIRD LEVEL GEOLOGY (Special)

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|----------------------|------------------------------|------------------------------------|
| COURSE TITLE: | Structural Geology II | COURSE CODE: GE3214 |
| DATE: | 4/6/2017 | TOTAL ASSESSMENT MARKS: 100 |
| | | TIME ALLOWED: 2 HOURS |

A) Complete the following sentences: (15 marks)

- 1- Noncoaxial shearing parallel to the zone, combined with coaxial shortening perpendicular to the zone, a situation called
- 2- are relatively large, single crystals in a fine-grained matrix formed by metamorphic growth of crystals.
- 3- defined by microlithons with no microfolds and the domainal structure can be seen with the unaided eye
- 4- A is a relatively small strike slip fault that runs across the strike of a contractional or extensional belt and accommodates differential displacement between two adjacent segments of the belt.
- 5-are thin zones of very high shear strain within the main shear zone.

B) Put (✓) in front of the correct phrase and (X) in front of the wrong phrase with error correction. (15 marks)

- 1- Foliations are tabular to sheetlike, planar or curvilinear zones in which rocks are more highly strained than rocks adjacent to the zone.....()
- 2- Tectonites are ductilely deformed rocks formed by the accumulation of large shear strain, in ductile fault zones.....()
- 3- Crenulation lineation is defined by the closely spaced fold hinges of the microfolds in a crenulated rock.....()
- 4- Cleavage is a secondary fabric element, formed under low-temperature conditions, that imparts to the rock a tendency to split along planes.....()
- 5- Contractional or restraining bends are local zones of extension where material is pulled apart by the dominant strike-slip fault movement.()

C) Write short notes about the followings (with drawing if present): (25 marks)

- 1- Types of Joints associated with folds.
- 2- Classification of mantled porphyroclasts.
- 3- Characteristics of passive en échelon folds associated with strike-slip faults.

D) Choose the correct answer: (15 marks)


- 1- A common example of a semi-brittle shear zone is a zone of.....
(i) Mica fish (ii) Shear bands (iii) En echelon veins
- 2- form by plowing of surface irregularities due to friction.
(i) Intersection lineation (ii) Groove lineations (iii) Fiber lineations.
- 3-..... formed by stretching, necking and eventually segmentation of a layer or planar body surrounded by a less competent matrix. (i) Boudinage (ii) Mullions (iii) S-C fabrics
- 4-.....display regular, repeated, fold-like forms, ranging in wavelength from centimeters to meters. (i) Shear bands (ii) Mullions (iii) Crenulation lineation
- 5-is subsidiary Riedel fractures develop at an acute angle, typically 10-20° clockwise to a dextral main fault, anticlockwise to a sinistral strike-slip fault.
(i) R shears (ii) R' shears (iii) P shears

E) Compare between the following (with drawing if present): (30 marks).

- 1- Positive and negative flower structures.
- 2- Brittle and ductile shear zones.
- 3- Mineral lineation and intersection lineation.

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|------------------|----------------------------|---------------------------|
| EXAMINERS | Prof. Mohamed Abd El-Wahed | Prof. Mohamed Atef Noweir |
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El-Wahed

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|  | TANTA UNIVERSITY | | |
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| EXAMINATION FOR THIRD LEVEL GEOLOGY (Special) | | | |
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- 1- Foliations are tabular to sheetlike, planar or curvilinear zones in which rocks are more highly strained than rocks adjacent to the zone.....()
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| EXAMINERS | Prof. Mohamed Abd El-Wahed | Prof. Mohamed Atef Noweir |
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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-.....

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

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|---|--|----------------------|------------------------------------|----------------------|
|  1969 | TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY | | | |
| | THEORETICAL EXAMINATION IN GEOPHYSICS FOR 3RD - LEVEL STUDENTS, SPECIAL GEOPHYSICS | | | |
| COURSE TITLE: | " INTERPRETATION OF GRAVITY DATA " | | COURSE CODE: | |
| DATE: | ١٣ / ٦ / ٢٠١٧ | TERM : SECOND | TOTAL ASSESSMENT MARKS: ١٥٠ | TIME: ٢ HOURS |

ANSWER THE FOLLOWING QUESTIONS:

MARKS

- ١- Write about TWO methods used for gravity anomaly separation. (٥٠).
- ٢- What are you know about the LAND gravity survey. (٥٠).
- ٣- Answer ONLY ONE from the followings: (٥٠).
 - A- BY using second and third vertical derivatives SHOW by drawing the role of them In detecting the subsurface boundaries.
 - B- The quantitative interpretation of residual gravity map by direct and indirect methods and modeling technique.
 - C- PRAT and AIRY theories explaining the ISOSTASSY of Earth's Crust.

EXAMINERS: PROF. DR. / Mohamed Mohamed El-Awady

PROF. DR./ Mohamed Refaat Soliman



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

EXAMINATION FOR Third Level students
in
SPECIAL GEOLOGY

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|-------------------|-----------------|--------------|----------------------------|-----------------------|
| COURSE TITLE: | Geology of Ores | | COURSE CODE: GE3212 | |
| DATE: 18 /6/ 2017 | JUNE, 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS: 50 | TIME ALLOWED: 2 HOURS |

Answer the following questions (Illustrate your answers with clear drawing and examples whenever possible).

1) Write brief on only three of the following: (10 marks)

- Late magmatic ore deposits
- Different categories of uranium deposits, with special references to sandstone uranium deposits
- Characteristics of Iron Deposits
- What are the main Sources of water in Hydrothermal system.

2) Draw an idealized cross section of: (10 marks)

- Morphology and zoning of supergene enrichment. With special reference to chemical changes involved supergene enrichment.....
- Hydrothermal alteration zones, minerals, and ores in a Porphyry Copper Deposit?

3) Define: (10 marks)

- Disseminated minerals
- Segregated minerals
- Manganese nodules
- Bauxite Deposits
- Laterite Deposits
- Placer mineral deposits
- Gossan
- Paleo -placer
- Carbonatites
- Platinum Group Elements (PGE)


4) Different types of: (10 marks)

- Placer Deposits
- Metamorphic deposits
- Wall Rock Alteration
- Hydrothermal Veins.

5) What is (10 marks)

- Lenticular Ore deposit?
- Pipe Ore deposit
- Stock-work mineralizations
- Veins and Stringers mineralizations

Examiners: Prof. Hassan Z. Harraz

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|  | TANTA UNIVERSITY | FACULTY OF SCIENCE | DEPARTMENT OF GEOLOGY |
| | EXAMINATION FOR THIRD LEVEL STUDENTS OF CHEMISTRY- GEOLOGY | | |
| COURSE TITLE: | Final Exam of Geology of Ores | | COURSE CODE: GE3212 |
| DATE: | JUNE. 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS: 50 TIME ALLOWED: 2 HOURS |

**Part One: Write on the following, Illustrate your answer with drawing.
(25 marks)**

- 1-Types of wall rock alteration.
- 2- Late magmatic deposits.
- 3- Relation of contact metasomatism to intrusions and invaded rocks.
- 4- Cavity filling deposits.
- 5- General characteristics of simple and complex pegmatites, mineral paragenesis and criteria of replacement.

Part Two: Answer The Following Questions.

1-What are the differences between the following: **(24 Marks)**

- a. Sedimentation and deposition.
- b. Gypsite and gibbsite.
- c- Soda ash and salt cake.
- d. Epigene and epigenetic
- e. Iron and manganese as a product of sedimentation.

2-Write on the following: **(16 Marks)**

- a. Cycle of Phosphate.
- b. Calcium sulphate deposition.
- c. Requirements of residual concentration process.
- D. Commercial bauxite.

3-Answer the following with drawing only: **(10 Marks)**

- a. Different shapes of bauxite deposits.
- b. Fence diagram.
- c. Residual manganese deposits.
- d. Oxidation and supergene enrichment.

Examiners: Prof. Ibrahim Salem

Prof. Bothaina El-Desoky



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

EXAMINATION FOR Third Level students
in
SPECIAL GEOLOGY

COURSE TITLE:

Geology of Ores

COURSE CODE: GE3212

DATE: 18 /6/ 2017

JUNE, 2017

TERM: SECOND

TOTAL ASSESSMENT MARKS: 50

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Examiners: Prof. Hassan Z. Harraz



**TANTA UNIVERSITY
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EXAMINATION FOR THIRD LEVEL GEOLOGY (Special)

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| | | TIME ALLOWED: 2 HOURS |

A) Complete the following sentences: (15 marks)

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- 2- are relatively large, single crystals in a fine-grained matrix formed by metamorphic growth of crystals.
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- 4- A is a relatively small strike slip fault that runs across the strike of a contractional or extensional belt and accommodates differential displacement between two adjacent segments of the belt.
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B) Put (✓) in front of the correct phrase and (X) in front of the wrong phrase with error correction. (15 marks)

- 1- Foliations are tabular to sheetlike, planar or curvilinear zones in which rocks are more highly strained than rocks adjacent to the zone.....()
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| EXAMINERS | Prof. Mohamed Abd El-Wahed | Prof. Mohamed Atef Noweir |
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B) Put (✓) in front of the correct phrase and (X) in front of the wrong phrase with error correction. (15 marks)

- 1- Foliation are tabular to sheetlike, planar or curvilinear zones in which rocks are more highly strained than rocks adjacent to the zone.....()
- 2- Tectonites are ductilely deformed rocks formed by the accumulation of large shear strain, in ductile fault zones.....()
- 3- Crenulation lineation is defined by the closely spaced fold hinges of the microfolds in a crenulated rock.....()
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| EXAMINERS | Prof. Mohamed Abd El-Wahed | Prof. Mohamed Atef Noweir |
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|---|---|--------------|--|
|  1969 | TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY | | |
| | EXAMINATION FOR SOPHOMORES (THIRD YEAR) STUDENTS OF SPECIAL GEOLOGY | | |
| COURSE TITLE: | TECTONIC GEOLOGY | | COURSE CODE: GE3202 |
| DATE: | 11 JUNE, 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS |

Answer the following questions. Illustrate your answers with diagrams wherever is possible.

1- Write short notes and explain the following:.....(35 marks)

- a- Causes of plate movement
- b- Evidences of sea floor spreading
- c- Types of volcanoes
- d- Hot spots and ocean ridges
- e- Craton and shields

2- Complete the following(15 marks)

- a- Five ways in which mountains are formed.....and
- b- The primary causes of mountain building.....
- c- Evidences of continental drift theory are


3- Discriminate between(50 marks)

- a- Igneous petrotextonic assemblages at convergent plate boundaries and divergent plate boundaries.....
- b- Birth and death of ocean in Wilson tectonic cycle
- c- Lithospheric plates and crust
- d- Subduction mountain ranges and collisional mountain ranges
- e- Ophiolites and island arcs

Best wishes

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| Examiners | Prof. Dr. Gaafar El Bahariya | Dr. Ismail Thabet |
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أنته 4/2/2017

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|  | TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY | | | |
| | EXAMINATION FOR JUNIORS (THIRD YEAR) STUDENTS OF (CHEMISTRY/GEOLOGY SECTION) | | | |
| | COURSE TITLE: | Tectonic Geology | COURSE GE 3202 | |
| DATE: | JUNE 11, 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS : 100 | TIME ALLOWED: 2 HOURS |

Answer the following questions:

1- **Draw** a diagrammatic cross-section through the Earth showing the different layers and **mention** the characteristic features of each layer? **(20 marks)**

2- **Write with drawing** on the following: **(40 marks)**

- a- Afar Triangle
- b- East-African rift valleys
- c- San Andreas Transform Fault
- d- Ophiolites

3- One of the most important aspects of plate tectonic theory is the nature of the relative motions between the plates. **Discuss with drawing** the types of convergent plate boundaries? Give examples? **(20 marks)**

4- **Explain with drawing** the concept of sea-floor spreading and how it relates to the mid-oceanic ridge and oceanic trenches? **(20 marks)**

Good Luck!

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|-----------|---------------------------|-------------------------|
| Examiners | Prof. Mohamed Atef Noweir | Prof. Gaafar El-Baharia |
| | Prof. Mohamed Abdelwahed | Dr Ismail Abdelrasoul |



TANTA UNIVERSITY
FACULTY OF SCIENCE
GEOLOGY DEPARTMENT

EXAMINATION FOR SENIORS (3RD YEAR) STUDENTS-GEOLOGY

COURSE TITLE: ENVIRONMENTAL GEOLOGY CODE:GE3224


DATE: 15 JUNE, 2017 TERM:2ND ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

ANSWER THE QUESTIONS SUPPORTED WITH DRAWINGS WHEREVER POSSIBLE (20 MARKS EACH):

1. Discuss the factors affecting the biodiversity.
2. Discuss the global climate change and the human responses to natural hazards.
3. Write on water pollutants and common sources of groundwater pollution and contamination.
4. Write on the fossil fuels and acid rains relationship, the acid rain environmental risks, and the proposed solution to solve the problem.
5. Write on renewable energy resources.

WARMEST WISHES WITH GREAT SUCCESS

EXAMINERS: PROF. DR ALAA AHMED MASOUD

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| | EXAMINATION FOR THIRD LEVEL STUDENTS OF GEOPHYSICS | | | | | |
| | COURSE TITLE: | | Final Exam of Geology of Ores | | COURSE CODE: GE3212 | |
| DATE: | JUNE. 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS: 50 | TIME ALLOWED: 2 HOURS | | |

**Part One: Write on the following, illustrate your answer with drawing.
(25 marks)**

- 1-Types of wall rock alteration. 2- Late magmatic deposits.
- 3- Relation of contact metasomatism to intrusions and invaded rocks.
- 4- Cavity filling deposits.
- 5- General characteristics of simple and complex pegmatites, mineral paragenesis and criteria of replacement.

Part Two: Answer The Following Questions.

1-What are the differences between the following: **(24Marks)**

- a. Sedimentation and deposition. b. Gypsite and gibbsite.
- c- Soda ash and salt cake. d. Epigene and epigenetic
- e. Iron and manganese as a product of sedimentation.

2-Write on the following: **(16 Marks)**

- a. Cycle of Phosphate. b. Calcium sulphate deposition.
- c. Requirements of residual concentration process.
- D. Commercial bauxite.

3-Answer the following with drawing only: **(10 Marks)**

- a. Different shapes of bauxite deposits. b. Fence diagram.
- c. Residual manganese deposits.
- d. Oxidation and supergene enrichment.

Examiners: Prof. Ibrahim Salem

Prof. Bothaina El-Desoky



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EXAMINATION FOR Third Level students
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Geology of Ores

COURSE CODE: GE3212

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Answer the following questions (Illustrate your answers with clear drawing and examples whenever possible).

1) **Write brief on only three of the following:** (10 marks)

- Late magmatic ore deposits
- Different categories of uranium deposits, with special references to sandstone uranium deposits
- Characteristics of Iron Deposits
- What are the main Sources of water in Hydrothermal system.

2) **Draw an idealized cross section of:** (10 marks)

- Morphology and zoning of supergene enrichment. With special reference to chemical changes involved supergene enrichment.....
- Hydrothermal alteration zones, minerals, and ores in a Porphyry Copper Deposit?

3) **Define:** (10 marks)

- Disseminated minerals
 - Segregated minerals
 - Manganese nodules
 - Bauxite Deposits
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 - Placer mineral deposits
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- Platinum Group Elements (PGE)

4) **Different types of:** (10 marks)

- Placer Deposits
- Metamorphic deposits
- Wall Rock Alteration
- Hydrothermal Veins.

5) **What is** (10 marks)

- Lenticular Ore deposit?
- Pipe Ore deposit
- Stock-work mineralizations
- Veins and Stringers mineralizations

Examiners: Prof. Hassan Z. Harraz

IV. Choose the correct answer and rewrite it in your answer sheet.

(30 Marks- 2 mark each)

- 1) **An epidemic is**
 - a. The occasional appearance of parasite in one or few members of a community.
 - b. The presence of a parasitic infection at a steady rate all year round in a particular community.
 - c. The sharp increase in the rate of a given parasite in a particular season.
- 2) **Monocytosis results from**
 - a. Stimulation of the reticulo-endothelial system.
 - b. Early invasion by eosinophils.
 - c. Results only from blood sucking parasites
- 3) **Abundance of infection:**
 - a. The number of parasites within infected hosts.
 - b. The number of parasites within examined hosts.
 - c. The number of individuals within a given area of host tissue.
- 4) **Mechanisms by which a parasite may escape the host response include:**
 - a. Antigenic variation, encapsulation and local immune response.
 - b. Antigenic mimicry, intracellular existence, and physiological adaptation.
 - c. Extracellular existence, antigenic mimicry and antigenic variation.
- 5) **Cyclophyllidean tapeworm eggs are characterized morphologically by presence of:**
 - a. Coracidium.
 - b. Miracidium.
 - c. Cercaria.
 - d. Sporocyst.
- 6) **Incidental parasites**
 - a. Occasionally appear in unusual hosts.
 - b. Occasionally appear in unusual places within the host.
 - c. Are free living that can live as parasites when accidentally introduced into the body of an animal.
- 7) **The infection of *Dipylidium caninum* occurs by :**
 - a. Ingestion of plants contaminated by encysted metacercaria
 - b. Ingestion of flea infected with cysticercoid
 - c. Ingestion of raw meat infected with bladder cysticercus
- 8) **The intermediate hosts of *Clonorchis sinensis* include**
 - a. Copepods and fish
 - b. Snails and fish
 - c. Bird and cats
- 9) **The first larval stage in digenetic trematode life cycle is**
 - a. Cercaria
 - b. Ciliated miracidium
 - c. Unciliated miracidium
- 10) **Being monoecious refers to which of the following?**
 - a. Having the ability to regenerate a lost limb.
 - b. Having both male and female reproductive organs in a single organism.
 - c. Living out entire life cycle within the same host.
- 11) **How does a schistosome normally enter the body?**
 - a. Through the urethra
 - b. Through drinking water
 - c. Through the skin
- 12) **The testis where spermatogenesis in nematodes takes place throughout its whole length.**
 - a. Telogenic.
 - b. Hologenic.
 - c. Polygenic.
- 13) **The phase when larvae of *Ancylostoma sp* penetrate the skin causing itching and swelling of the skin "**
 - a. The cutaneous phase.
 - b. The pulmonary phase.
 - c. The intestinal phase.
- 14) **The term (VLM) of humans is:**
 - a. Loss of visual acuity.

| | | |
|-----------|-----------------------|-------------------|
| EXAMINERS | PROF. NAHLA A. RADWAN | |
| | DR. SAMAR F. HARRAS | DR. LAMIA E. BAKR |

Best wishes



EXAMINATION FOR JUNIOR SPECIAL GEOLOGY STUDENTS

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|-------|---------------|----------------|----------------------------|----------------------|
| 1969 | COURSE TITLE: | Geophysics (2) | | COURSE CODE: GE3226 |
| DATE: | 13 JUNE 2017 | TERM: SECOND | TOTAL ASSESSMENT MARKS:100 | TIME ALLOWED:2 HOURS |

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

Part I: (60 Minutes, Total Marks 50)

Answer of the following questions:-

- 1) Illustrate the airborne gamma-ray spectrometric survey. (10marks)
- 2) Describe the difference between: (20marks)
 - a) Scintillometer and spectrometers.
 - b) Constituents of the nucleus.
- 3) Write short notes on the radioactive minerals? (10marks)
- 4) What are the Sources of Radioactivity? (10marks)

Part II: (60 Minutes, Total Marks 50)

Answer of the following questions:-

Question 1: Discuss:-

1-Wave Terminology (10 degree)

2- Velocities of Seismic Waves in Rocks and velocity ratios (10 degree)

Question 2: Write about the followings: (Illustrate your answer).

a) Seismic waves. (10 degree)

b) Refraction method for prospecting (two- media case) (10 degree)

Question 3: Put (✓) in front of the write sentence and (X) in front of the wrong sentence and correct the wrong one. (7 degree)

- a) Shear modulus, μ , sometimes referred to as the modulus of rigidity, is the ratio of shear stress to the shear strain. ()
- b) The wavelength λ is the distance between two adjacent points on the wave that has the same phase or similar displacements. ()
- c) The amplitude A of the wave is the maximum displacement associated with the particle motions that occur as the wave passes through the material. ()
- d) Nearly all geophones currently used for seismic recording on land are of the electromagnetic type. ()
- e) The sensitivity of an electromagnetic geophone depends on the strength of the magnet ()
- f) The reflection method is used extensively for petroleum exploration ()
- g) The period T is the time it takes for two successive wave crests to pass a reference point and, therefore, for the motion to complete one cycle. ()

Question 4: Choose the correct answer (3 degree)

باقي الأسئلة بالخلف

1-- In a primary wave, the particle motion in the medium move to the direction of the wave.

- a) Parallel
- b) Transverse
- c) In the same direction
- d) Perpendicular

2-- A surface wave is often a combination of the two. Particles typically move inpaths at the surface of a medium

- a) Longitudinal
- b) Circular or elliptical
- c) Surface
- d) Love

3-- Velocity increases generally with

- a) Frequency
- b) Period
- c) Consolidation
- d) Air

WITH BEST WISHES

| | | |
|-----------|--------------------------|---------------------------|
| EXAMINERS | PROF. SHADIA T ELKHODARY | DR. KHALED ABD ELLAH OMAR |
|-----------|--------------------------|---------------------------|