	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	<b>EXAMINATION FOR THIRD LEVEL GEOLOGY (GEOPHYSICS)</b>		
	COURSE TITLE:	<b>Structural Geology I</b>	COURSE CODE: GE3101
DATE:	31/1/ 2021	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

**A) Write short notes about four from the followings (with drawing): (40 marks)**

- 1- Types of strain.
- 2- Structural and geomorphological features used to recognize faults.
- 3- Types of soft-sediment deformation structures.
- 4- Rigid and non-rigid body deformation
- 5- Classification of folds based on dip isogon.
- 6- Types of unconformity.


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

- 1- The Heave of the fault is the vertical component of the dip separation ..... ( ).
- 2- Symmetrical ripple marks are created by a one way current, for example the waves on a beach..... ( )
- 3- Ramps are regions on thrust faults where stratigraphy is truncated at relatively steep angles.....( )
- 4- True dip is the angle of linear element with earth's surface in imaginary vertical plane..( )
- 5- Elastic deformation is temporary change in the shape of an object as a result of stress..... ( )

**C) Compare between Five from the following (with drawing): (45 marks)**

- 1- Tensional stress and compressional stress
- 2- Dip slip faults and strike-slip faults.
- 3- Overturned fold and recumbent fold.
- 4- Syncline and anticline.
- 5- Klippe and fenster.
- 6- Normal and reverse faults

EXAMINERS	Prof. Mohamed Abd El-Wahed	Prof. Mohamed Atef Noweir
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	<b>TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY</b>			
	<b>EXAMINATION FOR LEVEL 3 STUDENTS (GEOLOGY &amp; CHEMISTRY/ GEOLOGY SECTION)</b>			
	<b>COURSE TITLE:</b>	<b>Structural geology (1)</b>		<b>COURSE CODE: GE 3101</b>
<b>DATE:</b>	<b>MARCH 21, 2021</b>	<b>TERM: FIRST</b>	<b>TOTAL MARKS: 100</b>	<b>TIME ALLOWED: 2 HOURS</b>

I- **Complete** the following: - (20 pts)

- 1- In a sequence of sedimentary rocks, the ..... rock is always at the bottom.
- 2- A fold in which the hinge line is not horizontal is called: .....
- 3- Two criteria for recognizing fault in the field are: ..... and .....
- 4- A circular down-folded structure with the youngest strata in the core is termed: .....
- 5- An anticline is a good place for the accumulation of ....., while syncline is a good place for .....
- 6- A type of strain with no change in shape is termed: .....
- 7- A reverse fault is the result of ....., whereas a thrust fault is the result of .....
- 8- Folds are considered to be open if they display interlimb angles ranging from: .....
- 9- A structurally high block between two oppositely normal faults is called: .....
- 10- We expect ..... faults when  $\sigma_1$  is vertical, ..... faults when  $\sigma_2$  is vertical and ..... faults when  $\sigma_3$  is vertical.

II- **Compare** with **drawing** between the following: (30 pts)

- a- Dome and doubly plunging anticline
- b- Class 1b and class 2 in Ramsey classification of folds
- c- Angular unconformity and disconformity

III- **Write** with **drawing** on the following: (30 pts)

- a- Fault classification based on the type of slippage along the fault plane.
- b- Fault-propagation folding (FPF) and Fault-bend Folding (FBF)
- c- Three different types of folds with different axial planes.

VI- Match **TEN** words only from column (A) with column (B): (20 pts)

<u>Column (A)</u>	<u>Column (B)</u>
1- Graben	- old rock occurs in young rock
2- Rake	- Unconformity criteria
3- Temporary deformation	- linear structure
4- Horizontal displacement	- Old rocks above young rocks
5- Inclusions	- Shear force
6- Isoclinal	- Change in shape and/or size
7- Thrust fault	- Strike-slip fault
8- Strain	- Fault criteria
9- Basal conglomerate	- Elastic
10-Strike-slip fault	- Parallel limbs
	- Two normal faults
	- Low angle reverse fault

**Good Luck!**

Examiners	Prof. Mohamed Atef Noweir	Prof. Mohamed Abdel Wahed



TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF GEOLOGY

**Petroleum & Mining Geology Program (PMGP)**

**Prof. Mohamed Th.S.Heikal & Prof. Gafar El Bahariya**



Final Exam For The Third Level of PMGP Students

	COURSE TITLE	Metamorphic Petrology	COURSE CODE: PMGE 2101
DATE:	25/2/2021	First Semester	Total assessments: 120 marks
			TIME ALLOWED: 120 minutes

**Part 1 (60 marks)**

**Electronic Exam**

Answer the following questions:

1. Tick (T) or (F) of the following phrases. (30 marks)

- 1-1. Alteration occurs at temperature above 322°C.
- 1-2. Highest limits of pressure for metamorphism up to 100 kbar.
- 1-3. Source of pressure required for metamorphism is radioactive decay.
- 1-4. Shear type is responsible to form dynamic metamorphism
- 1-5 Chemical active fluids mostly are responsible to form hydrothermal metamorphism.
- 1-6 Ocean-floor metamorphism occurs in the ophiolitic rocks.
- 1-7 When meteorites slammed into extraterrestrial rocks, the evidences of shatter cones and other features will be recognized in the most cases.
- 1-8. Marble and hornfels are considered to be a finger-print of thermal metamorphism.
- 1-9. Metasomatism refers to chemical active fluids.
- 1-10. Quartzite is considered to be products of thermal metamorphism.
- 1-11. Mineralogical changes and new minerals growth refer to dynamic metamorphism.
- 1-12. Metamorphic facies and metamorphic grades are pertaining to shock metamorphism.
- 1-13. Slaty cleavage represents the early stage of dynamic metamorphism.
- 1-14 Non-Foliated metamorphic rocks include schists, gneisses and migmatites.
- 1-15. Textures of thermal metamorphism include polygonal and decussate ones.

2. Choose the correct answer of the phrases among the brackets: (30 marks)

2-1 Mylonite and augen gneisses are the products of:

A) Dynamic metamorphism B) Regional metamorphism C) metasomatism D) All

2-2. Index metamorphic mineral is considered to be:

A) Indicator of P-T conditions B) Indicator of regional metamorphism C) indicator of metamorphic grade D) A+C

2-3 Index of elongation of metamorphic minerals indicates

A) Average length of the mineral B) Average width C) Ratio between the length and thickness. D) All

2-4 Relict textures refer to:

A) Rocks subjected to mild metamorphism B) Hornfels C) Marble D) All

2-5 Formation of palagonite, smectite and carbonates refer to:

A) Regional metamorphism B) Ocean floor metamorphism C) Dynamic metamorphism  
D) Shock metamorphism

2-6 Migmatites are products of:

A) Impact metamorphism B) Dynamic metamorphism C) Highly Regional metamorphism. D) Auto metamorphism

2-7: Pressure (in major) and temperature (in minor) are the main factors of:

A) Regional metamorphism B) Dynamic metamorphism C) shock metamorphism D) All

2-8. Highly deformed textures are products of:

A) Regional metamorphism B) Thermal metamorphism C) Dynamic metamorphism D) All

2-9. The protolith of gneisses refers to:

A) Sandstone and/or granite B) Shale and granite C) Basalt and sandstone D) All


2-10. Very sensitive rock to be metamorphosed from igneous rock is:

A) Sandstone B) oil shale C) Shale D) basalt

## Part II (60 marks) → Written Exam

I- Write short notes on::

- a- Lower and upper limit of metamorphism ----- (12 marks)
- b- Characteristic minerals of low grade and high grade metamorphism----- (12 marks)
- c- Facies of regional metamorphism ----- (12 marks)
- d- Textures of thermal metamorphism----- (12 marks)
- e- Arc-trench zone and subduction zone metamorphism----- (12 marks)
- f. Classification of metamorphic rocks based on textures----- (12 marks)

	<b>TANTA UNIVERSITY</b> <b>FACULTY OF SCIENCE</b> <b>DEPARTMENT OF GEOLOGY</b>			
	<b>EXAMINATION FOR FOURTH LEVEL STUDENTS OF GEOLOGY</b>			
	<b>COURSE TITLE:</b>	<b>SUBSURFACE GEOLOGY</b> متطلبات تخرج		<b>COURSE CODE: GE3204</b>
<b>DATE:</b>	29/12., 2020	<b>SEMESTER: FIRST.</b>	<b>TOTAL ASSESSMENT MARKS: 100</b>	<b>TIME ALLOWED:</b> 2 HOURS

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

**1) Write on the following: (30 marks)**

- a- Subsurface unconformity criteria.
- b- Factors affecting oil capacity of fold.
- c- Petroleum traps associated with normal faults.

**2) What are the main differences among the isopach map and structure map of a certain stratigraphic unit? (20 marks)**



**3) Discuss the following subjects: (36 marks)**

- a- Lithofacies maps.
- b- Diagrams.
- c- Radar survey.

**4) Write briefly on geochemical surveys as information sources for subsurface investigations?**

**(14 marks)**

EXAMINERS	PROF. DR.NADER EL GENDY	DR. SHADIA ABD EL REHIM
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	<b>TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY</b>		
	<b>FINAL EXAMINATION FOR THIRD LEVEL (متطلبات تخرج)</b>		
<b>COURSE TITLE:</b> 31-Dec., 2020	<b>SEDIMENTARY PETROLOGY 2</b> <b>TOTAL ASSESSMENT MARKS: 100</b>	<b>COURSE CODE:</b> <b>TIME ALLOWED:</b>	<b>GE 3208</b> <b>2 HOURS</b>

### **PART I (50 Marks)**


1. Give a classification scheme for Conglomerates and Breccias with a short description of the different types of breccias. (20 Marks)
2. Write short notes on the economic importance, mineralogy and origin of:
  - a) phosphorites (15 Marks)
  - b) chert (15 Marks)

### **PART II (50 Marks)**

**Write Short Notes on: (Sketch your answer when possible)**

- 1- Sand-size particles of limestone (10-Marks)
- 2- Characteristics of dolomitization process (10 Marks)
- 3- Sandstone maturity (10 Marks)
- 4- Types of shales (10 Marks)
- 5- Dunham's classification (10 Marks)

<b>EXAMINERS</b>	<b>DR. AHMED EL SHEISHTAWY</b>	<b>DR. TAREK ABDELMONSEF</b>
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 1989	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS OF GEOLOGY			
	<b>COURSE TITLE:</b>	<b>GEOGRAPHIC INFORMATION SYSTEM</b> (SPECIAL COURSE-1) متطلبات تخرج	<b>COURSE CODE:</b> GE2224	
<b>DATE:</b>	31 DEC, 2020	<b>SEMESTER:</b> SECOND	<b>TOTAL ASSESSMENT MARKS:</b> 50	<b>TIME ALLOWED:</b> 2 HOURS

**Answer the following Questions (using drawing when it possible)**

**1- Compare between the following: - (21 Marks)**

- a. Geographic fields and Objects. (7 Marks)
- b. Raster and vector GIS data representation. (7 Marks)
- c. Local and global horizontal datum. (7 Marks)


**2- Write on the following:- (29 Marks)**

- a. Stages of spatial data handling. (10 Marks)
- b. Classification of map projections. (09 Marks)
- c. Different concepts of time in the spatiotemporal studies in GIS. (10 Marks)

<b>EXAMINERS</b>	Prof. Alaa A. MASOUD	Prof. Samir Z. KAMH
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*☺ Good Luck ☺*



	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	Examination For 3 <sup>rd</sup> level Students (Chemistry/Geology Section)		
COURSE TITLE:	Field Geology and Field Studies		COURSE CODE: GE3111
Date:	January 5, 2021	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100
			TIME ALLOWED: 2 HOURS

**Answer the following questions**

1- Write with **drawing**, whenever possible, on the fieldwork stage during mapping assignment?

*(10 marks)*

2- Write with **drawing**, whenever possible, on the following: -

*(40 marks)*

- a. Brunton Compass, Global Positioning System (GPS) and Mirror Stereoscope and their uses.
- b. Overlap, sidelap, drift and crab in aerial photographs.
- c. How to write a geological report.
- d. Check list data for geologic map.

3- Tick *True* or *False* and correct the false one.

*(2 pt. each)*

1. The veins will tend to be irregular sided, when the igneous host is cold.
2. Pegmatites are holocrystalline igneous rocks formed in the late stage - water unsaturated magmas.
3. The Igneous Intrusion emplaced into cooler country rocks exhibit gradational contact.
4. The recording of sedimentary lithology in the field only describe the composition of this sedimentary deposits.
5. The style of the bedding in pyroclastic rocks regard as secondary structure.
6. The classification scheme of siliciclastic rocks depends only on the grain size of the major grains.
7. The bedding and depositional structure characterize only sedimentary rocks.
8. A boudin is an elongate fragment of a layer that has become partially or completely detached during compression.
9. Shear zones are characterized by deformation structures that are typical of brittle deformation.
10. Layered gabbros are regarded as a secondary outcrop structure that related to magma flow.

4- Write brief on


*(30 Marks)*

1. Recording the lithology of the Siliciclastic rocks in the field
2. Xenoliths
3. Describing igneous rock hand specimens in the field.

*Best wishes*

Examiners: Prof. Mohamed Atef Noweir

Dr. Ahmed Elsaid

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	<b>Final Exam For the Third Level of Special Geology Students</b>		
	COURSE TITLE	Field Geology and Geological Studies	COURSE CODE: GE3111
		Prof. Mohamed Th. S. Heikal & Dr. Ismail Thabet	
DATE:	5/1/2021	First Semester	TOTAL ASSESSMENT MARKS :100
			TIME ALLOWED: 2 hrs

### Electronic Exam (40 marks)

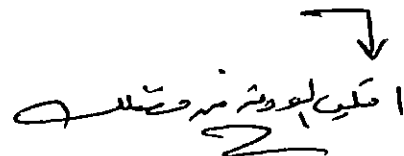
Answer the following questions. Illustrate your answer.

**1. Tick (T) or (F) of the following phrases: (20 marks)**

- 1-1 Field relations indicate the rock succession of the studied area.
- 1-2 Field observations describe the main characteristic features of the rock units and other features.
- 1-3 When you find vegetation cover in straight follow-up, this indicates intrusive contact.
- 1-4 You must finish all field data gathered day by day and you do not delay to the next day.
- 1-5 Disconformity contact occurs between igneous rocks and metamorphic rock.
- 1-6 Intrusive contact is characterized by numerous quartz veins invading the rock units.
- 1-7 Sledge hammer is mostly used for collecting fossils.
- 1-8 To determine the sedimentary depositional environment, you must check the main structures.
- 1-9 The best place to gather the data of well bedded sedimentary rocks is parallel to the strike of beds.
- 1-10 To locate yourself in the field, you must use GPS.

**2. Read carefully the following phrases and choose the correct answer between the brackets (A-D). (20 marks)**

- 2-1 Hand lens is used in the field for:



(A) Defining minerals and rocks (in major) (B) determining the main structure (C) Measuring the stratigraphic section. (D) All

2-2 Field sketches include (in major)

(A) Diagrams of cliffs or quarry facies (B) sedimentary structures (C) cross sections (D) All

2-3 Field notebook has to have:

(B) Hard cover (B) Soft cover (C) A-4 size (D) All

2-4 Written data in your filed notebook must include:

(A) Recording data (B) ideas and Interpretation (C) Correlation with other data (D) All

2-5 The previous works of the area under study may be included:

(B) Published papers (B) Sketch or geological map (C) Internal report (D) All

2-6 Monitor the activity of an active volcano, needs the data you collect:

(A) Gas emission (B) geophysical methods (C) thermal studies (D) All

2-7 Prediction and monitoring of earthquakes need:

(B) Mapping (B) Geophysical measurements (C) Mineralogy (D) Both A+B

2-8 Potential exposure sites may include:

(A) River-stream section (B) Mine and quarry workings (C) Road-cuts, lakeside cliffs (D) All

2-9 Contacts among rock units may be:

2. (A) Gradational (B) Sharp (C) Approximate (D) All

2-10 Contacts among rock units may observe in the field via:

(A) Change in color (B) Cut-out (C) change in thickness (D) All

### Written Exam (60 marks)


3. Explain WHY?

(20 marks)

- Field geologist must aware with principals of land and aerial surveying.
- Map scale is variable according to the study required.
- Xenoliths and chilled margin indicate intrusive contact. (in major)
- Alone field work is not favorable of any area.

4. Write short notes on the following: (40 marks)

- Different methods of surveying.
- Main features of igneous rock and relationships with surroundings.
- Specific reasons for collecting data from sedimentary rocks.
- How to write a geologic report?

 1969	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR JUNIORS (THRID YEAR) STUDENTS OF GEOPHYSICS			
COURSE TITLE:	FIELD GEOLOGY AND FIELD STUDIES		COURSE CODE: GE 3111	
DATE:	05 JANUARY, 2021	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2 HOURS

**Answer the following questions, illustrating with drawing when it possible**

**1- Write on the following: -**

- a. Types of geological maps. (10 marks)
- b. Traversing methods in the geological mapping. (15 marks)
- c. The main components of the GPS system. (15 marks)

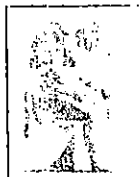
2- Geophysics can play an important role in providing very useful information for any mapping programme. **EXPLAIN** how can passive geophysical techniques help in the geological mapping. (20 marks)

**3- Write short notes about the following:**

- a- The main points to be covered in the field notebook during field work in sedimentary rocks and in detail write about recording sedimentary textures in the field. (10 marks)
- b- Key features to look for in the basic descriptions of igneous outcrops. (10 marks)
- c- key features to look for in the basic descriptions of metamorphic rock outcrops. (10 marks)
- d- basic instructions on how to prepare the geological report. (10 marks)

Examiners

Prof. Mohamed Abd El-Wahed	Prof. Samir Kamh
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TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF GEOLOGY

Final Exam For the Third Level of Special Geology  
Students

COURSE TITLE	Metamorphic Petrology	COURSE CODE: GE3015
DATE:	17/1/2021	Time Allowed: 120 minutes.
First Semester	TOTAL ASSESSMENT MARKS :10	

## Electronic EXAM (60 marks)

Answer the following questions:

1. Tick (T) or (F) of the following phrases. (30 marks)

- 1-1. Metamorphism occurs at temperature above  $200^{\circ} \pm 50^{\circ}c$ .
- 1-2. Lowest limitation of pressure for metamorphism is being 3 k bar.
- 1-3. One of the Sources of pressure required for metamorphism is plate tectonics.
- 1-4. Compression stress is responsible to form dynamic metamorphism
- 1-5 When meteorites strike the terrestrial rocks, they are responsible to form hydrothermal metamorphism.
- 1-6 Dynamic metamorphism occurs across intrusive contact among rock units.
- 1-7 When meteorites slammed into terrestrial rocks, the evidences of shatter cones and other features will be recognized in the most cases.
- 1-8. Quartzite and amphibolite (in part) are considered to be a finger-print of thermal metamorphism.
- 1-9. Hydrothermal metamorphism refers to chemical active fluids.
- 1-10. Skarn is considered to be products of the regional metamorphism.
- 1-11. New minerals growth refer to dynamic metamorphism.
- 1-12. Prograde and retrograde metamorphism mean new growth of hydrated minerals.
- 1-13. Slate represents the early stage of regional metamorphism.
- 1-14 Non-Foliated metamorphic rocks means recrystallization leading to new minerals growth.
- 1-15. Textures of regional metamorphism include schistose and gneissose.

Please turn out page 7

2. Choose the correct answer of the phrases among the brackets:

(30 marks)

2-1 Augen texture is the products of:

- A) Dynamic metamorphism B) Regional metamorphism C) metasomatism D) All

2-2. Chemistry of index metamorphic mineral is considered to be:

- A) Indicator of P-T conditions B) Indicator of regional metamorphism C) indicator of metamorphic grade D) A+C

2-3 Index of elongation of metamorphic minerals reflects:

- A) Type of metamorphism B) Protolith C) Metamorphic grade D) All

2-4 Blasto-ophitic and blasto-diabasic textures refer to:

- A) Metagabbros and metabasalt respectively B) Hornfels C) Marble D) All

2-5 Formation of palagonite, smectite minerals refer to:

- (A) Regional metamorphism B) Ocean floor metamorphism C) Dynamic metamorphism D) Shock metamorphism

2-6 Mortar texture are products of:

- A) Impact metamorphism B) Dynamic metamorphism C) Highly Regional metamorphism. D) Auto metamorphism

2-7: Pressure (in minor) and temperature (in major) are the main factors of:

- A) Regional metamorphism B) Thermal metamorphism C) dynamic metamorphism D) All

2-8. Geothermal gradient is result of:

- A) Depth and temperature B) convection currents C) Radioactive decays D) All

2-9. The protolith of hornfels refers to:

- A) Sandstone and/or granite B) Pelitic rocks or basalt C) Basalt and sandstone D) All

2-10. Very sensitive rock to be metamorphosed from sedimentary rock is:

- A) Sandstone B) Limestone C) Shale D) basalt

## Part II (Written Exam) → 40 marks

Answer the following questions:

1. Illustrate and label the products of thermal metamorphism. (20 marks)

2. How to discriminate between the products of impact metamorphism and dynamic metamorphism. Illustrate your answer. (20 marks)

**Best Wishes: Prof. Mohamed Th. S. Heikal & Prof.  
Bothina T. El Dousky**



TANTA UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF GEOLOGY

EXAMINATION FOR JENIOR (THIRD YEAR) STUDENTS OF CHEMISTRY AND GEOLOGY SECTION

COURSE TITLE:	Metamorphic Petrology (2)		COURSE CODE: GE3105
DATE:	FEBRAURY, 2021	TERM: FRIST	TOTAL ASSESSMENT MARKS: 100
			TIME ALLOWED: 2 HOURS

Answer the following questions, illustrating your answers with diagrams if it possible:

1-Write short notes on:

- a- Lower limit and upper limit of metamorphism -----(10 marks)
- b- Characteristic minerals of lowgrade and mediumgrade metamorphism----- (10 marks)
- c- Textures of thermal metamorphism----- (10 marks)
- d- Metamorphic facies of regional metamorphism -----(10 marks)
- f- Classification of metamorphic rocks based on textures----- (12 marks)
- g- Regional metamorphism at convergent plate boundary----- (12 marks)

2-Write on the metamorphic reactions, metasomatic ion exchange, ion exchange and polymorphic reaction and give examples for each reaction ----- (20 marks)

3- Show difference between ACF diagram and AKF diagram with examples and drawing----- (16 marks)

Best wishes

Examiners:

Prof. Gaafar El Bahariya Dr. Ismail Thabet



Tanta UNIVERSITY  
FACULTY OF SCIENCE  
DEPARTMENT OF GEOLOGY

EXAMINATION for Sophomores (First Year) students OF GEOLOGY

1989	COURSE TITLE:	Historical Geology		COURSE CODE: GE1103
DATE:	11 MARCH, 2021	TERM: FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: TWO HOURS

**(Part I)**

(1 hour, 50 marks)

**Answer the following questions-**

- 1) Define the Paleo-Proterozoic Era, age, classification and occurrences in Egypt and the World.
- 2) Compare between the relative age and absolute age.
- 3) Define the Achaean Era, age, classification and occurrences in Egypt and the world.
- 4) Give some examples of some orogeneis in the world.
- 5) What is the evidence for the relation between the earth and sun?
- 6) Describe the Hadean Era, the age and occurrences in Egypt and the World.
- 7) Write on methods for absolute age determination.

**(Part II)**

(1 hour, 50 marks)



**Answer the following questions**

- 1) Explain the origin of life in the Precambrian Eons? (15 Marks)
- 2) Illustrate the common life in the Permian/ Jurassic Periods? (15 Marks)
- 3) Discuss the evolution of vertebrates in the Paleozoic Era? (20 Marks)

*With Good Luck*


Examiners	Prof. Mohamed Abu Anbar
	Prof. Abdelfattah Ali Zalal



	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		 1989
	FINAL EXAMINATION FOR THIRD LEVEL (ALL SECTIONS)		
<b>COURSE TITLE:</b>	<b>SEDIMENTARY PETROLOGY</b>	<b>COURSE CODE:</b>	<b>GE 3107</b>
Mars 11, 2021	<b>TOTAL ASSESSMENT MARKS: 100</b>	<b>TIME ALLOWED:</b>	<b>2 HOURS</b>

**ANSWER THE FOLLOWING QUESTIONS:**

1. Write short notes on: (35 degrees)
  - a) Total, effective, primary & secondary porosity and factors affecting porosity.
  - b) Surface features, fabric, packing & grain contacts.
  - c) Types of sampling and properties of sampling.
  
2. Write on the different processes of physical weathering. (10 degrees)
  
3. What are the main characteristics of laterite and bauxite soils? (10 degrees)
  
4. Write shortly on the following: (15 degrees)
  - a) Turbidity currents.
  - b) Biological weathering.
  - c) Carbonation.
  - d) Glacial processes.
  
5. Write shortly on the most common:
  - a) Organic (biogenic) Primary Sedimentary Structures. (15 degrees)
  - b) Post-Depositional Primary Sedimentary Structures. (15 degrees)

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	<u>THEORETICAL EXAMINATION OF GEOPHYSICS FOR THIRD LEVEL STUDENTS</u> SPECIAL GEOLOGY			
1969	COURSE TITLE:	<u>" GEOPHYSICS -1 "</u>		COURSE CODE:GE3125
DATE:	18/3 / 2021	TERM : FIRST	TOTAL ASSESSMENT MARKS: 100	TIME ALLOWED: 2H

**1- ANSWER THE FOLLOWING QUESTIONS :**

- 1- Write about TWO types of Gravity data corrections. ( 20 marks).
- 2- Write in detail about the ground gravity OR land magnetic survey. ( 20 marks).

**Answer The Following Sheet**

**11- MCQ EXAMINE : CHOOSE THE CORRECT ANSWER : ( 30 Marks).**


- A)-Magnetic methods measure the ( density ; magnetic susceptibility or radioactivity ) of rocks.
- B)-Bouguer correction deals with the error caused by the ( topography or latitudes or the tidal force of the Moon ).
- C)- For archaeological exploration the favorable survey is the ( magnetic or air-borne or marine ) survey .
- D)- The magnetic anomaly is characteristic by ( single type or dipolar types).
- E)- The minimum gravity intensity is present at ( polar zone or Equator zone or intermediate zone) .
- F )- At polar zone the more stronger magnetic component is the ( horizontal or, vertical )

**111- TRUE AND FALSE EXAMINE: ( 30 Marks).**

Put sin ( √ ) for correct answer an put sin ( X ) for false answer:

- A- The Earth's gravity Field depends on the presence of iron . ( )
- B- The magnetic field of the Earth is affected by the location of survey. ( ).
- C- The main Geomagnetic component comes from the Sun activities. ( ).
- D- Residual gravity map shows the near- subsurface structures . ( ).
- E)- Secular magnetic variation is a sudden and strong variation in Earth's magnetic field. ( ).

**EXAMINER: Prof. Dr./ Mohamed R. Soliman**

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION FOR LEVEL THREE STUDENTS (SPECIAL GEOLOGY )			
	COURSE TITLE	IGNEOUS PETROLOGY(2)		COURSE CODE:GE 3103
DATE:	16 / 3 / 2021	SEMESTER FIRST	TOTAL ASSESSMENT MARKS:100	TIME ALLOWED:2 HOURS

**Answer the following questions; illustrate your answers with diagrams wherever is possible :**

**1-Write about the different types of subaerial and submarine flows ...(15 marks )**

**2-Compare between :**

a- Sills and dykes .....(10 marks)

b- Poikilitic and Porphyritic textures.....(10 marks)

**3-Mention the different classifications of the igneous rocks based on its mode of occurrences , grain sizes and silica percentages Mention examples of the different rock types and its mineralogical compositions and textures.....(15 marks)**

**4-Illustrate the path of crystallization of a melt composed of 30% anorthite in a binary solid solution system.....(17 marks )**

**5-Write on the hydrothermal phase.....(16 marks)**

**6-Suppose any composition of a melt in a simple ternary eutectic system and illustrate the path of crystallization.....(17 marks)**

**Examiners :**

**Prof. Samir M. Aly ,**

**Prof. Abdelsalam M.R.Abuelela**