

EXAMINATION FOR (LEVEL 2) PETROLIUM & MINING PROGRAM

CODE: PMGE COURSE TITLE: Stratigraphy

SEMESTER: 2 TOTAL MARKS:100 TIME ALLOWED: 2 HOURS DATE: MAY, 2018

Answer the following questions (Illustrate your answer with drawing):

Question 1:

(25 Marks)

Define and discuss:

- a- The low of faunal succession.
- b- Inclusion principle
- c- Angular unconformity

Question 2:

(25 Marks)

Write briefly on:

- a- Permian-Triassic extinction event.
- b- Four (4 only) physical evidence of correlation.
- c- Zombie effect.

Question 3:

(25 Marks)

- a- What are the factors that control the dispersal and distribution of species of marine invertebrate organisms (Barriers to Dispersal)?
- b- Discuss briefly the biostratigraphic Problems

Question 4:

(25 Marks)

Define and briefly discuss the following stratigraphic units:

1- Formation

2- Age and Stage

3- Total range zone 4- Abundance zone

Best wishes

Examiners	Prof. Dr. H. Khalil	Prof. Dr. A. Zalat



FINAL EXAMINATION FOR SECOND LEVEL STUDENTS OF GEOPHYSICS

PALAEOMAGNETIC METHODS COURSE TITLE: TERM: SECOND TOTAL ASSESSMENT MARKS:150

COURSE CODE: GP2210

4 JUNE 2018 DATE:

TIME ALLOWED: 2 HOURS

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

Question 1: Write about the following:

a) Magnetic Domains.

(20degree)

b) Theory of alternating-field demagnetization.

(20 degree)

c) Geological application of paleomagnetism.

(20 degree)

Question 2: Differentiate between the following

(40 degree)

- a) Magnetic anisotropy meters and Low-field susceptibility meters.
- b) Types of Secondary remnant magnetization.
- c) Fields of paleomagnetism.

Question 3: Discuss: -

(30 degree)

- a) Magnetic susceptibility and its anisotropy.
- b) Paleomagnetic sampling.
- c) The Konigsberger ratio for rocks.

Question 4: Define the following:

(20 degree)

- 1) Absolute magnetic permeability.
- 2) The fold test.
- 3) Sun compass.
- 4) Depositional remnant magnetization.

Good Luck

EXAMINERS

Prof.:ABDELAZIZ L. ABDELDAYEM

Prof.: SHADIA T. ELKHODARY

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- Anguetic nationings meters and Low field succeptibility meters
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a) Magnetic susceptibility and its anisotropy,

b) Faleomagnetic suspling,

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- O Absolute magnetic permadolity
 - 3) The fold less.
 - 3) Sun сопразы
- 6) Depositional remount magnetization,

Good Luck

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Prof: ABDELAZUZ L. ABDIELDAYEM

Prof. SHABIA T. AIGABE Short



EXAMINATION FOR SOPHOMORES (SECOND YEAR) STUDENTS OF GEOLOGY

GEOGRAPHIC INFORMATION SYSTEM (SPECIAL COURSE-1)

COURSE CODE: GE2224

DATE:

4 JUNE, 2018

SEMESTER: SECOND TOTAL ASSESSMENT MARKS: 50

TIME ALLOWED: 2 HOURS

Answer the following Questions (using drawing when it possible)

1- D	iscuss the following: -	(20 Marks
a	. The applications of the raster based surface analysis.	(10 Marks
b	o. Stages of spatial data handling.	(10 Marks
2- C	ompare between: -	(15 Marks)
a	. Conformal and equal-area map projections.	(5 Marks
b	. Direct and indirect spatial data capture.	(5 Marks
С	. User-controlled and automatic classification techniques.	(5 Marks)
	omplete the following sentences: -	(7.5 Marks)
a.	Coordinate systems can be distinguished into two types a	nd
b.	. Network analytic functions are used to	
	Metadata is defined as	
d.		
e.		nis depends on
4- Cl	heck the following sentences by wright $()$ or wrong (x) signs an rong one.	
		(7.5 Marks)
	Buffer zone generation is one of the best known overlay functions.	()
	The Geoid is used as a reference to describe heights.	()
	Connectivity functions work on the basis of networks.	()
d.	The Universal Transverse Mercator (UTM) is one of the most in projections used worldwide.	mportant map
e.	The measurement functions can be applied on vector and raster data.	()

EXAMINERS

Prof. Alaa A. MASOUD

Prof. Samir Z. KAMH



5- The hind coxa dividing the first abdominal sternum this is the most distinctive character of
6- The hind legs of Dytiscidae are, while most Orthoptera have hind-legs.
7- Suborder :Anoplura is commonly known as, Mallophaga have mouthparts.
8-The ovipositor is modified into in Hymenoptera.
9-Pterygote insects are but wingless condition in this subclass is
10-The mouthparts of order Lepidoptera aretype while Order: Coleoptera is characterized withmouthpart .
2-Indicate whether the following statements are true or false without
correction the false one(Total:10 marks,1 mark each):
1- Exopterygota meaning Pterygota with incomplete metamorphosis().`
2Family: curculionidae :(weevils) are characterized by their distinctive long snout and
filiform antennae().
3- The adult of suborder: Cyclorrhapha (Diptera) have Stylate antennae()
4- The human flea is the potent vector of Plague ().
5-Both sexes of mosquitoes are blood sucking()
6-Subclass: Apterygota include Diplura, Collembola and Thysanura().
7-Cockroaces have a pair of segmented cerci at the end of abdomen ().
8-Suborder Brachycera (Diptera) contain vectors of diseases().
9-Suborder Symphyta (Hymenoptera) have a broad junction between thorax and abdomen().
10-Metamorphosis of Orthoptera is gradual()
3-Give the scientific meaning for the following (Total 10 Marks, 2 each)
1- Entognatha 2- Halters. 3-Hamuli. 4- Tympana. 5-Petiol.
"Best Wishes"
Examiners: Prof. Dr. Elsaied Naiem Prof. Dr. Samer Ezzat Dr. Noha Daboor



EXAMINATION FOR FRESHMEN (SECOND LEVEL) STUDENTS OF GEOPHYSICS

COURSE TITLE: Mineralogy and petrology COURSE CODE:GE 2222

DATE: MAY, 2018 SUMMER COURSE TOTAL ASSESSMENT MARKS: 150 TIME ALLOWED: 2 HOURS

Part I: Mineralogy

1-Discriminate between the followings:	
a- The structure of orthosilicate silicate and ino-slicates	(15 marks)
b- Chemical composition and classification of pyroxene and feldspar groups	
c- Stability fields of polymorphs minerals of silica (SiO ₂)	
d- The general optical properties of mica group and amphibole group	
e- The optical properties of the following minerals:	
Garnet, olivine, chlorite, plagioclase, calcite	(15 marks)
Part II: Petrology	
1-Write short notes on the following	(30 marks):
a- Mafic and felsic minerals of igneous rocks	(6 marks)
b- Equigranular textures and interstitial textures of igneus rocks	
c- Concordant intrusive igneous bodies	(8 marks)
d- Constituents of magma	(6 marks)
2- write briefly on:	
a- clastic sedimentary rocks	(10 marks)
b- Chemical weathering and mechanical weathering	(5 marks)
4- Discriminate between:	
a- Characteristic minerals of low grade and high grade metamorphism	(10 marks)
b- Textures of thermal metamorphism and textures of dynamic metamorphism	(10 marks)
c- Classification of foliated rocks and non-foliated rocks based on textures	(10 marks)

Best wishes

Examiners: Prof: Gaafar El Bahariya



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| Discriminate between the followings: | The shooting of orbinstilicate silicate and the slicates | 1 march | | Chamical composition and classification of pyrocene and feldaper groups | 17 march | | Schollity fields of polymorphis minerals of silica (SiDr) | 12 march | | The general optical properties of mice group and amphibite group | 15 marching | | The optical projecties of the following minerals | | The optical projecties of the following minerals | | Part II: Percolagy |

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Saminers: Prof. Gaginr El Behariya



EXAMINATION For The Second Level of Chemistry-Geology Students

COURSE TITLE Metamorphic Petrology (1)

COURSE CODE GE2206

TIME ALLOWED: 2 hrs.

21/5/2018 DATE:

SEMESTER: TWO TOTAL ASSESSMENT MARKS:100

Part I (50 marks)

Answer the following questions. Illustrate your answer, whenever possible.

- 1. What are the main sources of temperature, pressure and chemical fluids which are essential for metamorphism. (15 marks)
- 2. Write a concise article on main factors recognizing the different kinds of metamorphism, giving rise to rock examples for each type. (25 marks)
- 3. Tick TRUE or FALSE of the following statements, and CORRECT the false one. (10 marks)
- a. All metamorphic rocks display foliated textures; this is due to dynamic metamorphism.
- b. Schist is relevant to dynamic metamorphism.
- c. Slate represents the earliest mechanism of metamorphic differentiation.
- d. Granulose texture is related to shock metamorphism.
- e. The main products of shale after regional metamorphism are slate and amphibolites.

Part 2 (50 Marks)

4. Mark $\sqrt{\text{or}} \times \text{and correct the wrong ones:-}$ (25 marks)

- a. Blue schist facies is characterized by presence of antigorite and garnet
- b. Phyllonite is a rock variety formed at low grade of metamorphism due to thermal metamorphism.
- c. Granulite facies is characterized by low pressure and temperature and formed in subduction zone at low pressure, temperature and depth around 3 kb.
- d. Potash feldspar and garnet occur in high grade metamorphic rocks, whereas Serpentinites mainly composed of chlorite and feldspar, formed in shear zone due to low pressure deformation (3 marks)
- e. Anatexis occur at high temperature and pressure due to ultra-metamorphism in green schist facies
- Omphacite is a variety of amphiboles and occur in hornfels facies and characterized of migmatites.
- g. Porphyroclasts are formed due to regional metamorphism whereas Augen texture is characterized for rocks formed due to auto metamorphism
- h. Quartizite is metamorphic rock formed after ultrabasic rocks at high pressure
- i. Pyroxene hornfels facies is formed due to dynamic metamorphism due to pressure and formed at low
- j. Megma is formed due to metamorphism at low temperature and pressure (epidote-Pumpellite facies)

5- Define the following:

(25 Marks)

a. Augen texture, b- mylonites, c- Eclogite facies giving example, d- migmatites and their textures, e-Thermal metamorphism giving example of different type of facies.

Examiners: Prof. Mohamed Tharwat Heikal

Prof. Mohamed Metwaly Abu Anbar



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Part I (50 morks)

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2. Welte a course structe on main factors recognizing the different binds of factories philase; the course we would be such type. (35 mores!)

3. This TRUE or FALSE of the failureing classmoots, and CORMAKT the frienders

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Part 2 (50 Marks)

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- the flowing is a rack writery former a per low grade of measurements in the received and a control of the contr
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5- Deline the following:

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TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY

THEORETICAL EXAM. IN GEOPHYSICS FOR 2NDLEVEL STUDENTS, SPECIALGEOPHYSICS

COURSE | GRAVITY METHODS -2 | COURSE CODE: GP2204

2 1 5 2018 TERM: SECOND TOTALASSESSMENT MARKS:100 TIME: 2 HOR

ANSWER THE FOLLOWING QUESTIONS:

Marks: 100

1-Write about ONLY TWO from the followings:

40

- A- The grid spacing design in gravity surveying.
- B- The marine Gravity survey.
- C- Qualitative interpretation of residual gravity map.
- 2- Write about the Second Vertical Derivative Method for potential anomaly separation.

30

3- Explain the role of Gravity method as a technique in oil and mineral exploration.

30

EXAMINER: PROF.DR. / MOHAMED REFAAT SOLIMAN



THEORETICAL EXAM, TU GEOPHYSICS FOR 2NOLEVEL STUDENTS, SPECIAL STOPHINGS COURSE CODE
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ANSWER THE POLLOWING OFFICERS

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A- The grid spacing design in gravity surveying

B- The marine Gravity survey.

C. Qualitative interpretation of residual gravity map

2- Write about the Second Vertical Derivative Mathod for potential anomaly separation

3- Explain the role of Gravity method as a technique in oil and mineral exploration

EXAMINER: PROF.OR / MOHAMED REFAAT SOLIMAN



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TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY

EXAMINATION OF SECOND LEVEL GEOPHYSICS STUDENTS

COURSE TITLE: SEISMIC METHODS (1) COURSE CODE: GP 2202

19 MAY, 2018 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)

In case of refraction methods, how to determine the dip angle and the vertical thicknesses of inclined beds.

Question (2):

(30 Marks)

- A. Compare between the advantages and disadvantages of seismic methods.
- B. Mention the different ways to determine the depth in two horizontal layers.

Question (3):

(30 Marks)

Discuss the following:-

- a. Huygens' Principle.
- b. Delay time.
- c. Types of seismic waves.

Question (4):

(30 Marks)

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

Question (5):

(30 Marks)

Write short note on:-

- a. The hidden and blind layer problems.
- b. 1D, 2D and 3D shooting.
- c. Lead time.

EXAMINERS	PROF.MOHAMED ATAF NWEAR	DR. ALI SOLIMAN ALI
	PROF. AHMED EL SHISTAWY	DR. MOATAZ BARAKAT



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EXAMINATION OF SECOND LEVEL CEDIMYSICS STUDIES

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

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b. 1D, 2D and 3D shooting

c. Lead time

EXAMINERS PROF, MOHAMED ATAF NWE

DR ALI SOLIMAN ALI

DATE:

TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY

EXAMINATION FOR LEVEL TWO STUDENTS (CHEMISTRY- GEOLOGY)

COURSE TITLE IGNEOUS PETROLOGY (1) COURSE CODE:GE2204

MAY 2018 SEMESTER: TWO TOTAL ASSESSMENT MARKS :100 TIME ALLOWED:120 min

Part 1 (50 marks)

- 1- Discuss the magmatic crystallization and formation of different varieties of igneous rocks based on Bowen's reaction series. (20 marks)
- 2- Discuss the magmatic assimilation between acidic magma and basic rocks and limestone, give some examples.

 (10 marks)

3- Put $\sqrt{\text{or} \times \text{marks}}$ and correct the wrong ones: -

(20 marks)

- (a) Troctolite composed mainly of alkali feldspar and olivine
- (b) Quartz formed at early stage of magmatic crystallization at high temperature.
- (c) Alkali pyroxenes as aegirine occur in basic rocks whereas the calcic pyroxenes as augite found in monzogranites.
- (d) Plutoic rocks have anhedral crystal, small grain size and amorphous groundmass.
- (e) Flourine, chlorine, water found at high temperature in early stage of crystallization and concentrated in dunite and perdotite.
- (f) Magma mixing takes place between magma and country rocks to give xenoliths.
- (g) Olivine and quartz constitute the essential minerals in ultrabasic rocks.

Part 2 (50 marks)

- II. Write short notes on the following, illustrate your answer with diagrams whenever is possible: (50 marks)
 - 1. IUGS classification of Granitic rocks using Q-A-P diagram.
 - 2. Nomenclature of Ultramafic rocks by using Ol, Opx and Cpx.
 - 3. Chemical classification of Igneous rocks
 - 4. Nomenclature of Gabbroic rocks using IUGS classification
 - 5. Discuss the following:
 - a) Spilite and Pegmatite.
 - b) The differences between andesite porphyry and porphyritic andesite.
 - c) Feldspathoid does not plot with Quartz in QAPF diagram.

Examiner: Prof. Mohamed Metwaly Abu Anbar

Examiner: Dr. Ahmed Ismail

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1-Discuss the manmatic crystallization and formation of different varieties of agreement of the manmatic crystallization series.

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(g) Olivine and quartz constitute the essential minerals in ultrabasic rocks.

Part Z (50 marks)

II. Write short notes on the following, illustrate your answer with diagrams; whenever is possible: (80 marks)

- 1. RIGS classification of Granitic rocks using Q-A-P diagram
- Non-anclarate of Distantance rocks by using Ol, Opx and Opx.
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 - 4. Nomenclature of Gabbyoic meks using IUGS electrication
 - 5. Discuss the following
 - a) Spillte and Pegmatite
- b) The differences between andesite populary and porphyritic andesits of Self-matheid does not alor with Quarte in OAPF diagram.

Examiner: Prof. Mohemed Meteolity Abu Aubus

Summer Dr. Almed Bereit



EXAM FOR SECOND LEVEL OF SPECIAL GEOLOGY AND GEOPHYSICS STUDENTS

DATE: 30 MAY, 2018 TERM: FIRST TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

Answer the following questions.

I- Complete the following sentences:	(20 marks)
1- Lithostratigraphy is	
2- Stratotype is	
3- The type locality of Mit Ghamr Formation is and	Sidi Salem
Formation is	
4- Isochore map refers to thickness, whereas isopach m	ap refers to
thickness.	
5- Type area is	
II- Discuss the lithostratigraphic units of the following.	(30 marks)
a- The new discovery Zohr gas-field in Egypt.	
b- Jurassic rocks in north Western Desert.	
c- Nubia sandstones in the Gulf of Suez.	
III- Compare between the following with drawing:	(30 marks)
a- Columnar section and stratigraphic cross section.	
b- Member and flow with giving examples.	
c- Formation and complex with giving examples.	
IV- Write in details about <u>ONE</u> only of the following.	(20 marks)
a- Lithostratigraphy of the Baharyia Oasis.	
b- Lithostratigraphy of the Eocene rocks in Fayum area.	

EXAMINERS	PROF. H.M. KHALIL	Monopolin No. 2 is a super delinered in translation of contract to
	DR. M.S. FATHY	WITH BEST REGARDS

