

المستوى الثانى
كيمياء / الجيولوجيا



TANTA UNIVERSITY
FACULTY OF SCIENCE
DEPARTMENT OF GEOLOGY

EXAMINATION FOR SOPHOMORES STUDENTS
OF
SPECIAL GEOLOGY AND CHEMICAL-GEOLOGY

COURSE TITLE: **APPLIED MINERALOGY** COURSE CODE: **GE2214**


DATE: 29/5/ 2017 JUNE, 2017 TERM: SECOND TOTAL ASSESSMENT MARKS: 100 TIME ALLOWED: 2 HOURS

Answer the following questions

- 1) What is (20 marks)
- a) Transparent Alumina
 - b) Fumed Silica
 - c) Lely process
 - d) Carborundum
 - e) Hard Gypsum
 - f) Dewatering
 - g) Cryolite
 - h) Delamination
 - i) Silicones
 - j) Drying process
- 2) Write brief on only four of the following: (30 marks)
- a) Integrated Production Model with Value Added Product Sales
 - b) Commercially Grades of Kaolin
 - c) Biomedical Applications of Cationic Clay Minerals
 - d) Mineral processing and its stages
 - e) Production Process of Silicon Carbide
- 3) Different types of: (20 marks)
- a) Separation Methods
 - b) Roasting Operations
 - c) Gravity Concentration Processes
 - d) Leaching Methods
- 4) Draw Flow chart of only four of the following: (30 marks)
- a) Beneficiation of Black Sand
 - b) Zirconium Sponge from zircon
 - c) Titania
 - d) Extraction of Aluminium
 - e) Magnesium hydroxide
 - f) Beneficiation Process of Kaolin

Prof. Dr. Hassan E. Harraz

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	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY		
	EXAMINATION For The Second Level of Special Geology Students		
	COURSE TITLE	Metamorphic Petrology (1)	COURSE CODE: GE2206
DATE:	24/5/ 2017	SEMESTER: TWO	TOTAL ASSESSMENT MARKS :100
			TIME ALLOWED: 2 hrs.

Part I (50 marks)

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

1. Shale represents very sensitive rock during progressive regional metamorphism. **Explain** (20 marks)
2. Write a concise article on main factors controlling the classification of metamorphic rocks. (20marks)
3. Tick TRUE or FALSE of the following statements, and CORRECT the false one.
 - a. All metamorphic rocks display non-foliated textures; this is due to regional metamorphism.
 - b. Skarn is relevant to dynamic metamorphism.
 - c. Migmatization represents the earliest mechanism of metamorphic differentiation.
 - d. Granulose texture is related to regional metamorphism.
 - e. The main products of basaltic rocks after regional metamorphism are metabasalts and amphibolites. (10 marks)

Part II Metamorphic Petrology (50 marks)

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

2- Discriminate between the following:


- a- Lower and upper limit of metamorphism -----(5 marks)
- b- Diagnostic minerals of low grade and high grade metamorphism----- (5 marks)
- c- Hornfelse facies and facies of regional metamorphism----- (16 marks)
- d- Decussate texture and gnissose textures of metamorphic rocks----- (5 marks)
- e- Rock names of foliated and cataclastic (dynamic) metamorphic rocks----- (5 marks)
- f- Regional metamorphism at arc-trench zone and regional metamorphism at subduction zone----- (14 marks)

Examiners: Prof. Prof. Mohamed Tharwat Salah Heikal &

Prof. Gaafar A. El Bahariya

Good Luck!

Handwritten signatures: f. Heikal and Gaafar

	TANTA UNIVERSITY FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY			
	EXAMINATION For The Second Level of Chemistry-Geology Students			
COURSE TITLE	Metamorphic Petrology (1)		COURSE CODE: GE2206	
DATE:	24/5/ 2017	SEMESTER: TWO	TOTAL ASSESSMENT MARKS :100	TIME ALLOWED: 2 hrs.

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Part 2 (50 Marks)

4. Tick \checkmark or \times marks and correct the wrong ones:- (marks): (20 marks)

- A) Megmatites are metamorphic rocks formed in low grade metamorphism
- B) Omphacite is a variety of amphiboles occur as index mineral in schist.
- C) Augen texture occur in gneisses and mylonites formed at high pressure and low temperature in metamorphic terrains.
- D) Charnokite rocks, composed mainly of chlorite and feldspar formed in shear zone
- E) Porphyroclasts are characterized for autometamorphism as in serpentinites.
- F) Granulite facies is characterized by low pressure and temperature and formed in subduction zone at low pressure, temperature and depth around 3 kb.
- G) Megma is formed due to anatexises at low pressure and temperature.
- H) Porphyroblasts and brecciation are textures characterized for rocks in hornfels facies (thermal metamorphism).
- K) Wollostonite marble is a metamorphic rocks formed after ultrabasic rocks at high pressure.
- J) Potash feldspar and garnet occur in high grade metamorphic rocks.

5- Define the followings: (30 Marks)

- | | |
|--|---|
| a- Eclogite facies | b- Dynamic metamorphism |
| c- Metamorphic index minerals for amphibolites facies, granulite facies, blue schist faies | |
| d- Different types of migmatites | e- Different Facies of thermal metamorphism |

WISHING SUCCESS FOR THE ALL

Examiners: Prof. Mohamed Th. S. Heikal & Prof. Mohamed M. Abu Anbr

