Mansoura University
Faculty of Science
Geology Department
Date: 02/01/2016

Summer Term Exam. (Jan.2016)
Fourth Level (Geophysics)
Course No.G407
Course: Quaternary Geology& Delta
Time: 2 hours Full Mark: 60

Answer the Following Questions

Question One : Tick (√) or (X) and correct

1- The Earh' eccentricity varies due to attraction with gravity of Moon.
2 –The continental glacier is an ice sheet.
3- The terminal part left after glacier retreat is occupied partly by end morain.
4- Pinus and Betula represent the pollen association to the early temperate zone.
5- The ice cap is always depleted in O16
6- The global sea level is falling due to glacial isostasy during the glacial stage.
7- The older stage in the Alpine system is Würm.
8- The shrinkage of pluvial lakes indicates cold- dry climate.
9- The permeability is changed vertically in the sediments of braided stream.
10- The drainage basin with tropical climate yields high medium grained sediments.
11- The long shore currents are responsible for sediment accumulation.
12- The linear mouth bar displays a very well sorted sediments.
13- The shoestring sand body of the alluvial valley is formed under highly varied discharge.
14- The delta morphology is a function of shelf slope
15- The tidal flat of a delta with tropical climate is occupied by mangroves.

(15 marks)

Question Two: Complete

1-The Pleistocene is ended at.....or at.....
2-All morains are made of.....
3- The eccentricity is a measure of departure of.....from.....
4- Eskars are..... .....deposited in the glacial valley.
5- The.....,,,..... is responsible for the greater part of sea level rise.
6- .....,..... ...,.....,....., are typical periglacial landforms.
7- ....and.....are two standards used in oxygen isotope determination.
8- .....and..... are the pollen association characteristic to pre-temperate zone.
9 .....,.....,.....and.....are components of the main river system.
10- The.....is occupied by the functioning distributary channels.
11- The ....is a function of the drainage basin area.
12- ..... ,.....and..... .....favor delta migration by lobe switching.
13- Tidal ridges oriented..... to basin axis suggests deposition in an open ends trough.
14-All waters of the northern Nil delta lagoons are brakich except.....lagoon.
15- The Nile delta is now changed from.....dominated to.....dominated.

(15 marks)

Question Three: Choose the correct answer:

1- The duration of Quaternary stages is
a) 100 Ka b) 41 Ka c) 22 Ka
2- Which of the following is typical glacial landform.
a) pluvial lake b) pro glacial lake c)kettle lake
3- Which of the following is Not periglacial landform.
a) active layer b) frozen layer c) organic layer
4- The characteristic sediment of the periglacial zone is
a) till b) loess c) varves
5- Which of the following is typical of periglacial area
a) rock glacier b) hanging glacier c) warm glacier
6- The pollen association of the early temperate zone is characterized by
a) Quercus b) Picea c) Betula

Prof.O.Hegab and Prof. M. Abed لجنة التصحيح:

7- The sea level fluctuation is not evidenced by
a) marine terraces b) fluvial terraces c) lacustrine terraces

8- Eemian is the last interglacial stage in the
a) Alpine system b) USA system c) NW Europe system

9- The upper Nile delta plain extends above
a) northern lagoons b) supra tidal zone c) coastal heads (Ras)

10- The drainage basin with arid climate produces
a) braided stream. b) strait stream c) meandering stream

11-When the distributary mouth bar is linear ,the predominating process is
a) inertia b) friction c) buoyancy

12- The littoral currents are responsible for
a) sediment entrainment b) sediment pilling c) sediment drift

13- The sediments of the wave dominating delta are rich in
a) beat b) evaporates c) shell fragments

14- The seaward bifurcation channels are common in deltas with
a) high inertia b) high friction c) high buoyancy

15- The average depth of the northern Nile delta lagoons is
a) 2 m b) 3 m c) 5 m

(15 marks)

Question Four: Write in Two of the following

1- The morphological, lithological and biological evidences of Quaternary in the glacial area.

2- The Quaternary systems in the different parts of the world, basis and subdivision.

3- The discharge effectiveness index play the main rule in determining the present and the future of deltas, Discuss.

4- The geomorphology and sedimentology of the Lower Nil delta plain.

(15 marks)

Good Luck

Prof. Omar Hegab

قسم الجيولوجيا
امتحان الترم الأول
التاريخ ٢٠١٦/١/٥م
الدرجة الكلية ٦٠ درجة

المستوى الرابع/ جيولوجيا
المادة: جيولوجيا إقتصادية
ج ٤١٢
الزمن: ساعتان

السؤال الأول(٢١درجة، كل فقرة ٧ درجات)

أكتب بالتفصيل عن الآتى:

١- نشأة المعادن من المجما وسلسلة بوين.
٢- الخواص المغناطيسية والكهربية والإشعاعية للمعادن.
٣- التقسيم الكيميائى للمعادن مع كتابة أسم معدنين وتركيبهما الكيميائى فى كل قسم.

السؤالثانى: (٩ درجات، كل فقرة ثلاث درجات)

أكتب عن الآتى:

١: الوزن النوعى للمعادن وطرق قياسه.
٢: خاصية اللون، خاصية التضوء للمعادن.
٣: خاصية الخداع الشكلى قى المعادن مع ذكر أمثلة لذلك.

السؤال الثالث (٢٠ درجة كل فقرة عشر درجات)

اكتب بالتفصيل عن الآتى:

١: تقسيم وتركيب معادن السيليكات وبعض المعادن فى كل قسم.
٢: رواسب كل من: المتبخرات، الكربونات، الحديد الرسوبى، اللاتيريت والبوكسايت، والفحم.

السؤال الرابع (١٠ درجات كل فقرة خمس درجات)

أكتب عن الآتى:

١: المحاليل المائية الحارة وبعض رواسبها.
٢: الرواسب المعدنية فى مصر لكلا من: حقب الميزوزوى، الزمن الثالث.

أ.د. محمود الشربينى*، أ.د. أحمد عبد اللطيف، أ. د. عبد الله شاهين، د.أحمد شلبى

MANSOURA UNIVERSITY
Faculty of Science
Geology Department
Mansoura–EGYPT

Date: Saturday, 09 January **2016**
First semester - Academic year 2015/2016
Full mark: **60**
Time allowed: 2 hrs (12.00-02.00 PM)

B.SC EXAM IN HYDROGEOLOGY AND GEOMORPHOLOGY OF EGYPT

(G402) FOURTH LEVEL GEOLOGY PROGRAM

Instruction: Answer the following questions and stick to each question notification

QUESTION ONE: Fill-in the spaces with suitable word(s) **(20 marks)**

1. Geomorphologically, the area of the northwestern coastal zone of Egypt is generally shaped by either endogenitic and/or exogenitic processes into four major units (1) ....., (2) ....., (3) ..... and (4) .....

2. The ion dominance ordering in the Nubian Sandstone Aquifer System shows that the (5) ..... is the most commonly predominating cation, whereas (6) ..... is the predominant anion.

3. (7) ..... submerged or partly exposed ridge of sand or coarse sediment that is built by waves offshore from a beach.

4. (8) ..... overlapping the nucleus of basement complex are the sedimentaries which form the tableland of Badiet El-Tih and the still higher plateau known as Gebel Egma.

5. Six water bearing formations are found in the Sinai Peninsula can be arranged chronologically as Basement rocks, (9) ....., Upper Cretaceous aquifer, Eocene aquifer, (10) ....., and (11) .....

6. It is important to note that the 10th of Ramadan City rests on the (12) ..... aquifer, which represents the most important groundwater aquifer in the (13) .....

7. A salt marsh is an environment in the upper coastal intertidal zone between land and salt water or brackish water, it is dominated by dense stands of (14) ..... plants.

8. Beach of the Gulf of Suez has bajada plains at (15) ....., (16) ..... and (17) .....

9. The Maryut Tableland includes two ridges and two depressions. The depressions include (18) ..... and (19) .....

10. (20) ..... aquifer is moderately potential, restricted to Wadi El Natrun area and composed of clay facies with interbeds of water-bearing sandy layers.

لجنة الامتحان والتصحيح: أ.د. محمود قورة – د. أحمد الجلادي - د. طارق عنان - د. وليد شكري الديسطي

QUESTION TWO: Compare between the following counterparts **(20 marks)**

1. Depressions in the East and West Nile Delta. (2 Marks)
2. Mudflats and sabkhas. (2 Marks)
3. Sea cliff and wave-cut platforms (with drawing). (2 Marks)
4. Wadi El Tumilat depression and Wadi El Natrun depression. (2 Marks)
5. Gulf and bay. (2 Marks)
6. Traverse and longitudinal sand dunes (with drawing). (2 Marks)
7. El Khanka and El Heneishat sand dunes. (2 Marks)
8. Nubian and post-Nubian aquifer systems. (2 Marks)
9. Rectangular and trellis drainage systems (with drawing). (2 Marks)
10. Topographic and artesian springs (with drawing). (2 Marks)

QUESTION THREE: Write short notes on each of the following **(20 marks)**

1. Wadi El Arish drainage unit. (2 Marks)
2. The West Nile Delta Pleistocene aquifer. (2 Marks)
3. Environmental and health impact from pollution of water by manganese. (2 Marks)
4. The Quaternary aquifer in the East Nile Delta. (2 Marks)
5. Raqabet El-Naam Fault System. (2 Marks)
6. The Northern Coastal Zone hydrographic basins. (2 Marks)
7. El Manzala Lake sabkhas. (2 Marks)
8. Sinai folded complex and isolated hills. (2 Marks)
9. Evaluation of water for livestock and poultry purposes. (2 Marks)
10. Forms of groundwater occurrences in the Northwestern Coastal Zone. (2 Marks)

Good luck

Dr. Waleed Shukry El Diasty

لجنة الامتحان والتصحيح*: أ.د. محمود قورة – د. أحمد الجلادي - د. طارق عنان - د. وليد شكري الديسطي*

MANSOURA UNIVERSITY
Faculty of Science
Geology Department
Mansoura–EGYPT

Date: Saturday, 16 January **2016**
First semester - Academic year 2015/2016
Full mark: **60**
Time allowed: 2 hrs (12.00-02.00 PM)

B.SC EXAM IN REMOTE SENSING & GIS (G405) FOURTH LEVEL GEOLOGY/GEOPHYSICS PROGRAM

Instruction: READ carefully then answer the following questions and stick to each question notification

QUESTION ONE: Fill-in the spaces with suitable word(s) (20 marks)

1- By knowing (1) and (2) we can know the flight line on an aerial photography.

2- The displacement of a position from the principle point caused by (3) can be used with (4) and (5) from the photo to calculate the scale.

3- Aerial photographs shows (6) relief displacement than satellite images because of its (7) altitude.

4- Assume that we can use our eyes to see an object at very far distance, in that case we will need longer (8) and bigger (9) .

5- Stereoscopic Parallax is caused by (10) and (11) .

6- We can differentiate between igneous rocks and sedimentary rocks remotely by knowing their (12) .

7- To create a layer representing a number of wells, you will need to create a (13) and the type of data will be (14) .

8- Basic map projection types are (15) , (16) , (17) , and (18) .

9- You need to do (19) step to change a photo to a map with a coordinate data in Arc GIS.

10- To change a projection of a map to another type, we use (20) tool.

QUESTION TWO: Mention one difference item between each of the followings (20 marks)

1. SWARM and GRACE. (22)
2. Vector and Raster. (24)

* لجنة الامتحان والتصحيح*: أ.د. محمود قورة – أ.د. صلاح البيلي – أ.د. حمدي صيصه- د. لميس محمد

3. Mie Scattering and Rayleigh scattering. (26)
4. Spatial and Spectral resolution. (28)
5. TRMM and NDVI. (30)
6. Scattering and Refraction. (32)
7. Irradiance and Exitance. (34)
8. Gain and Offset. (36)
9. Sandstone and limestone (runoff –infiltration behavior) (38)
10. Initial loss and recharge. (40)

QUESTION THREE: Put (T) or (F) and correct the wrong word(s) (20 marks)

1. The emissivity of the black body is 0. ( ) (42)
2. If the surface height profile is shorter than the wavelength, it will produce a mirror image. ( ) (44)
3. The dimension of the Hemispherical Absorption is Watts m-2. ( ) (46)
4. Bright areas in band 5/1 is an indication of regions rich with opaque minerals. ( ) (48)
5. Band 7 is sensitive to hydroxyl content. ( ) (50)
6. Sun- synchronous orbit is very effective in removing all the illumination differences. ( )(52)
7. Ascending node is the point where the satellite crosses the equator moving from N to S. ( ) (54)
8. NDVI is a good way to get information about change in the gravity field. ( ) (56)
9. Swarm mission measure the change in magnetic field using two identical satellites. ( ) (58)
10. The hydrogeologic group classification is depending on infiltration and evaporation. ( ) (60)

W. Success

Dr. Lamees M. Mohamed

* لجنة الامتحان والتصحيح: أ.د. محمود قورة – أ.د. صلاح البيلي – أ.د. حمدي صيصه- د. لميس محمد

Mansoura University
Faculty of Science
Geology Department

Date: 23/1/2016
Time allowed: Two hours

Final Exam in Basin Analysis Course (G-404) for Fourth Level, Geology Program, First Semester

First Question (16 marks)

Mark (√) in front of the right statements and mark (×) in front of wrong statements, (correct the wrong statements).

1. The geohistory is the qualitative analysis of weathering with time. ( )
2. The crustal tension mechanism forms the retroarc forland basins. ( )
3. The Gulf of Aqaba basin is considered as intracratonic basin. ( )
4. The intracratonic basins are formed due to regional tension. ( )
5. The pull-apart basins are shallow and wide. ( )
6. Back arc basins form due to regional compression. ( )
7. Basins related to crustal loading include trenches and oceans. ( )
8. The deep basins usually contain heavy oils. ( )

Second Question (16 marks)

Compare between each of the following (Using drawing if necessary)

1. Intracratonic and strike-slip fault basins.
2. Parasequence and depositional sequence
3. Progradational parasquences and retrogradational parasequences.
4. Rift and foreland basins.

Please turn over the page

Third Question (16 marks)

Mention the reason (s) for FOUR ONLY of the following statements:

1. Importance of sequence stratigraphic analysis to sedimentary basins.
2. Occurrence of different sedimentary facies within the sedimentary basins.
3. Variation of geometries of the stratigraphic units within the sedimentary basins.
4. Occurrence of different types of sedimentary basins over the geologic time.
5. Occurrence of different sedimentary cycles within the sedimentary basins

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Fourth Question (16 marks)

Show the scientific meaning of the EIGHT ONLY of the following terms (Using drawing if necessary).

Basin analysis techniques - Sequence stratigraphy – Basin evolution – Key sequence stratigraphic boundaries – Egyptian sedimentary basins - Depositional model – Petroleum system - Subsidence mechanisms – Fluvial depositional systems.

Fifth Question (16 marks)

1. What is the academic and economic significance of the sedimentary basins?
2. Show with drawings how the climate, sea level changes and tectonic affect in the facies and stratigraphic distribution of the basin fill?

Best regards

Prof. Essam El-Khoriby