المستوى الرابع - جيولوجيا - تحليل حوض ع ٤٠٤

Mansoura University Facualty of Sciences Department of Geology Time: 2 hoors Date : 25/12/2013		Final Exam (January 2014) Fourth level credit hours (Geology) Subject : Basin analysis (G 404) Full Mark : 60

First Question :
Complete the Following :

1.a) Sedimentary basins exist in a back ground environment of .....

1.b) The thermal lithosphere is .....

1.c) A ..... structure is represented by a weak ductile zone exists in the lower crust .....

1.d) Flysch sequences consist mainly of ..... , ... , ... , ... and may also include ..... , ... , ... , with thickens reaches to .....

1.e) Molasse sequences consist essentially of .....

Second Question :
Give short nots on :

2.a) The formative mechanisms of sedimentary basins catogerbed as ..... , ...

2.b) The difference between oceanic and continental crust (Drawing is enough) .

2.c) Classification schemes of sedimentary basins based on plate tectonics? Can you put only sketch drawing ?

2.d) Abyssal plain deposits have .....

Third Question :
Write on :

3.a) The different subsidence mechanisms which lead to the formation of large basins .

3.b) Passive continental margins .

3.c) Criteria for recognition of both continental and neritic depositional environments.

Good Luck & Best Wishes
Prof.A.Genedi

لجنـــة التصحيح :-

١. أ.د / عادل جنيدى
٢. أ.د / محمود الشربينى
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ع جيولوجيا - جيولوجيا المياه وشكل الأرض في مصر (ج ٤٠٢)

MANSOURA UNIVERSITY
Faculty of Science
Geology Department
Mansoura-EGYPT

Date: December 29, Sunday 2013
First semester - Academic Year 2013/2014
Full Mark: 60
Time allowed: 2 hrs. (12.00-02.00 PM)

B.SC EXAM IN GEOMORPHOLOGY AND HYDROGEOLOGY OF EGYPT (G402)

FOURTH LEVEL GEOLOGY PROGRAM

QUESTION ONE: Fill-in the spaces with a suitable word/s (24 Mark)

1. The groundwater investigation in the NW coastal zone revealed three forms of groundwater occurrences are; (1) ....., (2) ..... and (3) .....
2. Both a gulf and a bay are the same things, and the only difference that is pointed out is in (4) .....
3. The most common Sinai Eocene aquifer natural springs along joint plains are (5) ....., (6) ..... and (7) ..... springs.
4. The Quaternary aquifer in Sinai Peninsula encompasses four aquifer systems are (8) ....., (9) ....., (10) ....., and (11) .....
5. The West Nile Delta old coastal plain includes; (12) ..... ridge, (13) ..... ridge, (14) ..... ridge.
6. (15) ..... sand dunes chains extend from Gebel El Washika till Faiyum depression, the longitudinal orientation is mainly controlled the NW prevailing winds.
7. (16) ..... aquifer, moderately potential, restricted to Wadi El Natrun area, composed of clay facies with interbeds of water-bearing sandy layers.
8. The Nile Delta flood plain in the East Nile Delta is dotted with a number of (17) .....; hills of clays where the low lands were filled with loose quartz sand.
9. The lower salinity of the Quaternary aquifer in the East Nile Delta in the north and west directions is attributed to (18) ....., whereas the maximum values along Cairo-Ismailia Desert Road is due to (19) .....
10. Excessive amounts of (20) ..... can cause respiratory and brain damage, hallucinations, forgetfulness, nerve damage.
11. There are four main aquifers having wide extension along the northwestern coastal zone; (21) ....., (22) ....., (23) ....., and (24) .....

QUESTION TWO: Mark true or false (make further illustration if applicable) for the following statements (18 Mark)

1. The foot slope of El-Tih plateau is composed of thick non-clastic Eocene limestone, while El-Igma is covered with clastic Nubian Sandstone.
2. Mudflats are supratidal, forming along arid coastlines and are characterized by evaporite-carbonate deposits with some siliciclastics.
3. The Northern Coastal Belt headlands extend in a parallel trend of NW-SE direction and widen seawards.
4. Wadi El Tumilat depression is surrounded by old terraces of early Pleistocene gravel, filled with sands and clayey sands.
5. El Khanka sand dunes extend in a NE-SE direction, arranged in a series of elongate sand ridges.
6. The Northern Coastal zone ridges and depressions oriented E-W direction; reflect the successive lowering of the Mediterranean Sea level since the early Pleistocene times.
7. Chromium is mostly found as a result of human activities, excessive amounts can cause Anemia, blood pressure and behavioral disruption of children.
8. The east Nile Delta young coastal plain includes three ridges; El Max-Abu Sir ridge, the near-shore ridge and Gebel Maryut ridge.
9. The status of the Quaternary aquifer in the East Nile Delta changes from confined to semi-confined to variable conditions eastward.

QUESTION THREE: Write short notes on each of the following (Answer <u>nine</u> points <u>only</u>; 18 mark)

1. The Northern Coastal Zone hydrographic basins. (2 Marks)
2. The west Nile Delta structural plain. (2 Marks)
3. Environmental and health impact from pollution of water by cadmium (2 Marks)
4. The Quaternary aquifer in the east Nile Delta. (2 Marks)
5. Raqabet El-Naam Fault System. (2 Marks)
6. Sinai Nubian Sandstone aquifer. (2 Marks)
7. Maryut tableland. (2 Marks)
8. Wadi El Natrun Depression. (2 Marks)
9. Evaluation of water for livestock and poultry purposes. (2 Marks)
10. Mudflats and sabkhas. (2 Marks)

Good luck

ج صولوجيا - صخور القارة في مصر ج٤٠٨

Mansoura University Faculty of Sciences Department of Geology **Time: 2 hours** **Date:** 5 /1 / 2014		**Final Exam (January, 2014)** **Fourth Level (Geology Program)** **Subject: Basement rocks** G408 **Full Mark: 60**

Answer The Following Questions: (20 Marks for each)

Question One:

A-There are many stages of the eruption of volcanic rocks rocks in the basement rocks of Egypt, define these stages and write on the main differences between them and their locations. **(10 Marks)**

B-Answer with (√) or (X) **with appropriate correction**. **(2 Marks for each)**

i-Magmatic xenoliths could be found in older granites and granite gneisses.
ii-Granite greisses, granulites and serpentinites are related to the Pre-Pan African rocks.
iii-Dokhan volcanics are subducted related rocks.
iv-BIF are related to back – arc tectonic setting.
v-There are two magmatic for the emplacement of gabbroic rocks in the basement rocks.

Question Two:

A- Arrange the following rock units from the oldest to the youngest: -Pillow metabasalts, -Hammamate sediments, Post granite dykes, Intrusive mafic – ultramafic rocks, gneissose granites, Ring complex, -serpentinites, granite gneisses, meta gabbro-diorite complex. **(10 marks)**
(10 marks)

B- Answer with (√ or X) **and give correction** **(10 Marks)**

i- Basal conglomerate of Hammamate sediments contain fragments of younger granites, Dokhan volcanics and older granites.
ii- Older metavolcanics include pillow metabasalts related to ophiolite rock sequence.
iii- Porphyritic andesite and porphyritic dacite are related to Dokhan Volcanics.
iv- Intrusive mafic – ultramafic rocks are completely have some properties like to the ophiolitic mafic-ultramafic rocks.
v- Older granites and Younger Granites are not affected by metamorphism.

Question Three:

A-Complete the following (2 marks of each)

i-Younger granite constitute of ....., ..., ..., and ..... .
ii-.Older granites contain xenoliths of ..... origin, and constitute of .....
iii-The complete ophiolite rock sequence composes of ..... and occurs in Wadi..... locality.
iv- Igla Formation presents at the base of ..... sediments and occure in Wadi .....
v-Metasediments constitute of ..... and occur in .....
vi- Post granite dykes constitute of ..... .

B- What are the rock associations and localities of the following rock unites: (2 Marks for each)

i- Dokhan volcanics.
ii- Younger granites.
iii- Banded Iron Formations (BIF).
iv- Intrusive mafic – ultramafic rocks.
v- Gneissose granites.

أ.د. أحمد عبد اللطيف المتولى

المستوى الرابع - جيوفيزياء - استشعار عن بعد ونظم معلومات جغرافية - ٢٠١٣
جيوفيزيا

المستوي الرابع – جيوفيزياء

Mansoura University
Faculty of Science
Geology Department
Date : 12- 1 -2013

First term exam
4th level (Geology)
Course: Remote sensing &GIS
Time: 2 hours Full mark: 60

Answer the following questions

1- Join I, II and III columns to construct reasonable phrases (20 marks)

I	II	III
Non imaging type of sensors, are used to record a spectral quantity or a parameter as a function of time or distance	together for the area of sidelap between the adjacent images,	the detection of change by a comparison of reflectance values,
Digital mosaics can be approached by matching the digital data of adjacent images	the TM sensor records reflected and emitted electromagnetic energy from the visible, reflective-infrared, middle-infrared, and thermal-infrared regions of the spectrum	They are mostly used for ground observation and in study of atmosphere and meteorology
Radiometric correction to compensate for sun elevation differences	(such as Gamma radiation, magnetic field, temperature measurement etc.)	TM has higher spatial, spectral and radiometric resolution than MSS
The Thematic Mapper TM scanner is a multispectral scanning system much like the MSS, except that	between image dates and for differences in solar calibration is an essential precursor to	the computer operator compared histograms for corresponding bands of each image adjusted the histograms to match.

2- Describe in detail the following: (30 marks)

a- Main Advantages of Landsat imagery.

b- Data Input and Editing in GIS.

c- Photo Interpretation Elements.

3- Complete the following (10 marks)

a- .....(1)..... refers to the wavelength interval that is recorded by a detector.

b- .....(2)..... are prepared by dividing the DN value in one band by the corresponding value in another band for each pixel.

c- The digital image is consisting of small equal areas or picture elements .....(3)..... arranged in regular rows and columns in raster array pattern.

d- .....(4)..... a collection of geographic features in a map.

e- .....(5)..... is a valuable means of data compression, and of producing a set of de-correlated images from an originally highly correlated data set.

Good luck

Dr. Nahla Abd El Ghaffar

لجنة الممتحنين أ.د. صلاح يوسف البيلي د. نهلة إبراهيم عبد الغفار

Mansoura University
Faculty of Science
Geology Department
Date: 22/01/2014

First Term Exam. (Jan.. 2014)
Fourth Level (Geology)
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 Pleistocene ended at 12Ka BP.
2 - The mountain building is one of the extraterrestrial processes causes climatic change.
3- The glacier starts to move when the snow line is at lower latitude.
4- A streamlined hills deposited in the glacial valley are kams.
5- Glacial varve is deposited in marshes.
6- The permafrost is known for mid-latitude climatic zone.
7- The interglacial stage in northwest Europe is characterized by mixed oak forest.
8- The steric change is responsible for the greater part of sea level rise.
9- In large tropical basins precipitation is normally low compared with evapo transipiration.
10- Large river systems require a large drainage basin with abundant precipitation.
11- The subaqueous delta is that part of the delta plain which lies above the low tide limit.
12- The prodelta clays grade landward and upward into silts and sands of the delta front.
13- High nearshore wave power produces straight delta shorelines with poorly-sorted sands.
14- High tidal range deltas have mud-filled channels in the delta plain.
15- The upper Nile delta plain is characterized by a lagoon belt.

(15 marks)

Question Two: Complete

1- The Quaternary events are reflected in.....,.....and.....evidences.
2- Milankovitch attributed climatic changes to variations in.....,.....,and.....
3- The terminal part left after glacier retreat is occupied by.....and.....
4- .....and.....are two landforms associated with permafrost
5- The terminal part of glacial valley is occupied by.....and.....
6- The Quaternary of low latitude area is subdivided into.....and..... stages
7- The Quaternary of the classical Alpine system is subdivided on the basis of.....
8 - The ice cap is always depleted in .....
9- Deltaic deposits are shaped by marine agents such as.....and.....
11- The sand bodies of tide dominated deltas are oriented.....to the coast and.....to flow
12- Most of the Nile sediments consist of.....and..... which are carried in suspension
13- Dominance by.....and..... results in cuspate delta
14- The modern Mississippi Delta is dominated by.....processes result in an elongate delta
15- The modern Nile Delta began to exist with.....transgression following the.....glacial stage

(15 marks)

Question Three: Choose the correct answer:

1- Chronostratigraphically the Quaternary is
a) epoch b) stage c) period
2- The continental glacier is
a) ice sheet b) ice shelf c) ice stream
3- Pingo is a periglacial morphology formed on
a) tills b) active layer c) loess
4- The kettle lake is formed in
a) outwash plain b) ground morain c) drumlin field
5- The global change of sea level due to melting of ice sheet is
a) eustatic b) hydrostatic c) isostatic
6- The peat deposits are widespread during Holocene in the
a) Boreal chronozone b) Atlantic chronozone c) sub --Atlantic chronozone

Prof.O.Hegab and Prof.A.Elshahat لجنة التصحيح:

7- The shrinkage of pluvial lake indicates that the climate was
a) warm-wet b) warm- dry c) cold- dry

8- The last glacial stage in the Quaternary of northwest Europe is
a) Weichselian b) Wurm c) Wisconsinan

9- High and persistent wave power produces delta shoreline
a) straight b) indented c) smooth outline

10- All distributary mouth bar deposits display a sequence which is
a) fining upward b) coarsening upward c) no trend

11- Drainage basin with tropical climate produced sediments high in
a) bed load b) suspended load c) evaporates

12- Sand bodies formed under low nearshore wave power are normally
a) well sorted b)moderately poor sorted c) poorly sorted

13- Sand bodies in the alluvial valley take the shoestring form when variations in discharge are
a) small b) moderate c) large

14- In deltas where discharge is much higher than wave power the produced sand body is
a) at high angle to coast b) parallel to coast c) oblique to coast

15- Compared with the Mississippi, which has same drainage basin area as Nile, the Nile gives
a) lower discharge b) higher discharge c) equal discharge

(15 marks)

Question Four: Answer two only of the following

a- Write in the morphological, lithological and biological evidences of Quaternary in the periglacial zone.

b- Write briefly on the different geochronometric dating methods used in Quaternary.

c- Discuss the primary forces which control the geometry and distribution of river mouth bar sand bodies.

(15 marks)

Good Luck