المستوى الثاني - جيولوجيا . ج ٢٠٧ صخور نارية

Mansoura University
Faculty of Science
Geology Department

Date: 29 / 5 / 2013
Time: 2 hours   Full Mark: 60

Second Term Exam June 2013
Second Program
Program: Geology
Subject: 207 ج
Course: Igneous Petrology

ANSWER THE FOLLOWING QUESTIONS (20 MARKS For Each)

Question One: (20 Marks)

1-a. What is the origin of: i- Granite magma, ii- basalt magma (10 Marks)

b. Rewrite and/or complete the following sentences: (10 Marks)

i- The low partial melting per cent (%) produces melt with lower concentration of light REE (La-Lu) when correlated with higher per cent partial melting.

ii- Smaller, highly charged high field strength elements like: REE, Nb, Ta, Zr, K, Rb, Cs, Ba and Sr.

iii- Structures of plutonic rocks are: Sills, dykes, lava dome, batholiths, stocks and tephra cone.

iv- Alumina (Al_2O_3) saturation of igneous rocks is calculated by the following equation ...., and the rocks are accordingly classified into: a-......................................, b- ...., and c-... .

v-Types of volcanoes are represented by ....

Question Two: (20 Marks) (a=12 Marks and b= 8 Marks)

2.a- Write on the role of geothermal gradient, pressure and temperature at depths to produce magmas by partial melting in the following conditions: i- Frictional (conduction) heat,

ii- Decompression due to convection,

iii- Magma generation by raising the geothermal gradient.

b- Answer using (√) and (X) and correct the sentence:

i- Andesite magma can be generated by 100% partial melting of oceanic crust.

ii- Explosive eruption of magma can be happened under the conditions of high gasses content and low viscosity of magma.

iii- Intergrowth textures are like: graphic, rapakivi, myrmekitic, ophitic, perthitic, spheriolitic and intersertal texture.

iv- Heat transfer by: radiation, conduction, hot spot and mantle plume.

QuestionThree: (20 Marks) (a=10 Marks and b= 10 Marks)

3.a- Complete the following:

i- Granite clan of rocks comprises;.. .

ii- Peridotite rocks are represented by the following varieties: ....

iii-Textures of igneous rocks comprises ...., ..., ... and ....

vi- According to silica saturation, the igneous rocks are classified into: ...., ..., and ....

v- Magma differentiation includes: ...., ..., ..., ..., and ....

b- Write on the factors that determine the textures of igneous rocks.

لجنة التصحيح:

أ.د./ أحمد عبد اللطيف   أ.د. / أمين غيث   أ.د. / محمود الشربينى   أ.د./ محمد رفعت شريف

Mansoura University
Faculty of Science
Geology Department
Date: 12/06/2013

Second Term Exam (June 2013)
Second Level (Geophysics)
Course No.G205
Course: Sedimentation & Sedimentary Rocks
Time: 2 hours Full Mark: 60

Answer the Following Questions

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

1- The breakdown of bedrocks is the main result of chemical weathering in the provenance.
2- The slope of cumulative is a function of grain size distribution.
3- The ripple index describes the forming current velocity.
4- The azimuth of cross-bedding points to the flow direction.
5- The laminated conglomerate belongs to the para types.
6- The lithic arenite is more mature than the feldspathic greywacke.
7- The whitish shale contains more than 70% silica.
8- Montmorillonite is the main constituent of the common shale.
9- The induration of silt produces mudstone.
10-The clay term has only size meaning.
11-The low Mg- calcite present only in older carbonate rocks.
12-The oolites are always smaller in size than pellets.
13-The micrite in carbonates is cement and sparite is matrix.
14-The fenestral porosity is characteristic to biosparite rocks.
15-Travertine is a type of biochemical carbonate rocks.
16-Phosphate rocks are accumulated in deep marine seas and then transported to shallow one.
17-The BTU of bitumine is about 6000.

(17 marks)

Question Two: Complete

1-The chemical reaction of water with minerals is.....
2-The effective porosity is ratio of.....to.....
3-The asymmetric ripple marks are formed by..... .while the symmetric by.....
4-The steeper side of the current ripples is.....while the shallower one is.....
5- The dip angle head of cross-beds points to.....while that of imbrication to.....
6- The grain movement by fluid flow is caused by.....and.....
7- The matrix of greywacke is composed of minerals.....,.....,.....and.....
8- The silica cement in quartz arenite present in the form of.....,.....and.....
9- The iron cement in ferruginous sandstones requires .....source and.....conditions.
10-The early formed carbonate minerals in biochemical limestones are.....and.....
11-The binding material in limestone are eather.....or.....
12- Folk's classification of carbonates depends on the percentages of.....,.....and.....
13- Diminution of sparite crystals is an example of.....neomorphism.
14-The stalactites and stalagmites are types of .....carbonate rocks called.....
15-The sequence of mineral precipitation from sea water is.....,.....,.....and.....
16-The main constituents of phosphatic rocks are .....,.....and.....minerals.
17-The different coal grades include.....,.....,.....,.....and.....

(17 marks)

Question Three: Choose the correct answer

1- Which of these rocks are not biochemical
a-tufa b- grainstone c- boundstone
2- Lamination of argillaceous rocks is caused by variations of
a- texture b-chemistry c- fossil content
3- Laminar flow is able to transport
a- gravel grains b- sand grains c-silt grains
4- Which of these rocks tend to be fissil
a- sandstone b- limestone c- shale

→

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

5- Graded bedding is produced by deposition under
a- steady current b- tranquil current c- turbidity current

6- Which of the following sandstones is most likely to form by weathering of granite
a- quartz arenite b- litharenite c- arkose

7- Which separates layers of sedimentary rocks in the field
a- lithology b- hardness c- porosity

8- Which of these rocks is the least mature
a- fault breccia b-ortho conglomerate c-laminated conglomerate

9- Sandstone with framework composed of>25 feldspar,>30% rock fragments and >15%matrix is
a-lithifeldspathic wacke b- feldspathic wacke c- feldspalithic wacke

10- Sandstone contains<15% matrix ,and < 25% feldspar is
a- qurtz arenite b- feldspathic wacke c- subarkose

11- A coarse grained clastic rock contains quartz clasts and < 15% matrix is
a- paraconglomerate b- petromictic conglomerate c- oligomictic conglomerate

12-Limestone with >25% bioclasts, <25%oolites,and <25% pellets and cemented by sparite is
a- biosparite b- bioosparite c- bioopelsparite

13- Limestone with partially mud and partially grain supported is
a- wackstone b- packstone c- grainstone

14- A fissile black mudstone is
a- oil shale b- carbonaceous shale c- common shale

15- Pure chemically precipitated carbonate rock is
a-travertine b- boundstone c- grainstone

16- Peat is an organic rock containing
a- 50% C b- 75% C c- 95% C

17- The most common evaporate mineral precipitated in inland depressions is
a- natron b- gypsum c- anhydrite

(17 marks)

Question Four: Draw diagrams showing:

1- The rock cycle.
2- The mineral stability series.
3- The grain shape diagram of Zing.
4- The different porosity types of carbonate rocks.
5- The relation between grain size and distance of transport.
6- The different types of ripple marks.
7- The Bouma cycle.
8- The different types of cross-bedding.
9- The classification of sandstones.

(9 marks)

Write the captions on each diagram

Good Luck

Prof. Omar Hegab

(حيوانيا)

المستوى الثاني - رياضيات بحتة / ٢٠١٠

الشعب: ك+ك.حيوي+ميكروبيولوجي+ك/نبات+ ك/حيوان+جيولوجيا+علوم البيئة. المادة: رياضيات بحتة – ر ٢٠١	كلية العلوم – قسم الرياضيات	دور مايو ٢٠١٣ الزمن: ساعتان التاريخ: ٢٠١٣/٠٦/١٦

أجب على الأسئلة الآتية: [٢٠ درجة لكل سؤال]

[1] أ. ابحث اتصال الدالة : $F(x,y)=\begin{cases}\dfrac{2xy}{x^2+y^2} & ;\ (x,y)\neq(0,0)\\ 0 & ;\ (x,y)=(0,0)\end{cases}$ ، وذلك عند النقطة $(0,0)$.

[١٠ درجات]

ب. إذا كانت $z=\sin^{-1}\left(\dfrac{x^4+y^4}{5x-3y}\right)$ فاثبت أن $x\dfrac{\partial z}{\partial x}+y\dfrac{\partial z}{\partial y}=3\tan z$. [١٠ درجات]

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[2] اذكر بدون برهان نظرية "جرين". حقق نظرية "جرين" بحساب كلا الطرفين لمعادلة "جرين" بالنسبة للتكامل :

$$\oint_c (x^2-6xy)\,dx+(y^2+2x)\,dy$$

حيث c هو المثلث المحيط بالمنطقة R المحدودة بالمستقيمات: $y=0$ ، $x+y=0$ ، $x=0$ مأخوذا في الاتجاه ضد عقارب الساعة. [٢٠ درجة]

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[٣] أ. اوجد قيمة التكامل $\iint_R (x^2+y^2)\,dx\,dy$ حيث R هي المنطقة الواقعة في الربع الأول للمستوى والمحصورة بين الدائرتين : $x^2+y^2=9$, $x^2+y^2=1$. [١٠ درجات]

ب. حل مسألة الشروط الإبتدائية :

$(\cos y+2x\sin y-4)dx+(x^2\cos y-x\sin y)dy=0$; $y(1)=0$ [١٠ درجات]

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[٤] اوجد الحل العام لكل من المعادلات التفاضلية الآتيـــة :

(i) $(x^2+xy+3y^2)\,dx=(x^2+2xy)dy$ [١٠ درجات]

(ii) $dx-(3\cos^2 y+x\tan y)dy=0$ [١٠ درجات]

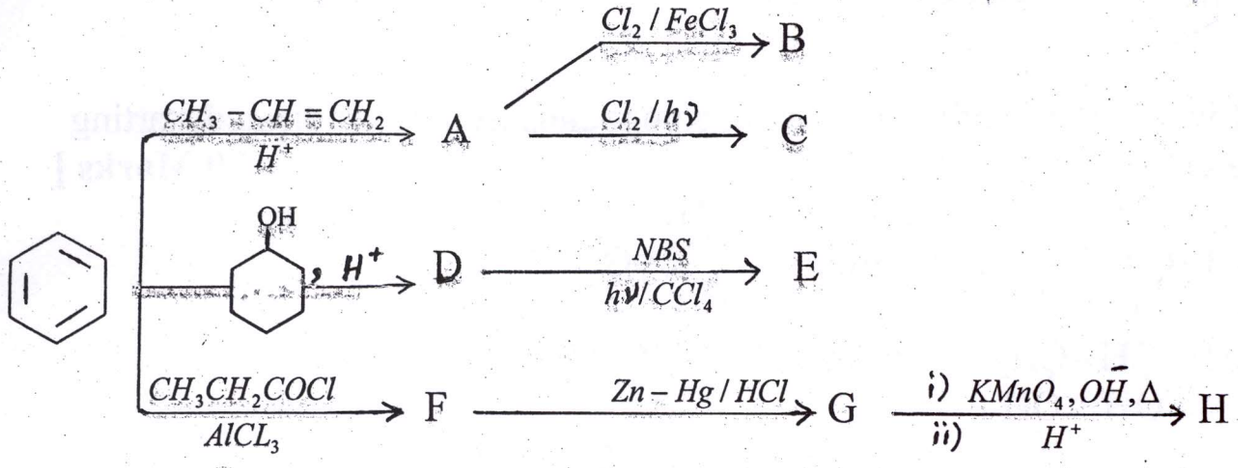
مع التمنيات بالتوفيق ☺

المستوى الثانى - جيولوجيا - امتحان الكيمياء العضوية ٢٣٦ ك

Mansoura University **Faculty of Science** **Chemistry Department** **Subject: Chemistry** **Course(s): Org. Chemistry 236**		**Second Term** **2 Level Chem. Students** **Time Allowed: 2 hours** **Full Mark: 80 Marks** **Date: May, 2013**

Answer All Questions

1. **A)** Draw the structures of organic products (A – H) in the following reaction sequences : **[16 Marks]**



B) On chlorination of propane, it was found that reactivity ration between 1° : 2° H – atoms is 1 : 3.25 Calculate the percentage of each isomer **[10 Marks]**

2. Predict the products : **[27 Marks]**

i) $(CH_3)_2C{=}CH_2 + ICl \longrightarrow$

ii) $CH_3-C(CH_3)_2-CH=CH_2 \xrightarrow[H_2O]{H_2SO_4}$

iii) $CH_3{-}CH{=}CH_2 \xrightarrow[H_2O]{Br_2}$

iv) $CH_3{-}CH_2{-}C(CH_3){=}CH_2 \xrightarrow[ii)\,H_3O^+]{i)\,KMnO_4, \bar{O}H, \Delta}$

v) $(CH_3)_2C = CH{-}CH_3 \xrightarrow[ii)\,Zn/AcOH]{i)\,O_3, CH_2Cl_2, -78°C}$

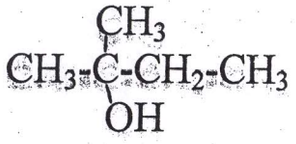
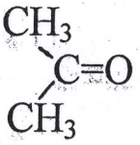
vi) $CH_3\text{-}C{\equiv}CH \xrightarrow[H_2O_2]{HBr}$

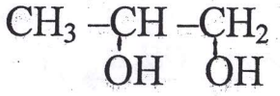
vii) $CH_3CH_2Mg\,Br + CH_2O \longrightarrow$

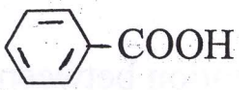
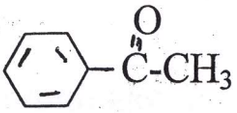
viii) $CH_3COOC_2H_5 + CH_3Mg\,Br \longrightarrow$

ix)  + $CH_3\,CH_2\,CH_2Cl \xrightarrow{AlCl_3}$

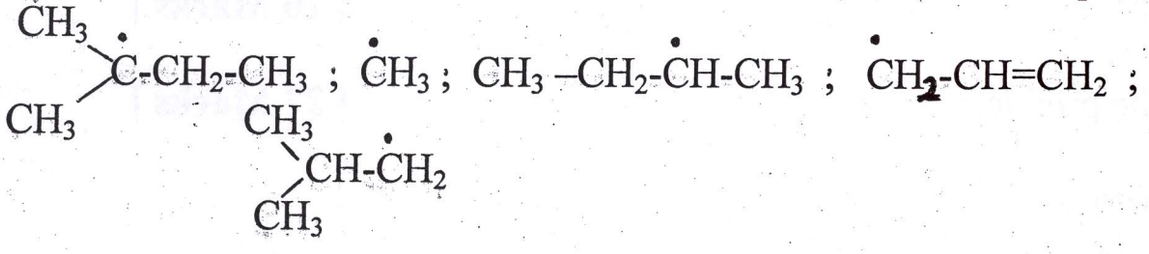
3.A) Outline synthesis of the following compounds from the indicated starting materials : **[9 Marks]**

i)  from 

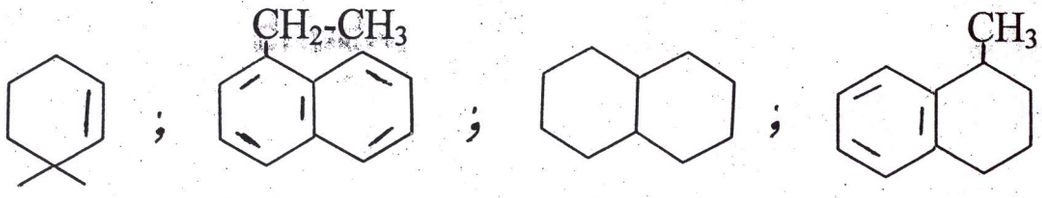
ii)  from $CH_3\text{-}C{\equiv}CH$

iii)  from 

B) List the following radicals in order of their stability : **[6 Marks]**



c) Show the effect of NBS / hν on each of theses compounds : **[12 Marks]**



مع أطيب التمنيات بالنجاح

أ.د عز الدين راشد قنديل

د. محمد يوسف الصعيدى

د. نها شاكر

المستوى الثاني - ديناميكا حرارية د/ ...
(حيوان - مجموعة البيولوجي)

Mansoura University
Faculty of Science
Chemistry Department
Course: Physical Chemistry
Date: 2/ 06/ 2013

Second term Examination
Subject: Chemistry (241)
Second level, Biology students
Full Mark: 60 Marks
Time Allowed: 2hours

Answer the Following Questions:

IA- Choose the response that best complete each statement: (14marks)

1- With thermodynamics, one cannot determine __________.
(a) The speed of a reaction
(b) The direction of a spontaneous reaction
(c) The extent of a reaction
(d) The value of the equilibrium constant

2- A reversible process is one that __________.
(a) Can be reversed with no net change in either system or surroundings
(b) Happens spontaneously
(c) Spontaneous in both directions
(d) Must be carried out at low temperature

3- When a system is at equilibrium, __________.
(a) The reverse process is spontaneous but the forward process is not
(b) The forward and the reverse processes are both spontaneous
(c) The forward process is spontaneous but the reverse process is not
(d) The process is not spontaneous in either direction

4- The property of a working substance which increases or decreases as the heat is supplied or removed in a reversible manner is known as
(a) enthalpy (b) internal energy
(c) entropy (d) external energy.

5- In an irreversible process there is a
(a) loss of heat (b) no loss of work
(c) gain of heat (d) no gain of heat.

6- Which of the following is the intensive property?

(a) temperature (b) viscosity

(c) density (d) all of these

7- The temperature of the system .decreases in an _____.

(a) adiabatic compression (b) isothermal expansion

(c) isothermal compression (d) adiabatic expansion

8- Which of the following is not true?

(a) $\Delta H = q_p$ (b) $\Delta E = q_u$

(c) ΔH is always equal to ΔE (d) none of these answers

9- The specific heat capacity of air increases with

(a) Pressure (b) Temperature

(c) Both pressure and temperature (d) Volume

10- Which of the following is a reversible process?

(a) melting of ice at 0°C and 1 atm

(b) melting of ice at 25°C and 1 atm

(c) evaporation of water at 25°C and 1 atm

(d) freezing of water at -10°C and 1 atm

11- An organism can exchange matter and energy with its surroundings. Thus, any change in an organism's energy content must be balanced by a corresponding change in the energy content of the surroundings. As such, an organism is referred to as:

(a) closed system. (b) open system.

(c) isolated system (d) none of these answers

12- If a gas is heated against a pressure, keeping the volume constant, then work done will be equal to

(a)Positive (b) negative

(c) Zero (d) pressure x volume

13- Which of the following is the property of a system?

(a) Pressure and temperature (b) Internal energy

(c) Enthalpy and entropy (d) All of the above

14- When a gas expands adiabatically-

(a) No energy is required for the expansion

(b) The required energy comes from the walls of the container

(c) The internal energy of the gas is used up in doing the required work.

(d) The law of conservation of energy does not hold good.

IB- Calculate the amount of work done for the conversion of 1.00 mole of Ni to $Ni(CO)_4$ in the reaction below, at 75°C. Assume that the gases are ideal. The value of R is 8.31 J/mol-K.**(4marks)**

$$Ni(s) + 4\ CO\ (g) \rightarrow Ni(CO)_4(g)$$

IC- 3.00 moles of an ideal gas is expanded isothermally against a constant pressure of 1 atm from 2.0 liters to 10.0 liters at a temperature of 20.0 °C. Is this process spontaneous (explain why or why not)? **(4marks)**

IIA- Choose the response that best complete each statement: (14marks)

1- The internal energy U is an unique function of any state because the change in U:
(a) does not depend upon the path
(b) depends upon the path
(c) corresponds to an adiabatic process
(d) corresponds to an isothermal process

2. The specific heat of a substance is defined as the amount of the heat required to raise:
(a) the temperature of the whole substance through $1C^o$ at constant volume
(b) the temperature of the whole substance through $1C^o$ at constant pressure.
(c) the temperature of the whole substance through $1C^o$
(d) the temperature of the one gm, of substance through $1C^o$

3- When heat is added to a system, all of the following may happen EXCEPT
(a) increase in internal energy.
(b) decrease in the system's temperature.
(c) external work is done by the system.
(d) increase in the pressure in the system.

4- A system does no work even when heat is added to it. Which of the following may happen to the system?
(a) The system expands (b) The internal energy of the system increases
(c) Both a and b (d) Neither a nor b

5- Which of the following is TRUE about thermodynamics?
(a) It is based on conservation principle. (b) It deals with energy.
(c) It discusses direction of heat movements. (d) All of the above

6- In an isolated system, boundary of the system is crossed by
(a) Heat (b) Work
(c) Mass (d) Both (a) and (b)

7- Which term is not correctly matched?

(a) endothermic – energy is absorbed

(b) universe – system plus surrounding

(c) thermodynamic state – conditions specifying the properties of a system

(d) state function – property dependent on the process takes place

8- Which of the following statement is incorrect?

(a) For a pure gas, the standard state is the gas at a pressure of one atmosphere.

(b) For a substance in solution, the standard state refers to one – molar concentration.

(c) A superscript zero, such as $\Delta H°$, indicates a specified temperature of 0°C.

(d) For pure substance in the liquid or solid phase, the standard state is the pure liquid or solid.

9- Consider the following reaction at constant pressure. Which response is true? $N_2(g) + O_2(g) \rightarrow 2NO(g)$

(a) Work is done on the system as it occurs.

(b) Work is done by the system as it occurs.

(c) The amount of work depends on the pressure.

(d) No work is done as the reaction occurs.

10- Which of the following set contains only extensive properties?

(a) mol, V, P (b) T, P, V

(c) H, U, V (d) density, S, C_P

11- The enthalpies of free elements in their standard are

(a) Zero (b) unity

(c) < zero (d) > zero

12- The difference between molar heat capacities of ideal gas at constant pressure and at constant volume is equal to

(a) Equilibrium constant (b) universal gas constant

(c) entropy (d) enthalpy

13- At 500 K, $\Delta_f G^o$ of CO is –155 kJ mol^{-1} and of FeO is –240 kJ mol^{-1}. At 1250 K, the values are –225 kJ mol^{-1} for CO and –190 kJ mol^{-1} for FeO. Which statement is incorrect for the reaction C + FeO → CO + Fe ?

(a) At 500 K, CO is thermodynamically stable with respect to graphite and O_2.

(b) Carbon will reduce FeO at 1250 K.

(c) FeO is less thermodynamically stable at 1250 K than at 500 K.

(d) At 500 K, C is oxidised to CO by FeO.

14- At any temperature T the entropy of a Solid substance (S_T) given by expression

(a) C_P dT (b) $\int_0^T C_P \frac{dT}{T}$ (c) C_P dT (d) $\frac{C_P - C_V}{T}$

IIB- A Carnot heat engine receives 500 kJ of heat per cycle from a high-temperature heat reservoir at 652°C and rejects heat to a low-temperature heat reservoir at 30°C. Determine. **(4marks)**

a) The thermal efficiency of this Carnot engine.

b) The amount of heat rejected to the low-temperature heat reservoir.

IIIA- Choose the response that best complete each statement: (14marks)

1- If a gas expanded at constant pressure and temperature increases. Which of the following statement is true?

(a) Work is +ve, q is –ve and ΔU is –ve

(b) Work is +ve, q is +ve and ΔU is +ve

(c) Work is -ve, q is –ve and ΔU is –ve

(d) Work is -ve, q is +ve and ΔU is +ve

2- Which statement is **false**?

(a) If a reaction is thermodynamically spontaneous it may occur rapidly.

(b) If a reaction is thermodynamically spontaneous it may occur slowly.

(c) Activation energy is a kinetic quantity rather than a thermodynamic quantity.

(d) If a reaction is thermodynamically nonspontaneous, it will not occur spontaneously.

3- For an isothermal process, the entropy change of the surroundings is given by the equation:

(a) $\Delta S = q_{sys}\, T$ (b) $\Delta S = -q_{sys}\, T$

(c) $\Delta S = q\, \ln T$ (d) $\Delta S = -q_{sys} / T$

4- Which of the following statements is false?

(a)The change in entropy in a system depends on the initial and final states of the system and the path taken from one state to the other.

(b) Any irreversible process results in an overall increase in entropy.

(c) The total entropy of the universe increases in any spontaneous process.

(d) Entropy increases with the number of microstates of the system.

5- Which of the following statements is true?

(a) Processes that are spontaneous in one direction are spontaneous in the opposite direction.

(b) Processes are spontaneous because they occur at an observable rate.

(c) Spontaneity can depend on the temperature.

(d) All of the statements are true.

6- Which of the following statements is correct?

(a) The increase in entropy is obtained from a given quantity of heat at a low

temperature

(b) The change in entropy may be regarded as a measure of the rate of the availability of heat for transformation into work

(c) The entropy represents the maximum amount of work obtainable per degree drop in temperature

(d) All of the above

7- The efficiency of the Carnot cycle may be increased by

(a) increasing the highest temperature

(b) decreasing the highest temperature

(c) increasing the lowest temperature

(d) decreasing the lowest temperature

8- Which of the following is the correct statement?

(a) All the reversible engines have the same efficiency

(b) All the reversible and irreversible engines have the same efficiency

(c) Irreversible engines have maximum efficiency

(d) All engines are designed as reversible in order to obtain maximum efficiency.

9- In which of the following process, a maximum increase in entropy is observed?

(a) dissolution of salt in water (b) condensation of water

(c) sublimation of naphthalene (d) melting of ice

10- Which of the following explains why it is **NOT** possible to extract heat from a reservoir to do work and to expel the heat to a reservoir of the same temperature as the source reservoir?

(a) Heat does not travel for objects of the same temperature.

(b) Energy is not conserved for interactions of objects of the same temperature.

(c) The working substance is not present for such a system.

(d) The engine would be very inefficient.

11- A heat engine takes in heat from a reservoir, does work using this energy and expels heat at another reservoir with

(a) the same temperature as the source reservoir.

(b) lower temperature than the source reservoir.

(c) higher temperature than the source reservoir.

(d) either higher or lower temperature than the source reservoir.

12- Who introduced the concept of heat engine and reversibility on thermodynamics?

(a) Rudolf Clausius (b) Sadi Carnot

(c) Blaise Pascal (d) Robert Boyle

13- The natural direction of heat flow is from high-temperature reservoir to a low temperature reservoir, regardless of their respective heat contents. This fact is incorporated in the

(a) first law of thermodynamics.

(b) second law of thermodynamics.

(c) law of conservation of energy.

(d) law of conservation of entropy.

14- A reaction that is not spontaneous at low temperature can become spontaneous at high temperature if ΔH is _____ and ΔS is _____

(a) +, + (b) -, - (c) +, - (d) -, +

IIIB- Given the following table of thermodynamic data, For $TiCl_4(l) \rightarrow TiCl_4(g)$.

At what temperature will the process be spontaneous? **(4marks)**

Substance	H_{f° (kJ/mol)	S° (J/mol)
$TiCl_4(g)$	-763.2	354.9
$TiCl_4(l)$	-804.2	221.9

IIIC-Prove for spontaneous process $\Delta A < 0$. **(2marks)**

المستوى الثانى - جيولوجيا - طبقات عامة ج ٢٠٦

Mansoura University
Faculty of Science
Geology Department
Course Title: General Stratigraphy
Code: (G 206)
Full marks: 60

Second Semester (May 2013)
2rd level, Geology
Time: 2 hours
Date: 5/6/2013

أجب عن الأسئلة الثلاثة التالية :

السؤال الأول: أجب عن الآتى (٢٠ علامة)

أولا: أذكر المرادف الطباقى باللغتين العربية والإنجليزية (٦ علامات):

١- وحدة متجانسة حجريا, قابلة للتخريط الجيولوجى, وذات وضع طباقى.

٢- مجموعة طبقات متوافقة ومتعاقبة ومتحدة المنشأ يحدها سطحا عدم توافق.

٣- وحدات طبالقية لم تسم أصلا بطريقة رسمية كأن تقع بين طبقتين دليليتين.

٤- وحدة طباقية رئيسة من صخور نارية لا تستجيب لقانون تعاقب الطبقات.

٥- تكوين من الحجر الرملى فى منطقة ريسان عنيزة.

٦- تغيير وجهة النظر حول محتوى الوحدة الطباقية دون المساس بحديها ورتبتها.

ثانيا: بالرسم فقط عبر عن أربعة فقط من الآتى (٨علامات):

1- Nonconformity.
2- Succession of marine transgression.
3- Oppel Zone.
4- Calibrating the geologic time.
5-Depositional Sequence.
6- A unit Stratotype.

ثالثا: ضع فى جدول اثنين فقط من الآتى (٦علامات):

١- ترتيب وحدات الطباقية الزمنية (Chronostratigraphic units).

٢- الدورات الطباقية (Stratigraphic cycles) وأسبابها المفترضة.

٣- البنيات الرسوبية الأولية(Primary structures)المفيدة فى تحديد قمة وقاع الطبقة.

السؤال الثانى: أجب عن الآتى (٢٠ علامة):

أولا: أكتب نبذة مختصرة ووافية عن أنواع المضاهاة الحجرية والحياتية والزمنية
(١٠ علامات)

ثانيا: أى الجمل صحيح وأيها خطأ (١٠ علامات) :

١- الكمبرى المبكر (Early Cambrian) من وحدات ال Chronostratigraphic units.
٢- الوحدة الطباقية المتجانسة صخريا والتى لا بد من أن تكون قابلة لأن توضع على الخرائط الجيولوجية المعتادة هى العضو: (Member).
٣- التكوين الذى يحمل اسم الحجر الجيرى الأبيض الإسناوى (Esna white limestone). يمثل اسما رسميا.
٤- قسم الزمن الجيولوجى إلى ثلاثة أقسام رئيسة هى أزمنة الحياة الخفية والمتوسطة والظاهرة وكل منهم يحمل رتبة Eon.
٥- نطاق المصنف الحفرى يعرف بوجود وفرة غير عادية لمصنف أحفورى أو أكثر.
٦- تطورت نظرية الألواح البنائية عن نظرية الزحف القارى.
٧- الوحدات المختلفة زمنيا تسمى Diachronic units.
٨- المضاهاة الزمنية تستخدم الأحداث الترسيبية قصيرة العمر وحدث تقدم وتراجع البحر.
٩- قاطع ينتمى عمره إلى العصر الطباشيرى قطع صخور البرمى.
١٠- الوحدة الحجرية المسماة بالليثوديم غير قابلة للتقسيم.

السؤال الثالث: أجب عن الآتى (٢٠ علامة):

أكتب نبذة مختصرة عن:

١- مرتكزات الطباقية الحياتية (١٠علامات).

٢- المبادئ الأساسية المستخدمة للطباقية والمستخدمة أيضا فى تحديد الأعمار النسبية للطبقات. (١٠ علامات).

المصححون: أ . د . صلاح نصر عياد و أ. د. حسنى حمدان*

المستوى الثاني - جيولوجيا - أحافير فقارية دقيقة ع.م.ح

Mansoura University
Faculty of Science
Geology Department
Date: 9/6/2013

كلية العلوم جامعة المنصورة

Second Term Exam (May 2013)
The Second Level (Geology)
Subject: Geo (208)
Course: Invertebrate Micropaleontology
Time: 2 hours Full Mark: 60

Answer the following Questions: (20 Marks for each one)

Question One: Complete the following statements: (20 Marks)

-The benthic genus… (1)… reproduces only a sexual in culture.
- Foraminifera are single-celled animals belonging to class …….(2)…..
-Foraminifera are usually scarce in ….(3)…. but they are often abundant in ….(4)…. especially if glauconitic.
-The surface ornamentation of the test may be septal bridges as in genus …..(5)….
-The microspheric generation with small proloculus is termed….(6)…. Form, whereas the megalospheric phase is called the …..(7)….. form.
- In Foraminifera, the most structures occur in the ….(8)…..
-The tropical genus… (9)… is belonging to Rotalicea in which the trochospiral test bears robust spines from a thick outer wall.
- The overall organization of the cell in foraminifera is controlled by the…. (10)……
- The complete cycle for …. (11)…. takes two years in the shallower parts of the English Channel.
- The test of Allogromiids is unilocular, thin and flexible as in …..(12)….
-The test may be described as monoumbonate as in …. (13)…. or biumbonate as in ….(14)….
- The planktonic Globotruncanidae became extinct at the end of ….(15)….
- The level at which CaCO3 solution equals CaCO3 supply is called … (16)….
- The biserial arrangement of chambers arranged in two alternating rows, the initial test may be calcareous as in ….(17)…. or agglutinated as in …..(18)…….
-In ….(19)…., the successive chambers spiral about the growth axis of the test, all the ….(20)…. pointing in the same direction.

Question Two:

Answer the following statements with Yes or No and correct the false one. (20 Marks)

1- The microspheric generation is termed A form.
2- A sexual reproduction reaches a peak in September every year.
3- All benthonic foraminifera have agglutinated test.
4- The sutures may be described grooved as in *Bulimina.*
5- The solubility of $CaCO_3$ is more in warm than in cool waters.
6- The ratio of CO_2 to O_2 decreases with depth in marine waters.
7- Rapid appearance of planktonic Globigerinidae and Globorotalidae in Cretaceous.
8- *Nummulites* are rotaliacean larger foraminifera widely used in correlating Pliocene rocks.
9- The shape of the aperture may be toothed as in *Textularia.*
10-The *Lagena* is considered as benthic of agglutinated test.

Question Three:

Draw and give the main difference between the following genera: (20 Marks)

1- *Heterohelix* & *Textularia*
2- *Uvigerina* & *Bulimina*
3- *Lagena* & *Orbulina*
4- *Bigenerina* & *Clavulina*
5- *Operculina* & *Robolus*

لجنة الإمتحان والتصحيح*: أ.د. صلاح نصر عياد* أ.د. عمر حجاب أ.د. محمد رفعت شريف د. هشام سلام