Mansoura University
Faculty of Science
Geology Department
Date: 17 / 5 / 2015
Time: 2 hours  Full Mark: 60

Second Term Exam May 2015
Second Program
Program: Geology
Subject: 207 ج
Course: Igneous Petrology

## ANSWER THE FOLLOWING QUESTIONS (20 MARKS For Each)

## Question One: (20 Marks)

**1.a- Either complete or correct and rewrite the others.** **(10 Marks)**

i- Granitic rock group are composed of the following rock types.....
ii- Origin of andesitic magma is from the lower continental crust.
iii- Structures of plutonic rocks are: sills, dykes, lava dome, batholiths, stocks and tephra cone.
iv- Heat transfer due to 1-....., 2-.....and 3-.....
v- The eruption of extrusive igneous rocks gives the following structures .....

**1.b- Write on the chemical classification of igneous rocks.** **(10 Marks)**

## Question Two: (20 Marks)

**(12 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,

**2. b- Either complete or correct and rewrite the others.** **(8 Marks)**

i- Classification of igneous rocks is based on 1-....., 2-..... And 3- .....
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 .....
iv- Fabric of igneous rocks includes the intergrowth textures only.

## QuestionThree: (20 Marks)

**(a=8 Marks and b= 12 Marks)**

**3.a- Either complete or correct and rewrite the others.**

i- Gabbro group of rocks comprises the following rock types .....
ii- Peridotite rocks are represented by the following varieties: ..... .
iii-Geometric arrangements of grains describe only the matual relations between plagioclase and pyroxene.
iv-The matual relationships between plagioclase and K-feldspars produce myrmekitic texture only.

**3. b- Illustrate the relation between the divergent and convergent plate movements with the producing of magmas.**

لجنة التصحيح:

أ.د./ أحمد عبد اللطيف  أ.د. / أمين غيث  أ.د. / محمود الشربينى  د./ أحمد شلبى

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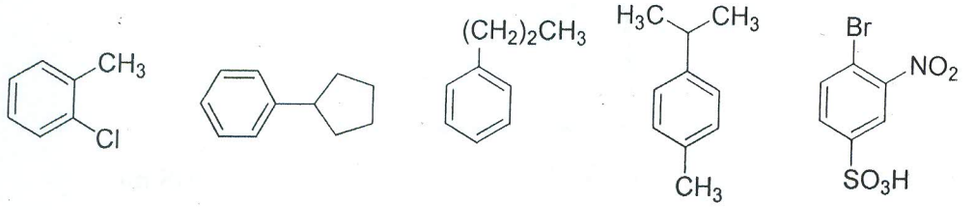
|---|---|---|
| Mansoura University<br>Faculty of Science<br>Chemistry Department<br>Subject: Organic Chemistry<br>Course(s): Chem.236 | | Second Term<br>Time Allowed: 2 Hours<br>Date: 20 / 5 / 2015<br>Full Marks: 80<br>2nd Level |

## Answer All Questions

**[Q1] A)** Read carefully the compounds (1)-(5), then answer the questions: (12 Marks)



(1) (2) (3) (4) (5)

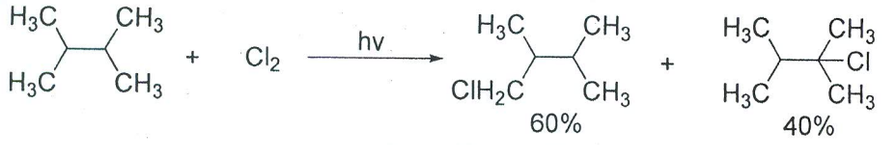
i) The nitration product of (1) is ..... and the reaction of (2) with NBS/ hυ gives.....

ii) Diagram the synthesis of (2) and (3)

iii) Show the products of the reaction of (4) with each of NClS/hυ and $Cl_2/FeCl_3$

iv) Account for the synthesis of (5) starting with benzene

**B)** Calculate the reactivity ratio between 1° and 3° H-atoms in this reaction: (6 Marks)



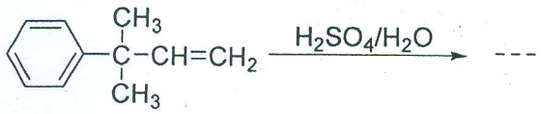

**C)** Diagram these conversions: (9 Marks)

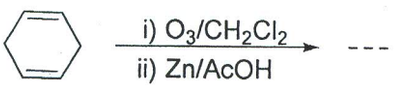
i) 

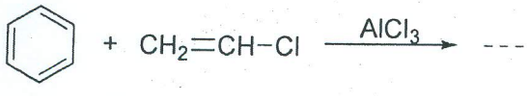
ii) $CH{\equiv}CH \longrightarrow H_3C-C{\equiv}C-CH(CH_3)_2$

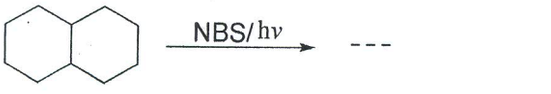
iii) $H_3C-C{\equiv}CH \longrightarrow H_3C-C(H)(OH)-CH_2(OH)$

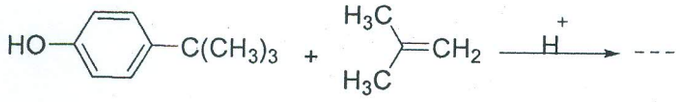
**[Q2] A)** Predict the products: (20 Marks)

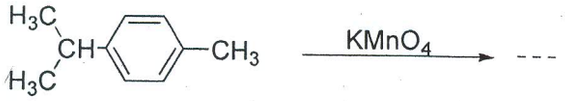
i) 

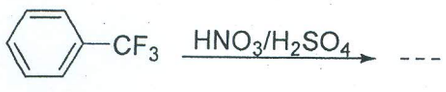
ii) 

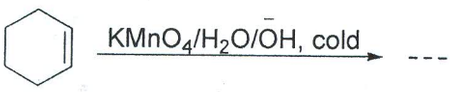
iii) 

iv) 

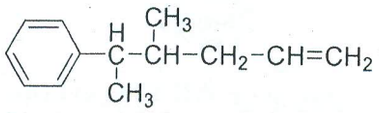
v) 

vi) 

vii) 

viii) 

**B)** Show the reactive centers of chlorination ($Cl_2/h\upsilon$) in the compound below and arrange them in decreasing reactivity: (7 Marks)



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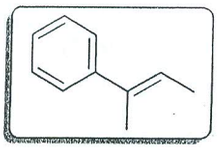
**[Q3] A)** Predict the favored product(s) of the reactions of 2-phenyl-2-butene with each of:(18 Marks)



**i-** $O_3/CH_2Cl_2$; Zn/AcOH **ii-** $Br_2/H_2O$ **iii-** NBS/hυ

**iv-** $HCl/H_2O_2$ **v-** $H_2SO_4/H_2O$ **vi-** $KMnO_4/H_2O/^-OH$, cold

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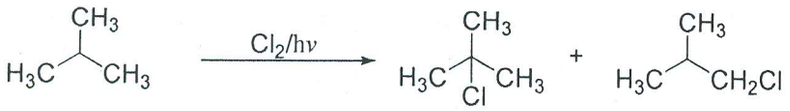
**B)** It was found that the reactivity ratio between 1° and 3° H-atoms in chlorination of 2-methylpropane 1:4.5 Calculate the percentage of each isomer? (6 Marks)



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**C)** Show structure and name of the product of the reaction of cyclopentene with $KOC(CH_3)_3/CHCl_3$. (2 Marks).

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**With our Best Wishes**

**Prof. Dr. Ez Kandil** **Dr. M. Yosef** **Dr. M. El fedawy** **Dr. N. Shaker**

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

May, 2015
2rd level, Geology &Geophysics
Time: 2 hours
Date:24/5/2015
Time: 2 hours

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# السؤال الأول:أجب عن الآتى

## أولا وضح بالرسم والبيانات فقط :(١٠ علامات:لكل علامتان )

١- قانون والتر للسحنات (Law of Walther) وتقدم وتراجع البحر .
٢- أنواع سطح عدم التوافق (Types of unconformity surface).
٣- مضاهاة الحدث (Event Stratigraphy) بواسطة حدث ترسيبى قصيرة العمر وموقع الحدث فى دورة التقدم والتراجع.
٤- مخطط يوضح تقسيمات وأسس وتطبيقات الطباقية وعلاقتها بفروع علوم الأرض المختلفة.
٥- معايرة الزمن الأرضى (Calibrating the Geologic Time) بواسطة الحفريات فى القطاعات الطباقية المحلية (Local sections) .

## ثانيا: أجب بالصح أو الخطأ : ( ٥ علامات)

١- الصخر المقطوع بقاطع عمره ٢٠٠ مليون سنة من الممكن أن يتبع صخور حقب الحياة المتوسطة (Mesozoic Erathem) .
٢- التتابع الرسوبى (Sedimentary Sequence) وفقا للعالمين متشوم وفيل هو طبقات غير متوافقة ذات منشأ واحد يحدها سطحا عدم توافق.
٣- مراجعة الوحدة الصخرية (Revision) قد يشمل تغيير فى حدود الوحدة.
٤- المسميات الرسمية للتكوينات (formations) قد لا تحتوى على شق جغرافى.
٥- يحتوى نطاق أبل (Appel Zone) على مصنف حفرى واحد.

## ثالثا: اختر الصحيح من القوسين: ( ٥ علامات)

ا- الكمبرى المبكر (Early Cambrian) من وحدات: (Chronologic units - Chronostratigraphic units).
٢- القطاع النموذجى الوحدة هو (Parastratotype , A unit stratotype).

٣- الوحدة الطباقية المتجانسة صخريا والتى يلزم أن تكون قابلة لأن توضع على الخرائط المعتادة هى: (Member-Formation).
٤- التكوين الذى يحمل اسم الحجر الجيرى الأبيض الإسناوى (Formal-Informal unit)
٥- النسق الفوقى (Supersuite) من وحدات: (Lithodemic units, lithostratigraphic units).

# السؤال الثانى :أجب عن الآتى

## أولا: أكتب نبذة مختصرة عن كل من : (١٥ علامة)

١- المضاهاة الطباقية الحجرية (Lithocorrelation) والحياتية (Biocorrelation) والزمنية (Chronocorrelation).
٢- المبادئ الأساسية المستخدمة للطباقية (Principles of Stratigraphy) والمستخدمة فى نفس الوقت فى تحديد الأعمار النسبية للطبقات (Relative ages).
٣- تقدير الأعمار المطلقة للأرض وللصخور(Absolute ages of the earth and rocks).

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## ثانيا: أذكر المصطلح العلمى مع كتابة المرادف له باللغة الإنجليزية (٥ علامات)

١- وحدة طباقية محصورة بين أسطح عدم التوافق.
٢- نطاق حياتى يعرف بوجود وفرة غير عادية لمصنف أحفورى أو أكثر.
٣- نظرية مشهورة تطورت من نظرية الزحف القارى (Continental drift).
٤- مبدء أساسى فى الوتيرة الواحدة (Uniformitarianism) .
٥- الأدلة المستخدمة فى تحديد قمة وقاع الطبقة (Top and bottom of stratum).

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

Mansoura University
Faculty of Science
Geology Department
Date: 27/5/2015

Second Term Exam (May 2015)
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:** **(20 Marks)**

**A- State the main characteristics of:** **(10 Marks)**

1- Superfamily: Discorbacea. (5 Marks)
2- Superfamily: Lituolacea (5 Marks)

**B- Write short notes on the following:** **(10 Marks)**

1- The value of studying marine microfossils. (3 Marks)
2- Factors controlling the deposition of *Globigerina* ooze. (3 Marks)
3- The basis for classification of the foraminifera. (4 Marks)

**Question Two: Complete the following statements:** **(20 Marks)**

- The planktonic Globotruncanidae became extinct at the end of …. (1)….
-The tropical genus… (2) … belonging to Rotalicea in which the trochospiral test bears robust spines from a thick outer wall.
-In …. (3)…., the successive chambers spiral about the growth axis of the test, all the …. (4)…. pointing in the same direction.
- The level at which $CaCO_3$ solution equals $CaCO_3$ supply is called … (5)….
- The test of Allogromiids is unilocular, thin and flexible as in …..(6)….
- The test may be described as monoumbonate as in ... (7)…
- The shape of the aperture may be toothed as in … (8)…..
-The sutures may be described grooved as in … (9)….
- Miliolina first appeared in…. (10)…. arising probably from the agglutinated Ammodiscacea.
-Planispiral evolute coiling of genus…. (11)…. is classified to Ammoodiscacea.
-The simplest smaller benthic forms of Lituolacea are commonly biserial form as in genus… (12)…..
- A combination of planispiral and uniserial growth of Lituolacea is seen in genus … (13)….
- Unilocular test of genus Lagena is classified to superfamily …. (14)…...
-The Buliminacea includes …. (15)… of biserial form or ….(16)…. of triserial form.
-The Discorbacea contains genera have trochospiral test as in …. (17)… of a planoconvex profile.
-The shape of the aperture may be phyaline as in genus … (18)…
- In …. (19)…. it can be observed the mixed chamber arrangement from biserial to uniserial form.
-The position of the apertures may be areal as in genus …. (20)…..

**Question Three:**

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

**1-** The two morphologically distinct tests are termed trimorphism.
2- Rapid appearance of planktonic Globigerinidae and Globorotalidae in Cretaceous.
3-*Nummulites* are rotaliacean larger foraminifera widely used in correlating Pliocene rocks.
4-All planktonic foraminifera have calcareous test.
5-The microspheric generation is termed "A" form.
6-Two major types of hyaline wall were distinguished on the basis of optical characters observed in thin sections.
7-The biserial arrangement of chambers arranged in two alternating rows, the initial test may be calcareous as Textularia or agglutinated as in Bolivina.
8-The ratio of $CO_2$ to $O_2$ decreases with depth in marine waters.
9-PH decreases with depth in marine waters.
10- All benthonic foraminifera have agglutinated test.

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لجنة الإمتحان والتصحيح*: أ.د. صلاح نصر عياد* أ.د. عمر حجاب أ.د. صلاح يوسف البيلى د. عادل كامل

Mansoura University
Faculty of Science
Geology Department
Date: 07/06/2015

Second Term Exam ( June 2015)
Second Level (Geology )
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- Chemical weathering is not dependant on the presence of biogenic agent.
2- Because of relative mobility of oxides, the weathering mantle is enriched with Na2O.
3- The most common primary porosity is the inter crystalline
4- The primary sedimentary structure of conglomerates is lamination.
5- The slope angle of the stoss side in current ripple marks is smaller than that of leeward side.
6- A coarse clastic rock containing < 15% matrix and only quartz clast is para conglomerate.
7- Subarkose is a sandstone contains > 10% matrix and 50% feldspars.
8- The lithic arenite contains < 10 % matrix and > 50 feldspars.
9- The fissile fine grained clastic rock contains > 70% silica is normal shale.
10-The chief constituent of recent shells is high Mg- calcite.
11-Syntaxial overgrowth on skeletal grains is an example of degrading neomorphism.
12-Tufa and travertine are two types of biochemical sedimentary rocks.
13-The precipitated salts in inland sabkhas are always sodic.
14-Chert and flint are both formed of cryptocrystalline silica.
15-Based on C content ,the BTU of lignite is much higher than that of anthracite.

(15 marks )

Question Two: Complete

1-The porosity of----------sandstone is higher than that of……..sandstone.
2-The textural maturity of a sediment is achieved during…… ……..
3-A sandstone containing high content of poloycrystalline quartz is……..
4-The texturally super mature sediment is characterized by……..,……..and…….
5- Litharenite is a sandstone poor in ……..and rich in……
6- The head of imbrication angle points to……and that of cross-bedding to……
7- The normal shale exhibits……..and contains high amount of……..
8- carbonate cementation of sandstone requires……..and……
9- The unstable mineral constituents of recent carbonates include……..and……..
10-Limestone containing 60 % mud is……
11-Micritization is an example of……..and sparitization of……
12-Limestone with high skeletal fragments and less pellets in cement is……..
13- The salinity of sea water is……whereas that of restricted basin is……
14-Chert is formed ……and……
15-The high……and high……..convert peat to anthracite.

(15 marks )

Question Three: Choose the correct answer

1- One of the processes responsible for changing sediment to sedimentary rock is
a-stratification b- foliation c- cementation
2- The most resistant mineral of the following to weathering is
a- olivine b-muscovite c- biotite
3- Which of the following is a biochemical sedimentary rock
a- shale b- breccia c-coal
4- The more mature argillaceous rock is enriched with
a- Al2O3 b- Na2O c- K2O

اقلب الورقة

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

5 – In which of the following environments would expect the sediment to be poorly sorted

a- beach b-desert c-glacial

6- Which is the porosity of the newly deposited sand

a- < 5% b-15%-25% c-~ 45%

7- Match the sedimentary rock arkose with the corresponding size below

a- 5 φ b- 2 φ c- - 4φ

8- Which of the following is NOT associated with sedimentary rocks

a- bedding b- foliation c-fossils

9 –A sandstone contains >10% matrix, 50%quartz ,25%feldspars and 25%rock fragments is

a- feldspalithic wacke b- lithic wacke c- feldspalithic arenite

10- A conglomerate with > 15% clayey matrix is

a- petromictic b- oligomictic c- laminated para

11- oolites are mainly distinguished from pellets by

a- structure b- color c- shape

12- A limestone with> 25% bioclasts <25% oolites <20% pellets in a cement is

a-biosparite b-bioosparite c- peloobiosparite

13- The sabkha surface soils of the hyper arid region are rich in

a- K salts b- Ca salts c- Na salts

14- The term flint is reserved to

a- sandstone type b- chalk type c- limestone type

15- The older formed coal is

a- bitumine b- lignite c- anthracite

( 15 marks )

Question Four: Write briefly on three only of the following

1- The relative stability of minerals.
2- The maturity of clastic sediments.
3- The diagenesis of sandstone.
4- The diagenesis of carbonate rocks.
5- The different environments and mineralogy of evaporites.

( 15 marks )

Good Luck

Prof. Omar Hegab