Assiut University
Faculty of Pharmacy
Pharm. Anal. Chem. Dept.

Inst. & Applied Pharm.
Analysis (1), 2nd Year
Final Exam.
January 12, 2013
Time Allowed: Three Hours

[I]- Potentiometry, Conductometry & Polarography (24 Marks)

Prof. Dr. Salwa Rizk El-Shabouri

(A) Complete the following statements: (7 marks)

1- The name of the indicator electrode used to measure the iodide ions in solution is

2- The name of the indicator electrode used to measure fluoride ions in water is

3- One disadvantage of dropping mercury electrode

4- A plot of $\Delta^2E/\Delta V^2$ against volume of titrant is known as

5- Ohm's law is stated as

6- By short hand notation represent a concentration cell

7- Conductance is defined as

(B) Give a reason for the following (4 marks)

1- Ground glass or glass wall is present in calomel electrode between the inner and outer tube, also between the outer tube and unknown solution

2- In conductimetric titrations; the titrant must be concentrated and the titrated solution must be diluted

3- Before carrying polarographyic analysis the supporting electrolyte must be aerated by nitrogen gas

4- Use of alternating current (AC) in conductimetric instrument

(C) Put (√) in front of the correct statement and (X) in front of the incorrect one and then correct it. (7 marks)

1- conductimetric titration is suitable for redox reaction

2- Copper electrode is used for measuring Zn ions in solution

3- The unite of specific conductance is Ω^{-1}

4- Salt bridge consists of a tube filed with inert salt such as sodium chloride

5- Silver electrode is used in the titration of Fe^{+2} with Ce^{+4}

6- Combination electrode composed of two indicator electrodes incorporated into a single probe

7- Conductometric titration can be used for turbid and colored solution

8- Alkaline error means that pH will be higher than the true pH

9- Dropping mercuric electrode is used for determination of reducible substances only

10- In galvanic cell; utilization of energy to force a chemical reaction to take place.

11- Cathode is the electrode at which oxidation occur

12- Wheatstone bridge consists of 4 resistances; two unknown resistance and one known resistance and resistance of the cell

13- Supporting electrolyte is a solution of indifferent electrolyte which oxidized or reduced at working electrode at the selected potential range.

14- Standard hydrogen electrode is used to measure hydrogen ions in solution.

(D) Draw and label the following:

1- Glass electrode (2.5 marks)

Mention its mechanism of action and its uses

2- A conductometric titration curve for titration of weak acid with strong base (1.5 marks)

3- A polarogram (polarographic wave) for the polarographic reduction of Cd^{+2} (2 marks)

[II] Spectrophotometry: (25 marks)
Prof. Dr. Abdel-Maaboud Ismail Mohammed

(A) Define and compare between the following terms: (3 marks)
1- wavelength and wavenumber:

2- Chromophores and auxochromes

3- Bathochromic and hypsochromic shifts

(B) Write short notes on: (4 marks)
1- Advantages of spectrophotometric titrations

2- Aromatic chromophores

(C) What is meant by:

1- Spectrum

2- Cut off wavelength

3- Conjugated chromophore

4- Absorbance and transmittance

(D) Explain how each of the following can affect the absorption spect
(Give examples for each)
1- The pH

2- Solvents

(E) Complete the following comparison: (2 marks)

Factor	Single beam Spectrophotometer	Double beam Spectrophotometer
Simplicity		
Expenses		
Measuring facility		
Measurement accuracy		
Repeated calibration		
Errors due to handling		
Detectors		

(F) Complete the following: (3 marks)
1- Lambert's law stated that

While Beer's law stated that

2- Real deviations from Beer-Lambert's Law are due to

While chemical deviations are due to

3- Spectrophotometry means

While colorimetry means

(G) Solve the following problems: (3 Marks)
1- Calculate the frequency and energy of photons with a wavelength of 200 nm (Plank's constant = 6.625×10^{-27} erg. Sec.).

3- Calculate the molar absorptivity of a compound measured at 300 nm if you know that the measured absorbance was 0.550 and its concentration 0.0002 M.

(H) Draw and label diagrams for the following: (4 marks)

Types of electronic transitions	A monochromatic system
Double beam spectrophotometer	Photomultiplier tube

[III] Spectrofluoremetry & Atomic spectroscopy **(21 marks)**
Prof. Dr. Samia Elgizawy

(A) Write the scientific word for the following sentences: (5 marks)

1. ( ) Luminescence as a result of a chemical reaction producing a chemically excited intermediate or product.

2- ( ) Luminescence as a result of light absorption and re-emission of some of the absorbed energy in the form of light.

3. ( ) The time period that an analyte stays in an excited state before returning to a lower-energy state.

4. ( ) Electron in higher energy orbital has the opposite spin after excitation [paired].

5- ( ) The excited valence electron may spontaneously reverse its spin after excitation.

6- ( ) is emission of light from excited triplet state.

7- ( ) = No of photons emitted/No of photons absorbed.

8- ( ) It is a process in which a sample is converted into gaseous atoms.

9- ( ) is fluorescent chemical compounds that can re-emit light upon light excitation.

10- ( ) Produce an aerosol of the sample solution.

(B) Draw Japblonski diagram illustrates the electronic state of molecule and the transitions between them (4-Marks)

(C) Compare between

1- Spectrophotometery and Spectrofluorometry with respect to the following factors (5 marks)

Factor	Spectrophotometery	Spectrofluorometry
Cells		
Light source		
Monochromators		
Detectors		
Wavelength		

2- The total consumption burner and the pre-mix (laminar flow) burner.
With a drawing schematic diagrams only (2 marks)

(D) Draw a labeled diagram for an atomic absorption Spectrophotometer.
(2 marks)

(E) Explain principle of operation of Hollow Cathode Lamp (3 marks)

Faculty of Medicine

Microbiology& Immunology Department

Date: 21 -1-2013 Time: 2 hours

Microbiology Exam

For Pharmacy students

I) Enumerate the following items: (8x5 marks)

a- Biological activity of IgG
b- T -lymphocytes subsets
c- Assay of mixtures of two antibiotics
d- Effect of Concentration of AMA on its activity
e- Mutation (Define , types, effect)
f- Difference between Mycoplasma & L- form
g- Difference between Thymus dependent Ag & Thymus independent Ag
h- Diffemce between Macrohpage & NK cells

II) Define each of the following items: (1 x 10 marks)

a-Carrier b- Epitope c- Cytokines
d- Gene expression e- Disinfectant f- Super Ag ,
g- Total count h- Inspissation i- Preservative
j- Anaphylactic shock

III) Compare between bacterial growth curve and bacterial death curve (5 marks)

IV) Match each of the pairs

A) Hay fever- Erythroblastosis fetalis- Contact dermatitis- Arthus reaction- Rheumatic fever-Tuberculin test - Anaphylactic shock- Acuteglmerulonephritis- Seum sickness- Ulcerative colitis (5 **marks)**

Type of Hypersensitivity	Suitable statements
Type I Hypersensitivity	
Type II Hypersensitivity	
Type III Hypersensitivity	
Type IV Hypersensitivity	

B) Pili – Capsule – Teichoic acid – Plasmid – Mesosome **(5 marks)**

Resist phagocytosis, contain K Ag	
Poly ribitol phosphate, play a role in adherence	
If N. gonorrhea lose this structure, it become a virulent	
Transfer from one bacteria to another by conjugation	
Part of bacterial cell membrane, play a role in division	

C) Vancomycin – Streptomycin – Erythromycin – Ciprofloxacin – Polymyxin (5 marks)

Inhibit bacteria DNA replication by inhibition of DNA gyrase	
Narrow spectrum Antibiotic, act mainly against MRSA	
Antibiotic has low selective toxicity, so not used systematically	
Main toxic effects are ototoxicity (deafness), nephrotoxixity	
Inhibit protein synthesis by its action on 50s ribosome	

Good Luck

Assiut University
Biochemistry Department
Faculty of Medicine
second year
تخلفات

Date: 14/02/2013
Time: Three hours
9am:12pm

Answer the following question :-

1. Define only the following:

A. Transamination.

B.Gluconeogenesis

C.Ketolysis

2. Write down 3 differences between

A.Liver glycogen and muscle glycogen.

B.Transamination and Deamination.

C. HMP shunt and glycolysis.

3. Write down the following biochemical transformations:

A.Acetyl coA to malonyl coA.

B.Tyrosine to Thyroxine.

C.Ammonia to Urea

D.Cysteine to pyruvate.

- الرجاء اجابة كل سؤال على حده وفى صفحة منفصلة.
- امتحان الشفوى والعملى عقب النظرى مباشرة.

Good Luck,

ASSIUT UNIVERSITY
FACULTY OF PHARMACY
PHARM. ANAL. CHEM. DEPT
SECOND YEAR

FINAL EXAMINATION
INSTRUM.& APPL.PHARM.ANAL. (2)
June12, 2013
TIME ALLOWED: 2 hours

NOTE THAT: THE EXAM. IS COMPOSED OF 8 (eight) printed pages

I-CHROMATOGRAPHY (theory): (15 Marks)

Prof. Dr. Pakinaz Y. Khashaba

A-Write the suitable chromatographic mechanism of separation, type of stationary phase, and mobile phase used for separation of the following samples:
(each item is ½ x 9 = 4.5 marks)

Sample	Mechanism of separation	Stationary phase	Mobile phase
1-Mixture of alkaline earth metals Mg, Ca, Ba, & Sr.			
2- Mixture of polymers.			
3- Mixture of acetaminophen, aspirin, and caffeine (by TLC chromatography)			

B-Considering mixture no:3 describe the efficiency of TLC plate by equation and or graphical illustration. (1.5 mark)

C-Mention briefly the followings: (6 marks)

1-Difference between normal and reversed phase chromatography.

2-Equation describing the anion exchange mechanism in chromatography:

3- Tailing factor:

D- Write the scientific chromatographic term describing the following statements:

(each item is ½ mark x 6 = 3 marks)

Statements	Scientific term
1-A parameter that describes the relative position of two adjacent peaks.	1-
2-A type of flat bed chromatographic technique that separates samples by partition mechanism.	2-
3- Size exclusion chromatographic technique that uses organic solvent as a mobile phase.	3-
4- A parameter that is used as indication of solute concentration.	4-
5- A very small peak that firstly appears in gas chromatogram.	5-
6- A tool for determination how much, an eluting peak profile deviates in shape from a normal distribution.	6-

II. CHROMATOGRAPHY (Techniques) : (15 Marks)

Prof. DR. Micheal E. Elkommos

1. Sketch a schematic diagram of a typical gas chromatograph, labeling the different parts clearly. (3½ Marks)

2. Complete the following statements: (Each space ½ Mark)

(a) The most common column packing in normal phase LSC is .....

.....while in reverse phase LSC, it is .....

.....

(b) Migration rates of sample components in gas chromatography are dependent on four factors:

i).....

ii).....

iii).....

iv).....

(c) Advantage of supercritical fluids as mobile phases over HPLC is

that..... .....

while their advantage over GC is that.....

.....

(d) The most common supporting media used in ordinary electrophoresis are three types :

i).....

ii).....

iii).....

(e) Data calibration in quantitative chromatographic analysis is carried out after peak size measurement using ..... or ... .methods.

3. Give scientific term for : (Each 1 Mark)

(a) Elution in HPLC using one and the same solvent during the whole chromatographic process.

(.....)

(b) Preparation of volatile thermostable derivatives of non-volatile thermolabile compounds prior to gas chromatography.

(.....)

(c) The minimum pressure necessary to bring about liquefaction at critical temperature.

(.....)

(d) Narrow bore fused-silica tubings used in HPCE systems.

(..... ....)

(e)Technique used for quantitation of TLC chromatograms by measuring light absorption properties or fluorescence of each spot directly on the chromatogram.

(.....)

III. WATER QUALITY CONTROL (20 marks)

Prof. Dr. Ibrahim H. Refaat

(1) Show by drawing the relation between dissolved oxygen and temperature, Show by equations: (a) Winkler's method, (b) The interference due to nitrite and how can it be overcomed . (3 marks)

(2) Mention the methods for determination of water hardness and explain that one differentiating between Ca^{2+} and Mg^{2+} hardness. (3 marks)

(3) Show by equations: the determination of Zink, Manganese and Ferric (Fe^{3+}) iron in water: (6 marks)

(4) Write equations indicating The application of (4 only) of the following reagents in water analysis: (8 marks)

(i) Dimethyl-p-phenylenediamine (ii) Orthotolidine (iii) Sulphanilic acid
(iv) Diethyldithiocarbamate, (v) Thorium chloranilate (vi) 2,2'-Bipyridyl

IV. Oils and Fats: (20 Marks)

(Dr/ Noha Nahedj Atia)

(A) Complete the followings: (10 Marks)

1- The predominant sterol of animal fats is ..... and it constitutes the starting materials for the synthesis of .....

2- ..... are esters of fatty acids with glycerol while .....are esters of fatty acids with alcohols other than glycerol

3- The functions of essential fatty acids are;

a-.....

b-.....

4- Catalytic hydrogenation is ....

5- Naturally occurring antioxidants include ..... while, synthetic antioxidants include.....

6- Diene value is..... ....

7- ..... is a plant derived omega-3 fatty acid, while .... is a marine derived one. They are mainly used for..... ....., and .....

8- ..... test is used for detection of cottonseed oil depending on heating the oil with .....producing red colour

9- Fats with high degree of saturated fatty acids are the main cause of atherosclerosis because.....

10-Lipids are classified into three classes

a-.....such as.....

b-.....such as.....

c-.....

(B) Choose the correct answer (10 Marks)

1- Increasing the fatty acids chain length..... ..... their melting point

A) Decreases B) Increases C) not affects

2- The acid value is used for detection of.....rancididty.

A) Hydrolytic B) Ketonoic C) Oxidative

3- The Polenske value is the number of milliliters of KOH required to neutralize the steam-volatile .....fatty acids distilled from 5 g of fat.

A) water soluble B) water insoluble C) alcohol soluble

4- .....is considered as essential fatty acid

A) Stearic acid B) Linoleic acid C) Iso-oleic acid

5- Halphen insoluble bromide test give ppt with.....oils

A) Non-drying B) Semi-drying C) Drying

6- Vitamin D can be obtained by irradiation of.....

A) Ergosterol B) Cholesterol C) β-carotene

7- Specific gravity is .....

A) The ratio between the weight of a given volume of water in air, that of the same volume of oil measured at 15.5°C

B) The ratio between the weight of a given volume of oil in air, that of the same volume of oil measured at 15.5°C

C) The ratio between the weight of a given volume of oil in air, that of the same volume of water measured at 15.5°C

8- The iodine value of certain oil indicates.....

A) the degree reactivity of the oil.

B) the degree of purity of the oil

C) the degree of free and combined fatty acids

9- Butter with highest Reichert- Polenske numbers.....

A) has higher percentage of long-chain fatty acids

B) has lower percentage of short-chain fatty acids

C) has higher percentage of short-chain fatty acids

10-The lead salts of the unsaturated fatty acids are.....

A) insoluble in ether B) soluble in ether C) soluble in water

Faculty of Medicine

Microbiology& Immunology Department

Date : 25 - 5 -2013 **Time : 2 hour**

Final Microbiology Exam
For Pharmacy students

I) Regarding Sexual disease , enumerate the following (10 marks)

a- 3 bacteria cause sexual and venereal disease , main clinical signs appear in each one and main virulence factor of each bacteria (6 marks)

b- 2 viruses cause sexual and venereal disease (2 marks)

c- 2 microorganism cause sexual not venereal disease (2 marks)

II) Enumerate one disease caused by each microorganism (10 marks)

a- Shigella dysentriae b-Hemophilus influenza c - Rickettsia typhi

d- Cl.perfringens e- E.coli f- Brucella abortus

g- Herpes simplex virus I h- Candida albicans I- Borrelia reccurentis

j- Rubella virus

III) Match the following toxins with the suitable disease (6 marks)

Pertussis toxin – Erythrogenic toxin – Verotoxin- Tetanospasmin – Lecithinase – Exofolitive toxin

a- Gas gangrene b- Whooping cough c- Lock jaw disease

d- Hemolytic uremic syndrome e- Skin scalded syndrome f- Scarlet fever

IV) Match the following vaccines with the suitable statements (9 marks)

BCG – Sabin – TAB – MPSV4 – DTP - Recombivax- Harivax- MMR – Koll's vaccine

a- Give protection against serum hepatitis

b- prepared from M.bovis by repeated subculture on bile contain media

c- Living attenuated vaccine , given orally

d- Living attenuated vaccine that should be given to female before marriage

e- vaccine that gives protection against infectious hepatitis

f- vaccine contain toxoid

g- Subunit vaccine contain polysaccharide capsule

h- heat killed bacteria vaccine gives protection against enteric fever

i- Heat killed vaccine that give protection against cholera

ملحوظة الامتحان فى صفحتين

V) What's the role of the followings in pathogenesis of the diseases (20 marks)

a- Urease enzyme of proteus & Renal stone formation
b- Coagulase enzyme of Staph aureus & pyogenic disease
c- M protein of Streptococci & Rheumatic fever
d- Mycoilc acid of M.tuberculosis & T.B.
e- Neuroaminidase enzyme & influenza infection
f- IgA protease of Meningococci & Epidemic meningitis
g- HBs Ag & HDV infection h- V-W Ag of Y.pestis & Plague
i- Protective Ag (PA) of B.anthracis toxin & Malignant pustule
j- Vi Ag of S.typhi & typhoid fever

VI) Complete the following the statements (15 marks)

1- Chlamydia trachomatis cause ocular infection in infants called .....
2- The drug that inhibit reverse transcriptase enzyme of HIV is called.....
3- Prions are.....
4- Dermatophytes cause disease in human called .....
5- Main target site of EBV is .....
6- Selective media used for isolation of M.tuberculosis is .....
7- Main diagnostic test used for detection of diphtheria toxin in vitro is called .....
8- Examples of arthropod transmitted diseases are .....,.....
9- Examples of milk –borne disease are .....,.....
10- Examples of toxigenic food poisoning .....,.....
11- Q- fever is caused by bacteria called .....
12- Non specific serological test used for diagnosis of infectious mononucleosis caused by EBV is called.....
13- Non specific serological test used for diagnosis of syphilis is called.....
14- Non specific serological test used for diagnosis of atypical pneumonia caused by Mycoplasma is called .....
15- Non specific serological test used for diagnosis of epidemic typhus is called .....

Good Luck

Assiut University **Faculty of Medicine**

Department of Medical Parasitology **Date: 17/6/2013**

Parasitology Examination for Second- year Pharmacy Students

Total marks: 40 **Time: 1.5 hour**

Answer the following questions:

1) Mention four effects of parasites on the hosts with examples. **(4marks)**

2) A 7 years- old girl suffering from insomnia, irritation and nocturnal itching in the peri-anal region and vagina. **(4marks)**
- What is the possible causative parasite?
- What is the habitat and the infective stage?
- Mention methods of diagnosis of this parasite.

3) Mention the infective stage, methods of infection and laboratory diagnosis of *Hydatid disease*. **(4 marks)**

4) Define Cysticercosis, mention the infective stage and treatment. **(4marks)**

5) Diagnosis and treatment of intestinal amoebiasis. **(4marks)**

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6) In a table mention the role played by arthropods in transmission of Parasitic diseases. **(6 marks)**

7) Complete the following statements: **(4marks)**

a- Visceral larva migrans is produced by ingestion of ..... of .....and treated by.....

b- Eating undercooked meat may produce the infection with ....., ...and.....

c- Steatorrhea is caused by..... and the infective stage of this parasite is.....

8)-Put (√)on the right statement and (X) on the wrong statement:

(10marks)

1- Man is an intermediate host of *Toxoplasma gondii*. ( )

2- *Trichomonas vaginalis* is congenitally transmitted. ( )

3- Diethylcarbamazine is a drug of choice for *Wuchereria bancrofti*. ( )

4- *Leishmania tropica* is a haemoflagellate. ( )

5-Intestinal obstruction may associate the infection with *Ascaris lumbricoides*. ( )

6- Liver abscess is a complication of infection with *Balantidium coli*. ( )

7- *Cryptosporidium parvum* is an opportunistic parasite. ( )

8- *Ancylostoma duodenale* causing microcytic hypochromic anaemia. ( )

9- Pharyngeal fascioliasis is caused by eating raw vegetables. ( )

10-*Hymenolepis nana* is transmitted by autoinfection. ( )

GOOD LUCK

Prof. Dr. Fatma Galal

سوف يعقد الامتحان الشفوى ان شاء الله عقب الامتحان التحريرى مباشرة لجميع الطلاب

قسم الباثولوجيا

كلية الطب

Assiut University **17/6/2013**
Faculty of Medicine **Time allowed: 1 1/2 hours**
Pathology Department

Second year Pharmacy Student
Pathology

Answer the following questions:

1- Discuss complications of urinary bilharziasis? (10 marks)
2-Mention routes of spread of malignant tumors? (7 marks)
3-Write pathogenesis of cloudy swelling, and then enumerate other types of degeneration? (8 marks)

Enumerate:
1- Types of emboli. (5 marks)
2- Types of necrosis. (5 marks)
3- Fate of thrombus. (5 marks)

Good Luck

Prof. Sabah Ahmed Fadil

Oral examination: 18/6/2013

Assuit University
Faculty of Pharmacy
Pharmaceutics Dept.
June 3, 2013
Time allowed: 2 hours

Course Instructors :
Prof. Dr. Mohamed A. Attia
Prof. Dr. Susan S. Toss
Prof. Dr. Ahmed M. El-sayed
Dr. Gihan N. Fetih

Pharmaceutics – 1
Second Year Pharmacy

Total Pages: 8 **Total marks : 70**

17.5

Part – I

A. Choose the correct answer for each of the following statement : (10 marks)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

1. Greasy preparations that have emollient & occlusive properties :
   a. Paste . b. Lotion . c. Ointment . d. Cream . e. Gel .

2. Suppository can be used for local or systemic effect, the action depends on which of the following :
   a. Drug nature . b. Drug concentration . c. Rate of absorption .
   d. All of the above . e. None of the above .

3. Which of the following drug, intended to formulated in suppository dosage form for systemic action :
   a. Paracetamol suppository . b. Glycerin suppository .
   c. Antiheamorrhodial suppository . d. Vaginal suppository (contraceptives) .

4. Which of the following is the length of human rectum :
   a. 15 – 20 cm . b. 10 – 15 cm. c. 5 – 10 cm . d. None of the above .

5. Which of the following influence the rate and degree of drug absorption from rectum :
   a. Diarrhea . b. Colonic obstruction . c. Tissue dehydration . d. All of the above .

6. Drug transfer from rectum to the blood through which of the following heamorrhodial Veins :
   a. Superior heamorrhodial vein . b. Inferior heamorrhodial vein .
   c. Middle heamorrhodial vein . d. All of the above .

7. Which of the following factors are influenced on the rate at which the drug diffuses to the surface of the suppository :
   a. Particle size . b. Presence of surfactant .
   c. Type of suppository bases . d. Both a and b.

8. Presence of adjuvant in the composition of the suppository, change which of the following

a. Drug absorption .
b. Rheological properties .
c. Dissolution of the drug.
d. All of the above .

9. Thiobroma oil belong to which of the following suppository bases :
a. Fatty bases .
b. Hydrophilic bases .
c. Water dispersible base .
d. None of the above .

10. Which of the following is considered a disadvantage of the cocoa butter :
a. Polymorphism .
b. Low melting point .
c. High solidification index .
d. None of the above .

11. Which of the following bases do not melt at body temperature :
a. Cocoa butter .
b. Polyethylene glycol .
c. Synthetic fatty bases .
d. Non of the above .

12. which of the following bases should contain preservative :
a. Glycerin suppository base .
b. Fatty suppository base .
c. Polyethylene glycol suppository base .
d. None of the above .

13. Polyethylene glycol as a suppository base are incompatible with which of the following drugs .
a. Sulfonamides .
b. Chloramphenicol .
c. Acetaminophen .
d. None of the above .

14. Which of the following should be adopted to overcome the problems caused by the use of low viscosity suppository bases :
a. Use bases with narrow melting range .
b. Inclusion of 2% aluminum monostearate .
c. Both a and b .
d. None of the above .

15. Mechanical strength test for suppository indicate which of the following :
a. Suppository is brittle or elastic .
b. Suppository is uniform in shape .
c. Suppository is elegant .
d. None of the above .

16. Which of the following ointment base has emollient and occlusive properties :
a. Water removable base .
b. Water soluble base .
c. Absorption base .
d. Fatty base .
e. Both c and d .
f. Both a and b.

17. A drug ability to penetrate the skin's epidermis, depends on which of the following :
a. Physico-chemical properties of the drug .
b. Type of the base .
c. Skin condition .
d. All of the above .

18. Cold cream use for which of the following :
a. Softening of the skin .
b. Cleansing the skin .
c. Improve skin penetration .
d. Both a and b .
e. None of the above .

19. Which of the following is considered as a pathway for a drug to cross the skin barrier :

a. Across the intact horny layer .
b. Through hair follicles .
c. Through sweat glands .
d. All of the above .

20. Vanishing cream is belong to which type of the following ointment base :

a. Emulsion ointment base (O/W) .
b. Emulsion ointment base (W/O) .
c. Water soluble ointment base .
d. None of the above .

B. Give reasons of each of the following : **(7.5 marks, 1.5 mark/ point)**

1. Moistened of polyethylene glycol suppository with water before insertion .

2. Use of water as a solvent for drug should be avoided in the preparation of suppository .

3. The use of creams as drug delivery systems .

4. Administration of evacuation enema before insertion of suppository .

5. Low water-uptake by Cocoa butter .

17.5

Part-2

A- Denote (T) for the true statements and (F) for false ones: (10 marks)

( ) 1- Flavors are never incorporated during the wet processing.
( ) 2- Mottling and wrinkling are common defects in sugar coating of tablets.
( ) 3- All disintegrants act by the same mechanism.
( ) 4- Formulation of the fill for soft gelatin capsules requires solid based materials.
( ) 5- Certain formulations are found to resist compression when prepared by wet granulation.
( ) 6- Opaquant extenders are used only when transparent films are not desirable.
( ) 7- Lamination of the coat resulting from slow drying between coating applications.
( ) 8- Plasticizers are liquids used to decrease flexibility of the resulting film.
( ) 9- Sodium lauryl sulfate($\leq$ 0.5 % w/w) included in gelatin solution to increase wetting properties of capsule shell.
( ) 10- Enteric coating materials should be permeable to gastric juices.

B- Discuss the role of the following materials in capsule manufacture: (7.5 marks)

Material	Role	Marks
Wetting agents		2 marks
Surface active agents		2 marks
Viscosity modifying agents		2 marks
Lubricants		1.5 marks

17.5

Part 3 (Prof. Ahmed Moustafa)
17.5 marks

Questions 1 : Indicate whether each of the following statements is true (√) or false (X) and mention why ? (6 marks)

( )A-The amorphous form of novobiocin was found to be well absorbed than its crystalline form.

( )B-Unit processing such as mixing, milling and tableting can cause changes in biopharmaceutical properties of a drug.

( )C-It is possible to change polymorphic form without altering crystal habit.

Question 2 : Give the reason(s) for : (5 marks)

A-X-ray powder diffraction technique has many advantages over other identification techniques (2 marks)

B-Octanol is used as non-aqueous solvent in determination of partition coefficient. (1.5 mark)

C-Inclusion of "everted intestinal sac" technique in preformulation studies. (1.5 mark)

Questions 3 : Give TWO examples for each : (3 marks)

A-Methods of sterilization used for ophthalmic solutions :

B-The major types of drugs used ophthalmically :

C-Medicinal substances administered topically in the oral cavity

Question 4 : Differentiate between compressibility and compactibility : (2 marks)

Question 5 : Complete : presence of impurities during drug crystallization produce disruption in crystal lattice which result in major changes in : (1.5 marks)

i-

ii-

and iii-

Part-4

17.5

A - Choose the most correct answer: (Write your answers in the given table) **(12 marks)**

1	2	3	4	5	6	7	8	9	10	11	12

1- Role of alcohol in mouth washes includes:

a) contributes to the antibacterial activity b) solubilizes other ingredients

c) prevents inflammation of gingiva d) a & b e) b & c

2- Breathanol is:

a) superfatting agent in shaving creams b) foam builder in shampoos

c) flavoring agent in dentifrices d) deodorizing agent in oral preparations

3- Sugarless chewing gum helps reducing the incidence of tooth decay through:

a) stimulating the production of saliva b) inhibiting bacterial growth in oral cavity

c) preventing acid production by bacteria d) all of the above

4- Halitosis is:

a) unpleasant offensive breath odor b) inflammation of tongue

c) infection of periodentum d) none of the above

5- Addition of fluoride to dental care products reduces the incidence of dental caries through:

a) fighting formation of plaque b) incorporation into calcium crystals of the enamel

c) stimulating the production of saliva d) increasing rate of remineralization

6- Xylitol is used as sweetening agent in chewing gum because:

a) it stimulates the production of saliva b) it neutralizes the acid produced by bacteria

c) it causes the bacteria lose their ability to stick to teeth d) all of the above

7- Talc in face powder formulations is:

a) used for its high covering power b) an additive to improve adhesion to skin

c) the basic or bulk ingredient d) used to improve powder mixing

8- The main foam builders in shampoo formulations belong to the group of:

a) fatty acid alkaloylamides b) fatty alcohols

c) nonionic surfactants d) none of the above

9- Shaving soaps are similar to ordinary bar toilet soaps, but differ in:

a) consistency is softer due to higher water content
b) consistency is very firm
c) it must lather quickly and copiously
d) b & c

10- Cleansing creams should contain:

a) low percentage of mineral oil
b) high percentage of mineral oil
c) high percentage of vegetable & mineral oil
d) no mineral oil at all.

11- Glycerin is added to brushless shaving cream formulations to:

a) improve stability of the cream
b) improve viscosity of the cream
c) prevent cream from drying out
d) moisturize the skin

12- For liquefying cleansing creams, all the following is true except:

a) it is designed to liquefy when massaged on the skin
b) it is anhydrous and only used for dry skin
c) it is a w/o emulsion type cream
d) its hardness is obtained by thixotropic effect

B- Mention the role of the following ingredients in the given cosmetic formulations: (5.5 marks)

	Ingredient	Role
1	Spermaceti in cleansing creams	
2	Hydrated alumina in toothpaste	
3	Aromatic oils in mouth washes	
4	Borax in cold cream	
5	Calcium carbonate in face powder	
6	Titanium oxide in face powder	
7	Mineral oil in cleansing cream	
8	EDTA in shampoo	
9	Lanolin in shampoo	
10	Glycerin in vanishing cream	
11	Superfatting agents in shaving cream	

GOOD LUCK

	Department of Pharmacognosy **Final Exam.** **{Second Year Students}** **Date: 8/ 6 / 2013** **Time allowed: 3 hr.**	
Assuit University	Total marks = **70** Mark	**Faculty of Pharmacy**

قبل البدء فى الأجابة الرجاء قراءة هذة التعليمات جيدا

- تأكد أن ورقة الأمتحان تتكون من ١٠ صفحات مختلفة (٥ورقات) و فى حالة التكرار أو النقص يطلب أستبدالها فورا.
- يتكون الأمتحان من ٣ أجزاء:
  - Roots {**30** Mark}
  - Rhizomes {**26** Mark}
  - Unorganized drugs {**14** Mark}
- الرجاء الأجابة فى المكان المخصص لكل سؤال.
- يجب تخصيص الوقت المناسب لاجابة كل سؤال و مراعاة عدم تجاوزه حتى يتسنى لك اجابة جميع الأسئلة.
- محاولة الاستعانة بالاخرين أو اعانتهم فى اجابة الامتحان يعرضك للمسائلة القانونية من الجامعة و ما يترتب عليها
- سيعقد الأمتحان الشفهى عقب امتحان النظرى مباشرة و على كل طالب الألتزام بلجنتة طبقا لما سيعلن بالقسم

مع أطيب الأمنيات بالنجاح و التوفيق

أ.د. عزة عباس خليفة (مشرف الفرقة الثانية و منسق المقرر)

أ.د. هناء محمد سيد

أ.د. صفاء أحمد محمد المغازى

I-Root (30Mark)

A-Complete the following sentences : **(20x .5 = 10 Marks)**

a-Traxacoside is .....(1)..... present in .....(2).....root and used as.....(3).....

b-The root bears only one kind of lateral branches and described as ... (4).... because it arise in the .....(5)..... region .

c- Tincture of Alkanna root is used as .....(6).....

d- The secondary roots are lateral roots an example is .....(7).....root.

e- Rhizomes and roots of Liquorice have typical structure except :

The absence of .....(8).....and .....(9).....in the root and presence of .....(10)..... in the center of the young root.

f- Rotenone is an isoflavone present in ....(11)....root ,used as ...(12)....

g- Ipecacunha root has non porous central wood due to absence of .....(13).....

h-.....(14).....and .....(15)....are the main characterstic elements in Calumba powder .

i- Rauowlfia vomitoria is easily distinguished from Rauowlfia serpentina histologically by ...(16).....and .....(17).....

.j -.....(18).....is triarch root while in Sarsaprilla is .....(19).....

k-Gelatinised starch grains and cluster crystals of calcium oxalate are the main characterstic elements in ...(20)....powder.

1	11
2	12
3	13
4	14
5	15
6	16
7	17
8	18
9	19
10	20

B- Give reason (s) for the following : **(1x7= 7Marks)**

1- Red Korean Ginseng is the best one .

.....

.....

.....

2-Peeled Liquorice has sweet taste free from bitterness .

.....

.....

.....

3- Krameria tincture is used as mouth wash .

.....

.....

4-Prolonged fermentation of Gentian is undesirable.

.....

.....

.....

.....

5- Jalap tubers are hard and heavy.

.....

.....

.....

6-Glycyrrhizin prevent liver toxicity

.....

.....

.....

7-Calumba preparations can be prescribed with iron salts .

.....

.....

C- Complete the following table : **(2.5x 4 = 10 Marks)**

Character of the drug	Drug name	Requirment
A monocotylednous root		Mention the different uses : ....
Tonic and adaptogenic		Mention the different active constituents: ....
very potent and quite acting poison root		Mention the different active constituents: .... The symptoms of poisoning : ....

Character of the drug	Drug name	Requirment
Stimulant expectorant in chronic bronchitis.		Discus the abnormality with drawing

D-Compare between Rio & Cartagena Ipecacunha (3 Marks)

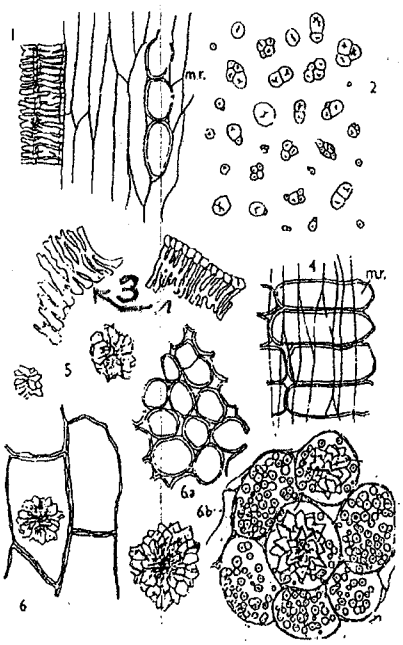
Item	Rio Ipeca	Cartagena Ipeca .

Rhizome {26 Marks}

I- Complete the missed data and answer what is required in the following table:

{4 Marks}

- The drug in the opposed figure is ....., its main active constituent is volatile oil, its characteristic aromatic odour is due to presence of ..... which is ..... in its nature, while ..... is responsible about its pungent taste and it is ..... in nature and could be destroyed by .....
- Usually we consider Jamaican variety is the best variety because .....



{5 Marks}

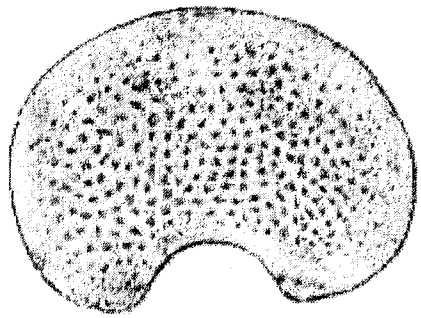
- This figure represents powdered ..... rhizome, from its botanical origin many official varieties could be used except ..... due to presence of .....
- Both genuine and adulterated varieties could be differentiated by the following test: .....

.....

.....

- This drug shows abnormal structure known as ...., which is formed at ..... and the formed vascular bundle is .....
- Describe element number 3 .....

.....



{3½ Marks}

- This drug is .....
- Its main active constituent is .....
- Mention the main medicinal uses of this drug:

1- .....

2- .....

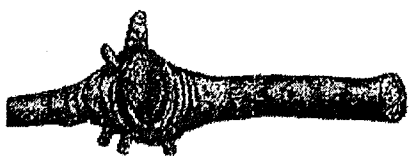
3- .....

- Mention a chemical test used for its identification:

.....

A

B



{4½ Marks}

- Drug A is ....., while drug B is .....
- By using chemical tests how could we differentiate between both drugs A and B:

1- .....

.....

2- .....

.....

- Etoposide is used for treatment of .....

....., while Teniposide used for treatment of .....

- Both Etiposide and Teniposide are prepared from:

.....

 {2½ Marks}	▪ Botanical origin of the drug in the opposed figure is ..... rhizome of *Curcuma domestica* Valeton family: ..... ▪ It is used in treatment of ..... and ..... ▪ It has potent anti-hepatotoxic activity due to presence of .....

II- **Write your comment on each of the following**: {**6½** Marks}

1- Filix mas must be kept in dark coloured containers and used before one year from its Storage:

.....

.....

2- Fresh valerian odourless while on drying the drug acquires characteristic bad odour:

.....

.....

3- Galangal volatile oil has pungent taste:

.....

4- Garlic is very effective in treatment of both poisoning with heavy metal and aflatoxin:

.....

.....

.....

4- Hydrastis is used in treatment of chronic inflammation of rectum and colon:

.....

5- Garlic is known as Russian Penicillin:

.....

6- Green Hellebore is used for treatment of hypertension:

.....

Unorganized drugs {14 Mark}

I- Give reason for each of the following: {10 X ½ = 5 Marks}

1- Use of Opium products in treatment of dry cough:

.....

2- Use of Cochineal in tooth pastes:

.....

3- Gelatin gives ammonia odour with soda lime:

.....

4- Application of bee sting as alternative medication in case of arthritis and back pain:

.....

5- Some preparations for upper respiratory tract ailments contain tincture benzoin:

.....

6- Application of snake venome in molecular biology:

.....

7- Medical use of honey in case of ulcers and varicose veins:

.....

8- Olive oil has characteristic odour and greenish tint:

.....

9- Chlorophyll is detected in pale catechu but not in black catechu:

.....

10- Aloe juice is effective against gastric and duodenal ulcers:

.....

II- Encircle the correct answer: {13 X ½ = 6½ Mark}

1- Papavarine with Marquise reagent gives:

a- purple violet colour
b- dark blue colour
c- light green colour
d- no specific colour

2- Honey is effective in treatment of infected wounds due to:

a- antibacterial activity
b- demulcent effect
c- increase level of glutathione
d- {a and c}

3- Sun flower oil has antioxidant activity due to:

a- inulin and laevulin
b- phenolic compounds
c- omega-3- fatty acids
d- non of them

4- The jelly derived from agar-agar is due to:

a- agarose
b- agaropectin
c- {a and b}
d- non of them

5- The major constituent of black catechu is:

a- flavonoids
b- catechu
c- phlobatannins
d- gambier fluorescence

6- Antitumor action of Aloe juice is due to:

a- alomicin and mucopolysaccharides
b- barbaloin and isobarbaloin
c- mucopolysaccharides
d- amino and organic acids

7- Poisonous honey is from the nectar of:

a- Digitalis
b- Nicotiana
c- Aconitum
d- all of them

8- Evening primrose oil has an anti-inflammatory action due to:

a- cis linolenic acid
b- γ- linolenic acid
c- saturated fatty acids
d- {a and b}

9- Aloetic juice is present certain cellular structure:

a- phloem tissue b- pericyclic tissues

c- cortical parenchyma d- all of them

10- Oleum Jecoris Aselli is used for treatment of night blindness due to:

a- Vitamin A b- Vitamin D

c- Vitamin A and D d- unsaturated fatty acids

11- Balsam tolu is obtained from:

a- Styrax benzoin b- Myroxylon balsamum

c- Styrax tonkinensis d- {a and c}

12- Heroin is synthesized from:

a- papavarine b- codiene

c- narceine d- morphine

13- Sumatra benzoin is obtained from family:

a- Leguminosae b- Rubiaceae

c- Styraceae d- Onagraceae

1	2	3	4	5	6	7	8	9	10	11	12	13

III- You are supplied with pharmaceutical preparation containing: {2½ Marks}

1- Oleum *Jecoris aselli* **2-** Vitamin A oil **3-** Vitamin D oil

a- Give the indication and use of such preparation: {½ M}

.....

b- Give the biological origin of **1**: {1M}

.....

.....

c- Give the refining process of **1**: {1M}

.....

.....

Assiut University	Second year pharmacy
Faculty of Pharmacy	Mid. Term Exam
Pharm. Anal. Chem. Dept.	November 14, 008
Inst. Appl. Phar. Anal. (1)	Time allowed: ½ Hour

إسم الطالب: **رقم الجلوس**

I = **II=** **Total =**

I- Potentiometry and Conductometry **Salwa El-Shaboury**

a- Mention the name of reference electrode and indicator electrode which are used in acid-base titration (2 Marks)

b- Give the reason (2 Marks)

1- KCl is used in salt bridge and not NaCl

2- In conductometric titration. The titrant is concentrated and the titrated solution is diluted.

c- Draw and label silver-silver chloride electrode and mention its (3 Marks)

1- Electrode reaction

2- Half reaction

3- Nernest equation.

4- Use.

d- Draw and label a titration curve of strong acid and weak acid with strong base (3 Marks)

II- Polarography (5 Marks) Dr. Niveen A. Mohamed

1- Complete the following sentences.

a- Dropping mercuric electrode (d.m.e) is used mainly for determination of . . . . . substances or easily . . . . . substances.

b- The study of the reversibility of the reaction can be done by . . . . . .

c- Mass transfer in polarography is carried out by . . . . . .

2- Write short notes on:
Ilkovic equation (through mention Ilkovic equation discuss the parameters affecting polarography ID. Is this equation used for qualitative or quantitative measurement and why ?).

تعليمات هامـة

1- الإمتحان مكون من عشر صفحات غير مكررة.
2- إقرأ الأسئلة جيداً قبل البدء في الإجابة.
3- جميع الأسئلة إجبارية.
4- ممنوع الكتابة علي الغلاف.
5- الإجابـة بـالقلم الجـاف الأزرق أو الأسـود ولـيس بـأي لـون آخـر أو القلـم الرصاص.
6- الإلتزام بالإجابة في الأماكن المخصصة لها.
7- **الإمتحان الشفهي عقب الإمتحان النظري مباشرة بالقسم:**

المجموعة الأولي من رقم 1-400 حتي الساعة الواحدة ظهراً.

المجموعة الثانية من رقم 401-للآخر من الساعة الواحدة ظهراً

مع أطيب التمنيات بالتوفيق والنجاح

I- Polarography 6 marks by Dr. Niveen A. Mohamed

1- Complete the following sentences:

a- Stripping voltammetry formed of two steps . . . . . and . . . . . and the voltamogram called . . . . . .

b- Polarographic cell is formed from . . . . . .
. . . . . .
. . . . . .

2- Tick (√) or (x) for the following statements:

a- Dropping mercuric electrode (d.m.e.) can not be used for determination of easily oxidizable substances.

b- A small amount of gelatin or surface-active agent was added for the solution after its polarographic determination.

c- Polarography can be used for determination of electroactive substances only.

3- Mention the types of amperometric titration, giving example and draw the curve for each type.

II- POTENTIOMETRY AND CONDUCTOMETRY (12 Marks)

1- Draw and label a conductometric titration curve of strong acid with weak base (1 Mark)

2- Mention two applications for conductometry (1 Mark)

3- Define or give short notes on the following (3 Marks)

a- Specific conductance

b- Salt bridge

c- Combination electrode

4- Give the reason (2 Marks)

a- Platinum coated with finely divided black is used in preparation of SHE.

b- Large excess of KCl is used in the preparation of SCE and silver-silver chloride electrode

5- Mention the name of the electrode which is used to measure the following (2 Marks)

a- Copper ions

b- Iodide ions

c- Fluoride ions

d- Cerric-cerrous ions

6- Draw and label a glass electrode, mention its; (3 Marks)

a- Uses

d- Theory of operation

IV- Spectrophotometry: أكتب إجابتك في الأماكن المخصصة لذلك (25 Marks)

A- In the provided table, write the name or the scientific term for each of the following statements: 6 Marks)

S. No.	Name or scientific term	S. No.	Name or scientific term
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

1- The plot of absorption intensity versus wavelength or frequency.
2- The number of electromagnetic waves per cm length.
3- The function group that confer colour on substance capable of light absorption.
4- Shift of maximum absorption peak to a shorter wavelength.
5- The law that correlates the light absorption with the pathlength.
6- The law that correlates the light absorption with the concentration.
7- Absorbance of one gram %.
8- An absorption band which is a specific feature for unsubstituted benzene.
9- A lamp used to emit visible radiations.
10- A cell used to measure a sample in the UV range.
11- The linear distance measured along the line of propagation.
12- A decrease in the absorption intensity.

B- Match each item with its corresponding definition: (5 Marks)

	Item		Definition
[ ]	End absorption	[a]	Functioning as a scattering center for light
[ ]	Gratings	[b]	Functioning via refraction of light
[ ]	Prisms	[c]	Cut-off wavelength
[ ]	Red shift	[d]	A decrease in absorption intensity
[ ]	Auxochrome	[e]	Relates light absorption with both thickness and concentration
[ ]	Hypochromic effect		
[ ]	Speed of light	[f]	Function group which can't confer colour on substances
[ ]	Glass cuvette	[g]	300.000 Km/Sec.
[ ]	Beer's Lambert's law	[h]	Is used for visible radiations measurements
[ ]	V-shaped mirror	[i]	Shift of absorption to a higher wavelength
		[j]	Shift of absorption to a lower wavelength
		[k]	Is used for beam splitting
		[l]	Band characteristic for ethylene absorption.

C- Solve the following problems (3.0 Marks)

a) Compounds A and B have ε values of 3000 and 2500 respectively and molecular weight of 150 and 100 respectively. Which of the two compounds have higher A (1%, 1 cm)?

b) Calculate the wavenumber in cm^{-1} for a visible radiation of 500 nm wavelength.

D- Choose the correct answer: **(7.0 Marks)**

S. no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Answer														

1- Light is composed of:
   a) Electric component only b) Magnetic component only
   c) Both a and b d) None of these
2- Frequency is:
   a) Number of waves per second b) Number of waves per minute
   c) Number of waves per hour d) None of these
3- The relation between energy and wavelength of a photon is:
   a) Direct b) Indirect c) Both a and b d) None of these
4- A molecule may absorb energy in the form of:
   a) Electronic b) Vibrational c) Rotantional d) All of these
5- An absorption band is defined by its:
   a) Position b) Intensity c) Both a and b d) None of these
6- Aniline in acid medium is:
   a) Blue shifted b) Red shifted c) Not affected d) Both a and b
7- Carbonyl compounds can be determined spectrophotometrically through:
   a) Diazonium salt formation b) Reaction with 2,4-dinitrophenylhydrazine
   c) Both a and b d) None of these
8- The red shift caused with phenolphthalein in alkaline medium is:
   a) Definite proof for its presence b) Definite proof for its absence
   c) Both a and b d) None of these
9- The presence of halogen in tungsten-halogen lamp:
   a) Increases its life time b) Decreases its life time
   c) Both a and b d) None of these
10- Phenol is red shifted in alkaline medium due to:
   a) Stabilization of the excited state b) Stabilization of the ground state
   c) Both a and b d) None of these
11- Morphine in alkaline medium is:
   a) Blue shifted b) Red shifted c) Not affected d) Both a and b
12- The cause of blue shift resulting on adding acid medium to aniline is due to:
   a) Stabilization of the exicted state b) Stabilization of the ground state
   c) Both a and b d) None of these
13- Amino compounds can be determined spectrophotometrically through:
   a) Diazonium salt formation b) Reaction with 2,4-dinitrophenylhydrazine
   c) Both a and b d) None of these
14- The relation between frequency and wavelength of a photon is:
   a) Direct b) Indirect c) Both a and b d) None of these

E- Draw net labeled diagram for each of the following **(4.0 Marks)**

(i) B-Band
(ii) Photometric titration curve for a non-absorbing sample, non-absorbing titrant and an absorbing product.
(iii) Component of a double-beam spectrophotometer.
(iv) End absorption

(i)	(ii)
(iii)	(iv)

Prof. Dr. Gamal A. Saleh

IV- Fluorometry, Atomic Emission, Atomic Absorption & Atomic Fluorescence: **(27 Marks)**

1- How can you induce fluorescence in non fluorescent molecule (Scheme) ? **(5 Marks)**

2- Write the name of reagent(s) used for fluorometric analysis of: **(1 x 3 Marks)**

(a) Aluminum,

(b) Boric acid

(c) Amino acids

3- Draw a schematic diagram for: **(4 x 2.5 Marks)**

(a) The premix burner

(b) The relationship between atomic absorption and atomic emission spectrometry.

(c) Hollow cathode lamp.

(d) Hollow cathode lamp process.

4- Summarize the different excitation sources in flame emission, flame atomic absorption, non flame atomic emission, or atomic fluorescence spectrometry (4 Marks)

5- Mention two methods to eliminate ionization interference in flame photometry (2 x 2.5 Marks)

By Prof. Dr. H. F. Askal
With our best wishes

ASSIUT UNIVERSITY
FAC. OF PHARMACY
SECOND-YEAR EXAM

Microbiology & Immunology

Date: 26/1/2009 Time: 2 hours

Answer the following questions:

1- Define each of the following terms then evaluate one of them by one method. (8 Marks)
   a) Bactericidal b) Antibiotic c) Anitseptic
   d) Disinfectant e) Preservative

2- Types of plasmid and their biological characters (6 Marks)

3- Mention functions of the following bacterial structures.
   a) Cell wall b) Fimbriae c) Capsule (6 Marks)

4- Compare between Type I and Type III hypersensitivity (6 Marks)

5- Methods of evaluation of vitamins and explain one (6 Marks)

6- Mechanisms of genetic exchange (6 Marks)

7- Monoclonal antibodies and their importance (6 Marks)

8- Virulence factors of bacteria (7 Marks)

9- Mention environmental factors affect antimicrobial activity then determine the effect of one of them (8 Marks)

10- Define each of the following: (5 Marks)
   a) Prophage b) Toxoid c) Conc. exponent
   d) Superinfection e) Antigen

11- Compare between active and passive immunity (6 Marks)

(Good Luck)

الإمتحان الشفوي للطلاب من 1-300 عقب الإمتحان النظري بالقسم
باقي الطلاب اليوم التالي الموافق 27-1-2009 الساعة التاسعة صباحا بالقسم.

ASSIUT UNIVERSITY
FACULTY OF PHARMACY

DEP. OF PHARMACEUTICS
TIME ALLOWED: 3 hours
DATE: 14-1-2009

FINAL EXAM.

PHARMACEUTICS FOR 2nd YEAR STUDENTS (FIRST SEMESTER)

****

ALL QUESTIONS SHOULD BE ATTEMPTED:

PART 1 (15 POINTS) **أ.د.سوزان شوقى** 15

A- Define the following terms: ***(4 points, 2 for each)***

1-Rate of the reaction.

.....

.....

2- Units of basic rate constants for different orders of reactions.

.....

.....

.....

.....

.....

B- Define the term "order of reaction" and discuss the graphical methol for its determination.

(4 points)

.....

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.....

C- Discuss the following equation: ***(3 points)***

$\text{Log } K = \log K_o + 1.02\ ZAZB\sqrt{\mu}$

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.....

D- "Protection of pharmaceuticals against hydrolysis is an important subject in pharmacy". Explain different methods for this protection. (4 points)

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PART III ***(20 points)*** **أ.د. أحمد مصطفى**

20

A- Indicate whether each of the following statements is true (√) or false (X) **and justify your answer:**

(5 points, one for each)

[ ] 1- Specific bioadhesion refers to particulate systems include bioadhesive polymers, which will adhere to most cell surfaces and/or mucus.

.....
.....
.....
.....

[ ] 2- Polycationic polymers can be excellent mucoadhesives at neutral pH.

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.....

[ ] 3- Gastrointestinal bioadhesive drug delivery systems have been used for preparation of long-term oral controlled release dosage forms.

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.....

[ ] 4- Mucoadhesive strength of the bioadhesive polymers are changed during disease conditions.

.....
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.....

[ ] 5- Continuous secretion of mucus from the globlet cells is necessary.

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.....
.....

B- Complete the following:

1- Aging is defined as ***(3 points)***

.....
.....
.....

2- The effect of aging on aminophylline suppositories can be explained as follows: ***(6 points)***

.....
.....
.....
.....
.....
.....
.....

3- Mention the stability problem of nitroglycerin tablets and methods of protection. ***(6points)***

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PART III ***(15 points)*** **أ.د. فرجانى عبد الحميد**

Define the following giving examples and/or equations whenever possible:
(15 points, 3 for each)

1-Chelating agent.

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2- Monomolecular complexes.

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3- Molecular sieves.

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4- Quinhydrone complexes.

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5- In the solubility method, the stability constant of drug-caffeine complex is defined by:

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PART IV ***(25 points)*** أ.د. محمد فتحى

A-Encircle the correct answer ***(15 points, one for each)***

1- The major component of witepsol is:
a-Stearic acid
b-Oleic acid.
c-Lauric acid

2- The lubrication of mold is not necessary in case of
a-Cocoa butter.
b-WitepsoL
c-Gelatoglycerin

3- ..... suppositories may have a dehydrating effect and be irritating to the tissues upon insertion.
a-Cocoa butter.
b- Witepsol.
c-Gelatoglycerin

4- Salicylic acid at higher concentrations softens:
a-Cocoa butter suppository.
b-Gelatoglycerin suppository.
c-Polyethylene glycols suppository.

5- The melting point of .....is lowered by chloral hydrate.
a-Cocoa butter suppository.
b- Witepsol suppository.
c-Polyethylene glycols suppository

6-Sedimentation of the suspended drug on the tip of a suppository is called:
a-Pitting.
b-Nosing.
c-blooming.

7-Suppositories having .....as the base must be stored below 30°C
a-Cocoa butter.
b-Polyethylene glycol.
c-Gelatoglycerin.

8- Evacuation enemas are:
a- Employed to cleanse the bowel.
b-Administered for the local effects of the medication.
c- Used for systemic absorption.

9-Rapid ice-cooled witepsol-based suppositories are liable to become:
a-Rancid.
b-Brittle.
c-Irritant.

10-Patients can use rectal dosage forms if they are not suffering from:
a-Asthma.
b- Diarrhea.
c- Vomiting.

11- The contraction hole formation at the open end of suppository mold can be eliminated by:
a-Over heating the base.
b-Lubrication the mold.
c-Over filling the molds.

12- About .....of rectally administered drugs were absorbed directly into the general circulation.
a-30-50 %
b- 50 - 70 %.
c- 70-90 %.

13- The method most frequently employed in the preparation of suppositories.
a-Molding from a melt.
b-Cold compression.
c-Hand rolling and shaping.

14- The main disadvantages of suppositories preparation by cold compression:
a- The process is slow.
b- Not suitable for medicinal substances that are heat labile.
c- The problem of sedimentation of suspended solids can not be avoided.

15- The presence of mono- and diglycerides in witposol increase:
a- Polymorphism.
b- Rancidity.
c- Water holding capacity.

B- Comment: ***(10 points, one for each)***

1- Anhydrous petrolatum bases are employed extensively when antibiotics are to be prepared in a semisolid dosage form.

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2- Anhydrous lanolin absorb greater amount of water than soft paraffin.

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3-Plastibase permits a greater release of an incorporated medicaments than does petrolatum.

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4- Silicone cannot be considered as hydrocarbon materials

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5- Ointments are most frequently dispensed in collapsible tin tubes than jars.

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6- Pastes are preferred over ointments for acute lesion

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7- Ear drops usually formulated in a vehicle of anhydrous glycerin or propylene glycol.

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8- Skin hydration has significant influence on drug penetration.

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9- O/W emulsion base is water-removable.

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10- Ophthalmic solutions intended to be used during surgery or in the traumatized eye usually packaged in single dose containers

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PART V (25 points) **أ.د. محمد فتحى**

25

A- Complete the following: ***(10 points, one for each)***

1- Biopharmaceutics may be defined as

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2- ..... and ..... are the process of engulfing particles or dissolved materials by the cells.

3- Prodrugs are designed to .....

.....

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4-..... and ..... are examples of unstable drugs in gastric fluid.

5- Polysorbate 80 significantly enhances the bioavailability of phenacetin probably by

.....

.....

.....

6- The trihydrated form of ampicillin is ..... soluble in water than the anhydrous form, while solvate of a drug with organic solvent may dissolve in water ..... than the non solvated form.

7- The overall rate of drug dissolution may be described by ..... equation.

8- The absorption of ..... drugs is favored in the stomach while absorption of ..... drugs is favored in small intestine.

9- The amorphous form of a drug is always ..... soluble than the corresponding crystalline forms.

10-..... interact with ..... to form a poorly soluble complex that lead to reduce absorption of the drug.

C- Write about the following: ***(15 points, three for each)***

1- Advantages of aerosols:

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2- Space Sprays- typed aerosol:

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3- Components of aerosol package:

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4- Filling operations of aerosol:

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5- Testing the aerosol filled containers:

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PART VI ***(20 points)*** **د. جيهان نبيل** 20

A-Encircle the correct answer: ***(5 points, one for each)***

1- Surfactants can increase the dissolution rate of drugs through:
   a- increasing wettability
   b- increasing solubility
   c- solid solution formation at the drug-surfactant interface
   d- all of the above

2- Δ^9- tetrahydrocannabinol is better solubilized in ethanol rather than surfactant solution because of:
   a- higher solubilization efficiency
   b- higher stability in ethanol solution
   c- surfactants reduce the drug activity
   d- surfactants reduce partitioning og drug into biological membranes

3- Precipitation of a cosolvent-solubilized drug can be prevented by:
   a- careful selection of cosolvent concentration
   b- careful selection of drug concentration
   c- it can not be prevented
   d- (a) and (b)

4- Surfactant-solubilized vitamin D is preferred over its oily solutions because of .....
   a- increased stability
   b- higher activity and bioavailability
   c- easy administration
   d- . all of the above

5- Cosolvents are particularly important in parenteral preparations because ..... .
   a- they are nonirritating
   b- they have low toxicity
   c- they have no effect on viscosity
   d- all of the above

B-Mark the following statements as true (√) or false **(X):** ***(5 points, one for each)***

[ ] 1- Adsorption micellar solubilization occurs for nonpolar solutes.
[ ] 2- The main effect of pH on micellar solubilization is through affecting micelle formation.
[ ] 3-Nonpolar micellar solubilization reduces the CMC ofthe surfactant.
[ ] 4- Hydrotropes should be used in very high concentrations to be effective as solubilizing agents.
[ ] 5- The activity of chloroxylenol solubilized by surfactant is reduced above the surfactant's CMC.

C- Write briefly on each of the following: ***(5points, 2.5 for each)***

1- Stability of drugs in surfactant systems.

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2- Solid solutions.

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D- Give reason(s) for each of the following: ***(5points, one for each)***

1- The backing layer in TDDSs should have low vapor transmission rate.

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2- Only relatively potent drugs are suitable candidates for transdermal route.

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3- It is preferred to incorporate excess drug in the matrix of monolithic TDDSs

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4- In some TDDSs, some drug is contained within the adhesive layer.

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5- Nitroglycerin is a good candidate for transdermal route.

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GOOD LUCK

Assiut University
Faculty of Pharmacy
Department of Pharmaceutics
Pharmaceutics-1 Final Exam.

2nd Year Pharmaceutics
Time allowed: 2 hours
Date: 18-6-2009

الامتحان أربع ورقات وش وظهر – الامتحان الشفوى عقب الامتحان مباشرا بقسم الصيدلانيات الدور الثالث

Part I **أ.د. سوزان شوقى**

15

A) Complete the following (2 Marks):

Improvement of:

1- Tablets release from the die by ----------

2- Powder flowability by ----------

3- Tablets break up by ----------

4- ---------- Make powder cohesive in tablet manufacture

B) Compare between the following pairs of scientific terms (3 marks).

1	Oral tablets	Peroral tablets
2	Blistering	Wrinkling
3	Chewable tablets	Dental cones

C- Define the following (4 marks)

Item	Definition
1-Lamination	
2-Mottling	
3-Flaking	
4-Blooming	

D) Rationalize (6 marks)

1) The use of surface active agents in manufacture of capsules

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2) The use of plasticizer in manufacture of soft gelatin capsules

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3) The use of adsorbent in tablet processing

Part II أ.د. أحمد مصطفى

15

A) Give TWO examples for each of the following (3 Marks):

1- Thermal analysis instruments used in preformulation studies

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2- Use of infrared spectroscopy in preformulation testing

3-Cosolvents used for improving drug solubility

B) Fill in the spaces (4 Marks):

1- Transition in polymorphic form can occure gradually as a function of time and can be accelerated by:

a) ---

b) ---

2- Good flow properties of powders are essential for:

a)---

b) ---

C) Indicate whether each of the following statements is true (T) or False (F), and justify your answer (4 Marks):

( ) 1- If the drug substance is acidic or basic, adjustment of pH is very important e,g, injections should be lie in the pH range 3-9 while oral syrups shoul nor be too acidic.

( ) 2- The partition coefficient of a certain drug is used as indication of its biological response.

D) Give your comment on the following statements (4 Marks):

1- It is advisable to make the drugs soluble by changing in solvent rather than pH changes

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2- The crystal form of the solid drug will affect its solubility

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Part III أ.د. فرجانى عبد الحميد

A) Put (T) for the true statement and (F) for the false statement for each of the following, If your answer is false (F), Write the correct one (15 Marks).

( )1- In ophthalmic preparations, only water-insoluble drugs can be used as ophthalmic suspensions.

( )2- Ophthalmic inserts are generally used for treatment of acute diseases

( ) 3- Nasal sprays are more effective than nasal drops

( )4- Ideal suppository bases should show low acid value and high hydroxyl index.

( )5- All fatty (oleaginous) suppository bases are subjected to rancidity.

( ) 6- Water-insoluble lubricants are used for water-soluble suppository bases.

( )7- Ideal suppository base should show low water number.

( )8-Nasl preparations are best used for long period (5-10) days.

( )9- Vaginal inserts exhibits many advantages over vaginal pessaries

( )10- Sucrose is used as the main filler for preparation of vaginal inserts.

B)Give reason (s) for each of the following (10 Marks)

1- Addition of surfactants (5-10%) to cocoa butter suppositories.

2- Nasal preparations should not be used for prolonged time.

3- Formulation of ophthalmic occusert (insert) drug delivery systems.

4- Polymorphism of cocoa butter.

5- Storage of ointments in cool place.

6- Addition of cetyl ester wax to certain types of suppository bases.

7- Mold lubrication is important in preparation of certain suppositories.

8- Use of carbamide peroxide in cerumon-removing preparations.

9- Bleeding of ointments.

10-In evaluation of suppositories, melting range has been used rather than melting point

Question No. (4) د.جيهان نبيل فتيح

15

A- Give reason(s) for the following: **(5 marks)**

1-Addition of spermaceti to the basic cream formulations ingredients in case of cleansing creams.

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2- Cleansing creams and lotions are preferred over soap.

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3- The chain length of sulfated fatty alcohols used in shampoo formulations greatly affects the product properties.

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4- Using combination of palm oil soaps and coconut soaps in shaving soap formulations.

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5- Addition of fluoride to dental care products reduces the incidence of dental caries.

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B- Complete the following sentences:

(10 marks, 0.5 mark for each space)

1- Role of calcium carbonate in face powder formulations includes:
.....,.....,.....
.....&.....

2- The main foam builders in shampoo formulations belong to the group of ....., examples include .....

3- Role of superfatting agents in shaving creams includes:
.....&.....

4- Breathanol ™ is used for ..... consists of .....

5- Role of alcohol in mouth washes includes:
.....,.....,.....
.....&.....

6- Halitosis is ....., that is caused by many reasons, mainly .....

7- Periodontitis is ....., its complications include .....

8- Sugarless chewing gum helps reducing the incidence of tooth decay through .....&.....

GOOD LUCK

Faculty of Pharmacy
Dept. of Anal.Pharm.Chem.
Assiut University, Assiut, Egypt.

Second Year
Periodic exam.
Date: 3-5 - 2009
Time allowed: 45 minutes

Name of Student:----------

Question no	I	II	III	
Marks				Total=

I- Chromatography (1): Prof. Dr. Pakinaz Khashaba (4.5 Marks)

A- Mark (√) for correct answer and (x) for the wrong one: (each item is 0.5 mark).

1- Void volume is the amount of mobile phase required to elute retained component from the column. ( )

2- In reversed phase chromatography mixture of water and methanol is used as mobile phase ( )

3- Efficiency of column is directly proportional to height of the plate. ( )

4- For separation of two adjacent peaks. in chromatographic analysis selectivity factor shouldn't exceed 1.0. ( )

5- Thin layer chromatography is an example of adsorption chromatography. ( )

6- According to USP, tailing factor is defined at 10 % peak height ( )

B· Complete the following: (each item is 0.5 mark)

1- Technique of plane chromatography based on partition of sample between stationary phase and mobile phase is .....

2- A value to describe migration rate in plane chromatography is.....

3- The chromatographic mode in which polar samples are more retained on the stationary phase than the less polar samples is.....

II. CHROMATOGRAPHY II: (4½Marks)

(a) Complete the following statements:

(Each space ½ Mark)

1. In gas chromatography, the sample must be ..... and .....

2. Carboxylic acids are derivatized for gas chromatography by treatment with..... .....

3. There are two types of elution in HPLC: ..... and .....

4. The most common mobile phase used in supercritical fluid chromatography is ....

5. In high performance capillary electrophoresis, the potentials used are in the range ....

(b) Draw a block diagram of an absorption densitometer, labeling the different parts clearly. (1 Mark)

III. WATER QUALITY CONTROL (18x 1/3 = 6 *marks)*

By Prof. Dr. Ibrahim H Refaat

Select the most proper ONE answer for 18 of the following statements and carefully complete the following answer table:

Ques. No.	1	2	3	4	5	6	7	8	9	10
Answer letter										
Ques. No.	11	12	13	14	15	16	17	18	19	20
Answer letter										

1- The method for determination of water hardness that will differentiate between temporary & permanent hardness is: (A) EDTA method. (B) Palmitate method. (C) Soap method. (D) Soda reagent method	**2- Chemical Oxygen Demand (COD) is the parameter which measures:** (A) The amount of oxygen dissolved in water. (B) The amount of oxygen absorbed by organic matter in water. (C) Either (A) or (8). (D) Neither (A) nor (B).
3- Barbiturates and sulphonamides are: (A) Usually used as their water soluble sodium salts. (B) Require CO_2-free water for their injection preparation. (C) (A) & (B) are correct. (D) (A) & (B) are incorrect	**4- Between each adjacent water molecules, the following type of bonding arises:** (A) Hydrogen bonding. (B) Covalent bonding. (C) Coordinate bonding. (D) Ionic bonding.
5- The method for the selective determination of iron in water which is present as Ferric ion (Fe^{3}+) is: (A) Phenanthroline method. (B) Bipyridyl or tripyridyl method. (C) Thiocyanate method. (D) Thioglycolic acid method.	**6- The temperature of maximum density of water is:** (A) 0°C. (B) 4°C. (C) 30°C. (D) 100°C.
7- The reagent that is applied for the colorimetric determination of nitrite ion (NO_2^-) in water is: (A) Orthotolidine reagent. (B) Nessler's reagent. (C) Sulphanilic acid reagent. (D) Phenol disulphonic acid reagent	**8- Units in water analysis are usually expressed as ppm (parts per million) which is equivalent to:** (A) g *I* L. (8) mg *I* L. (C) mg *I* mL. (D) %w/v.

9- "Nephelometry" is: (A) A photoelectric technique used for determination of water "turbidity". (B) Based on measurement of the transmitted light. (C) Based on measurement of the scattered light at 90° angle to the incident light. (D) (A) and (C) are correct.	**10- Combined chlorine residual:** (A) Equals to : Total chlorine residual + Free chlorine residual. (B) Is the chloramines formed when free chlorine is combined with ammonia in water. (C) Is more effective as a disinfectant than free chlorine. (D) Is less stable as a disinfectant than free chlorine.
11- Complaints of burning eyes and chlorine odour is actually attributed to: (A) Under chlorination (i.e. high level of chloramines). (B) Over chlorination (i.e. at the break-point; after the oxidation of chloramines). (C) Independent on level of chlorination. (D) All are correct.	**12- Organic reducing matter in water samples which is from plant origin requires about ... min. to be oxidized by $KMnO_4$.** (A) 3. (B) 30. (C) 60. (D) 180.
13- Winkler's method is based on the effect of dissolved oxygen on Mn^{2+} to form: (A) MnO_4^-. (B) MnO_4^{2-}. (C) MnO_2. (D) $Mn(OH)_2$	**14· Dissolved oxygen in water ranges from:** (A) 14.6 mg/L at 35°C to 7.0 mg/L at 0°C. (B) 14.6 mg/L at 0 °C to 7.0 mg/L at 35°C. (C) 20 % to 21% w/w. (D) All are incorrect
15- When water sample is titrated with standard acid using phenolphthalein as indicator, the end point indicates volume equivalent to: (A) Alkalinity due to OH^- and 1/2 CO_3^{2-} (B) Alkalinity due to OH^- and CO_3^{2-} (C) Alkalinity due to OH^- and HCO_3^-. (D) Alkalinity due to 1/2 ($OH^- + CO_3^{2-}$)	**16- When water sample is titrated with standard alkali, using either phenolphthalein (ph.ph.) or methyl orange (M.O.) indicators; C02 acidity equals to:** (A) M.O. end point. (B) ph. ph. end point. (C) (M.O. end point - ph. ph. end point). (D)(ph. ph. end point - M.O. end point).
17 - Temporary hardness of water is due to Ca & Mg salts present as: (A) HCO_3^- . (B) CO_3^{2-}. (C) Cl^- (D) SO_4^{2-}	**18- The method for determination of water hardness that will differentiate between Ca & Mg hardness is:** (A) EDTA method. (B) Palmitate method. (C) Soap method. (D) Soda reagent method.
19- One of the following "aromatic waters" is not currently used in pharmaceutical products; being carcinogenic: (A) Cinnamon water. (B) Camphor water. (C) Chloroform water. (D) Peppermint water	**20- The reagent that is applied for the colorimetric determination of fluoride ion (F^-) in water Is:** (A) Thorium chloranilate reagent. (B) Zirconium alizarine reagent. (C) Ferric thiocyanate reagent. (D) All are correct.

Faculty of Pharmacy
Dept. of Anal.Pharm.Chem.
Assiut University, Assiut, Egypt.

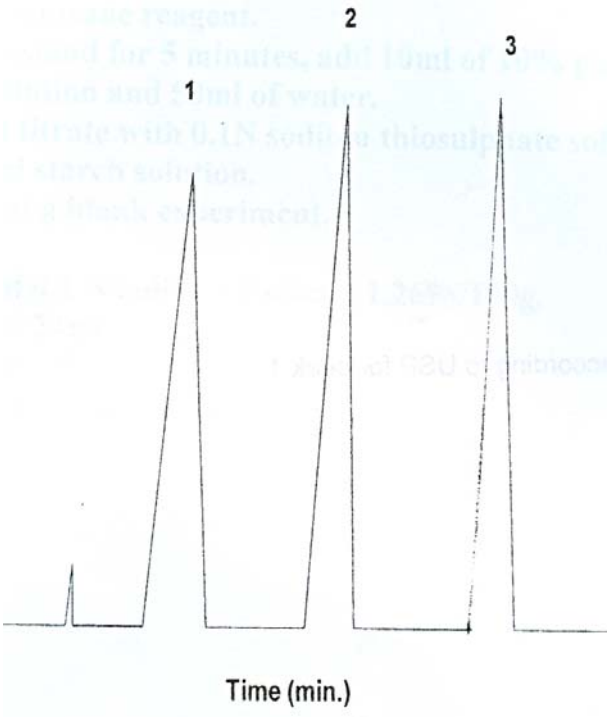
Second Year
Practical exam.
Date: 3-5 - 2009
Time allowed: 45 minutes

Name of Student:----------

Question no	I	II	Total
Marks			

1- Chromatography: (10 Marks)

You are provided with an HPLC chromatogram obtained from a mixture of three antibiotics separated on a C_{18} column of 25 cm length. Assuming that the flow rate is 1 ml/min, calculate the following values:



1- Height equivalent to theoretical plate for peak 2

2- Resolutio of peak 2 and 3.

3- Tailing factor according to USP for peak 1

Examiner name: Prof. Dr. Kamla Emara
Second year, 2008/2009

Oils and fats (Practical Examination)

A) Determination of Iodine Value

1-Into a dry clean 250-ml glass-stoppered conical flask transfer 0.5g of the sample oil.
2-Add 10 ml of chloroform to dissolve and 30ml of bromine/dioxane reagent.
3-Allow to stand for 5 minutes, add 10 ml of 10% potassium iodide solution and 50ml of water.
4-Mix and titrate with 0.lN sodium thiosulphate solution using 1ml starch solution.
5-Carry out a blank experiment.

Each 1ml of 0.1 N iodine solution = 1.269g/100g.
Blank = B = 24 ml
Experiment = E =10 ml
Calculate the iodine value.

B) Shake about 5ml of the sample, with 5ml of concentrated hydrochloric acid for 30 seconds. Add 5ml of 0.1% phloroglucinol solution in ether, shake for another 30 seconds and allow to stand for 10 minutes. The appearance of red colour in the lower layer. This test is called---
- -

1- <u>Chromatography</u> (1): (10 Marks)

1- The following chromatographic data representing a mixtire of vitamins were obtained from an HPLC with a C_{18} column of 25 cm length.

	Peak 1	Peak 2
Retention volume (ml)	8.0	12.5

Assume that (t_0) for solvent peak = 1.5 min., and flow rate is 1.5 ml/min.
Calculate the Selectivity factor for peak 1 & 2 (4 Marks)

2- Explain by equation and or a graph the following: (8 Marks)

a- Experimental determination of number of theoretical plate in TLC:

b- Peak asymmetry:

c- The cation exchange mechanism:

d- Difference between normal and reversed phase chromatography:

II. Chromatography II: (12 Marks)

(a) Draw a schematic diagram of a high performance capillary electrophoresis system, labeling the different parts clearly. (2 Marks)

(b) Mention the basic components of a gas chromatograph. (1½ Marks)

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

(c) By equations only, give two example for the derivatization of primary amines using two different reagents. (2 Marks)

III. Water Quality Control (20 marks)

By Prof. Dr. Ibrahim H. Refaat

1- Illustrate by drawing only each of the following: (2x4 = 8 marks)

A. Dissolved oxygen in water as a function of temperature.

B. Density of water as a function of temperature.

C. The "break point" of water chlorination.

D. A schematic diagram of photoelectric methods for determination of water turbidity.

2-Write the name and the chemical structure of the reagent(s) that may be applied for the spectrophotometric determination of each of the following elements in water. (9x1=9 marks)

Mn^{2+}	Fe^{2+}	Cu^{2+}
H_2S	Cl_2	NH_3
F^-	PO_4^{3-}	NO_2^-

3-Show by the chemical equations only: the principles, interference and its overcoming of Winkler's method for the determination of dissolved oxygen in water. (3 marks)

(Use next page for answer)

Examiner name; Prof. Dr. Kamla Emara

Date; 9/6/2009

(26 Mark)

I- Complete the following ;

1- Two uses of hydrogenation of oil;

1- ----------

2- ----------

2- Two types of rancidity in the early stage;

1- ----------

2- ----------

3- The acetyl value is defined as ----------

4- Phosphaties and sterols are example of ----------

5- Arachis oil, maize oil and linseed oil can be differentiated by;

1- ----------

2- ----------

6- The Reichert value is defined as ----------

7- Adulteration of butter-fat with hydrogenated oil can be detected by the presence of ----------
---

8- ---------- and ----------
are example of essential fat acid and volatile fat acid.

9- Lead salt- ether method can be used for ----------

10- Sesam oil is an example of ----------

11- ---------- can be used for the detection of cotton-seed oil.

12- Rancid oil can be detected by ---------- In the advanced stage of rancidity.

13- Two general characters of fat acid;

1- ----------

2- ----------

14- Gum guaiac is an example of ----------

15- ---------- can be used for the detection of sesame oil.

16- Elaidin test can be used for the detection of ----------

17- The vegetable oils can be classified into;

1- ----------

2- ----------

ASSIUT UNIVERSITY
FACULTY OF PHARMACY **TIME:2H**
2 nd YEAR EXAMINATION **JUNE 2009**

MICROBIOLOGY and BIOTECNOLOGY

Answer The Following Questions;

(1) Write an account on: **(20 Marks)**
a-Production of penicillin by fermentation.
b-Mention organism,substrate,pH,Temp. used for fermentation of these products;
I-Ethyl alcohol. **2-Glutamic acid.**
c-General character of CHLAMYDIA.
d- Techniques used to identify Viruses.
e-Hepatitis B virus markers and their values.

(2)Compare and contrast between the following; **(20 Marks)**
a-L-form bacteria and Mycoplasma.
b-EITor and classic V.cholerae.
c-Pneumococci and Strept. viridans.
d- Tuberculin test and ASO test.
e-Each of the Clostridium food poisoning.

(3)Mention the causative agent (s),mode of infection,lab.(30 M)
Diagnosis,treatment and /or control of the following cases;
a-A suspected case of epidemic meningitis.
b-Poliomyelitis.
c-Oral thrush.
d-Bacillary dysentery.
e-Wool sorter's disease.

"Good Luck"

الامتحان الشفوى يوم 6/14 الطلاب من 1:270 عقب امتحان النظرى
باقى الطلاب يوم 6/15 الساعة التاسعة صباحا.

Faculty of Medicine
Assiut University
Pathology Department

Time allowed: 1.5 hour
22/6/2009

Pathology Examination for Second Year Pharmacy Students

***Give an account on: (5 marks each)**

1- Causes of inflammation.
2- Complications of urinary bladder bilharziasis (5 only).
3- Fate of necrosis.
4- Types of emboli.
5- Cause and pathogenesis of edema.
6- Causes of death in malignant tumours.

***Compare in table form between carcinoma and sarcoma (10 marks).**

Good Luck

ميعاد الامتحان الشفوى:
من رقم (1) حتى رقم (309) : يوم الثلاثاء 2009/6/23 الساعة الثامنة والنصف صباحا
من رقم (310) الى الآخر: يوم الثلاثاء 2009/6/23 الساعة العاشرة والنصف صباحا

Assiut University *Date: 22/6/2009*
Faculty of Medicine *Time allowed: 1.30 h*
Department of Parasitology *Total Marks: 40*

PARASITOLOGY EXAMINATION FOR THE 2rd YEAR PHARMACY STUDENTS

All questions to be answered and illustrated (10 marks for each):

1- Burning micturation accompanid with terminal haematurea are the main clinical manifestation in some Egypitan farmers. Mention the causative parasite, its habitat, infective stage, intermediate host and the mode of infection.

2- Sources of parasitic infection.

3- Enumerate three protozoan parasites that may cause fever. Mention the host, habitat, infective stage and methods of diagnosis.

4- A 28 years old patient, from urban area was irritable due to passage of white segments about 2cm long with and without defecation. He also complained of loss of weight and hunger pains.

a) Mention the causative parasite.

b) Mention its mode of infection and complications.

(Good Luck)
Prof. Dr. Mahmoud EI-Hady

Assiut University
Faculty of Pharmacy
Pharm. Anal. Chem. Dept.

2nd year Mid-term .Exam
Date: 13/12/2009
Time: 30 min.

Name

I- Potentiometry (5 Marks)

Dr. Salwa

1- Define or complete the following

a- Galvanic cell

b- Electrolytic cell

c- E° for Cd^{+2}/ Cd°= - 0.403 v . This means that cadmium

d- Salt bridge is used to connect the two halves in electrochemical cell and not metallic wire

e- The indicator electrode which is used in redox titration is while reference' electrode is

f- Combination electrode consists of

1- Put (√) in front of the correct statement and (x) in front of the wrong one

a- Copper electrode is used to determine potassium ions in Solution ( )

b- Potential of reference electrode differ according to the concentration and type of ions in solution. ( )

c- Glass electrode is used to measure hydrogen ions in solution ( )

d- Normal curve is more precise than second derivative curve for location of the end point in potentiometry ( )

II- Conductometery and Polarography (4marks) (Dr. Niveen A. Mohamedl

Complete the following sentences:-

a- The use of conductometery in the determination of end points depends on .....

b- In conductmetric cell the electrode type is , ...

c - Dropping mercuric electrode (d. m. e.) is used mainly for determination of ....substances or easily ..... substances.

d- The study of the reversibility of the reaction can be done by .....

III- Spectrophotometry: (6 Marks)

By Prof. Dr. qamal A. Saleh and Dr. Sameh A. Ahmed

In the provided table, write the name or the scientific term for each of the following statements:

S. No.	Name or scientific term	S. No.	Name or scientific term
1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

1- Band characteristic for benzenoid absorption.
2- The linear distance measwred along the line of propagation.
3- The law that correlates th:e light absorption with the concentration.
4- The function group that: confer colour on substance capable of light absorption. . .
5- A decrease in the absorption intensity.
6- Shift of maximum absorption peak to a longer wavelength. 7 - A lamp used to emit visible light.
8- Wavelength selector function via diffraction of light'.9- A 'cell used to measure a sample in. the UV range.
10-Relies on optical interference to provide a relatively narrow band of radiation.
11-Light detector that permits simultaneous measurement of multiple wavelengths.
12-Used for beam splitting in spectrophotometer.

Assiut University
Faculty of Pharmacy
Pharm. Anal. Chem. Dept.

2nd year Final exam.
Date: 31-1-2010
Time: 3 hours

Instr. & Applied pharm. Analysis-1

I-POTENTIOMETRY (16 Marks)

1-Complete the following (6 Marks)

a) - The half -cell for saturated calomel electrode is represented as

b) -To determine the concentration of iodide ions in solution the indicator electrode is

c) - To determine the fluoride ions in solution the indicator electrode is

d) - There are two types of electrochemical cells

e)-A plot of the rate of change of potential with change in the volume (I1E/11 V) against average volume of titration is known as

f)-Advantages of potentiometric titrations are

g)-Potentiometric titratiorimay be applied to

2-Put(√) in front of the correct statement &(X) in front of incorrect one. (4 Marks)

a)- The maximum of the plot gives the end point in first derivative potentiometric titration curve. ( )
b)- Lead electrode is used to determine lead ions in solution. ( )
c)- Potential of indicator electrode is constant regardless of the concentration or type of ions in solution. ( )
d)- Salt bridge consists of atube filled with inert salt such as sodium chloride. ( )
e)- Iron electrode is used as indicator electrode in titration of Fe^{2}+ with Ce4+. ( )
g)- Urea electrode is an example of membrane electrode. ( )
h)- Electrode potential (E) is the electrode potential when the activities of the reactants and products are all unity. ( )

Dr. Salwa

Give the reason. **(2 Marks)**

a)-Glass electrode must be immersed in water for few hours before use.

b)-Large excess of KCl is used in preparation of SCE and sliver–sliver chloride electrode

4- Draw & label a sliver-sliver chloride electrode & write its: (4 Marks)

a)-Use

b)-Half cell

c)- Half reaction

d)-Nernest equation

Dr. Salwa

II- Conductimetery and Polarography (11 Marks)

By Dr. Neveen A. Mohamed

1- Complete the following sentences:

a-The electrodes in conductometric cell are usually plantinized to
.....

b-Specific conductance is .....
.....

c-Displacement titration is .....
.....

D- One of the disadvantage of conductimetric technique is
.....
.....

2- In one type of conductimetric titration curves, there is minima mention this type, sketch and discuss the cause.

ارسم اسفل الورقة

1- Complete the following sentences:

a- Stripping voltammetry formed of two steps ..... and ..... and the current – voltage curve called .....

b- In the reduction of organic substance the supporting electrolyte may contain .....,..... and ....

c- Mass transfer in polarography is carried out by .....

2- Tick (√) or (x) for the following statements

a- Dropping mercuric electrode (d. m. e.) can not be used for determination of easily oxidizable substances.
b- Polarography is a technique in which both electodes are polarized.
c- Polarography can be used for determination of electroactive substances only.

3- Write short note on:-

-Higher hydrogen over voltage

b- Write llkovic equation and discuss its term. Is this equation used for qualitative or quantitative measurement. What is the parameter in llkovic equation on which id depend?

III- **Spectrophotometry**

A- Write short notes on the following with drawings whenever Possible: **(4x2 = 8 Marks)**

1- Energy level diagram of ethylene and butadiene

2- Cut –off wavelength

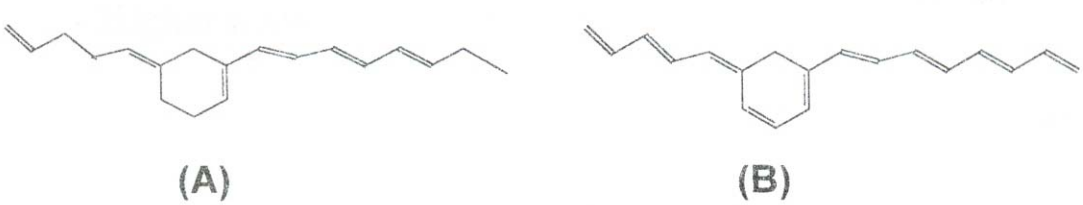
3- B-band

4- Effect of solvent on n-π^* transition bands

B- Solve the following problem: (2x1½ = 3 Marks)

a) Compounds A and B have ε values of 6000 and 5000 respectively and molecular weights of 300 and 200 respectively. Which of the two compounds have higher A (1%, 1cm)

b) Calculate the λ_{max} for compounds A and B according to Kuhn and Hauser rule:



(A) (B)

Prof. Dr. Gamal A. Salah

IV- Spectrophotometry and Spectrofluorimetry: (16 Marks)

[A] Describe the main differences between the following pairs: (8 Marks)

1-Tungestin-filament and Tungestin-halogen lamps as a source of radiation
2- Derivative and difference spectrophotometry.
3- Excited singlet and excited triplet state electrons.
4- Luminol and peroxyoxalate chemiluminescence.

[B] Draw schematic diagrams for each of the following: (4 Marks)

1- Double beam spectrophotometer.
2- Spectrofluorimeter.

[C] Sketch photometric titration curves for: (2 Marks)
1- Titration of ferrous salts with $KMnO_4$
2- Mixture of bismuth and copper salts with EDTA.

[D] Mention colorimetric method for determination of Aniline (Ar-NH2) as an aromatic amine compound (2 Marks)

By Dr. Sameh A. Ahmed

V- Flame Emission, Atomic Absorption and Atomic Fluorescence Spectrometry: (16 Marks)

1- What are the main differences between molecular and atomic spectra? (1x3=3 Marks)

A-

B-

C-

2- Write briefly on the pharmaceutical applications of FES and AAS (6 x ½ = 3 Marks)

A-

B-

C-

D-

E-

F-

3- Enumerate the sources of exciting radiation. (6 x ½ = 3 Marks)

A- B-

C- D-

E- F-

4- Draw a block diagram of the two types of burner system.

(2 x ½ = 3 Marks)

5- Mention only the different types of interferences in FES and AAS. and the corresponding methods to eliminate or minimize them.

(1 x4 = 4 Marks)

A-

B-

C-

D-

With our best wishes

Prof. Dr. H. F. Askal

Assiut University Feb.\ 2010
Faculty of Pharmacy Time:2hours
General Microbiology&Immunology

Answer the following questions:

I- Write an account on:

I-Mention one method for evaluation of each type of non-antibiotic antimicrobial agents. (6 Marks)

2- Functions of bacterial cell wall&bacterial capsule.(6Marks)

3-Pathways of complement activation & their biologic consequences.(6Marks) 4-Mechanisms of hypersensitivity reactions to penicillin drugs. (6Marks)

5-Compare between dextran&xanthan microbial products as regard: composition ,production and uses(6Marks)

6-Mention microbiological methods used for assay of antibiotics, then explain One of them.(8Marks)

7-How to do sterility test for the following materials (4Marks)

A)Liquid paraffin. B)Sulfa drugs

II-Write ,in table,T(true) or F(False) for each following statement: (17Marks)

I-For assay of antibiotics in body fluids less bacterial inoculum can be used.

2-Sulphonamides are bacteriostatic agents.

3-lndex ratio number can indicate mode of action of antibiotics.

4-Lyophilization is better than refrigeration in preservation of microbial culture. 5-ln phenol coefficient tests the tested disinfectant activity is compared with phenol.

6-Resistance to some antibiotics is due to a chromosomal mutation that alter the receptor for the drug.

7 -Addition of soap enhance the antimicrobial activity of phenol. 8-Seitz filter is better than cellulose membrane filter.

9-Sex pili has a role in bacterial genetics.

IO-Macrophages have an essential role in immune reactions.

II-In serum sickness,only one dose of antigen can produce the reaction. I2-lgA antibody crosses the placenta.

13-ln comparison with the primary antibody response,the secondry response is characterized by longer persistence of antibody synthesis.

I4-Exotoxins bind to specific cell receptors whereas endotoxin are not. I5-Resistance genes to antimicrobial drugs are rarely transferred by conjugation.

16- Turbidimetric method can be used for assay of vitamins.

17- The ability of micro organisms to detoxify pollutants from the environment is known as Bioremediation.

III-Choose the letter of the best correct answer for each statment then write it in table (11 Marks)

I-The optimum pH for production of citric acid is

A)pH6. B)pH 7.5. C)pH 3. D)pH 8.5.

أنظر خلفه.....

2- As regards Lactic acid production the following are homofermentative bacteria Except:

A)Lactobacillus bulgaricus. B)Lactobacillus pentosus.
C)Leuconostic mesenteroides. D)Strept.lactis.

3-Neutrophils are attracted to an infected area by

A)IgM. B)Cl. C)C5a. D)C8.

4-Which of the following is on Fe part of immunoglobulin molecules:

A)Hyper variable region. B)Antigen binding site.
C)Light chain. D)Complement binding site.

5-Which of the following isnot a differentiated Teells:

A)Helper cell. B)Supressor cells. C)NK cells. D)Delayed hypersensitivity cells.

6-Which one of the following substances is Not releasd by activated helper Tcells?

A)Alpha interferon. B) Gamma interferon. C)Interleukin 2. D)IL-4.

7-Which of the following structures are involved in bacterial attachment tocell surfaces?

A)Mesosomes. B)Flagella. C)Pili. D)None of these.

8-PCR means that the genes is

A)Detected directly by DNA probe. B)Detected after amplification.
C) Cleaved by nuclease enzyme. D)None of these.

9-Bacteria that make either a fermentative or a respiratory set of enzymes are known as:

A)Obligate anaerobes. B)Obligate aerobes.
C)Facultative organisms. D)Microaerophiles.

10-Plasmids are;

A)Single stranded DNA molecules. B)Carrying optional genes
C) Carrying essential genes for growth. D)Present in very few bacteria.

11-AII of the following represent innate immunity Except:

A)Lectin pathway of the complement. B)Phagocytosis.
C)Proinflammatory cytokine(IL-I) D)ADCC.

"Good Luck"

الامتحان الشفوى للطلاب من رقم 1: 380 عقب امتحان النظرى مباشرة بالقسم
باقى الطلاب فى اليوم التالى من الساعة التاسعة صباحا

Assiut University
Faculty of Pharmacy
Dept. of Pharm. Organic Chemistry

2nd Year Pharmacy
Final Semester Exam
June 5, 2010

Pharm. Organic Chemistry Exam.

Time allowed 3 h

Illustrate your answers by chemical equations and reaction mechanisms whenever possible

الامتحانات الشفهية عقب الامتحان النظرى مباشرة لجميع الطلبة

This booklet is composed of 8 pages

Answers should be in the specified places

المشاركون فى الامتحان النظرى

Prof. Dr. Abdel Alim M. Abdel Alim

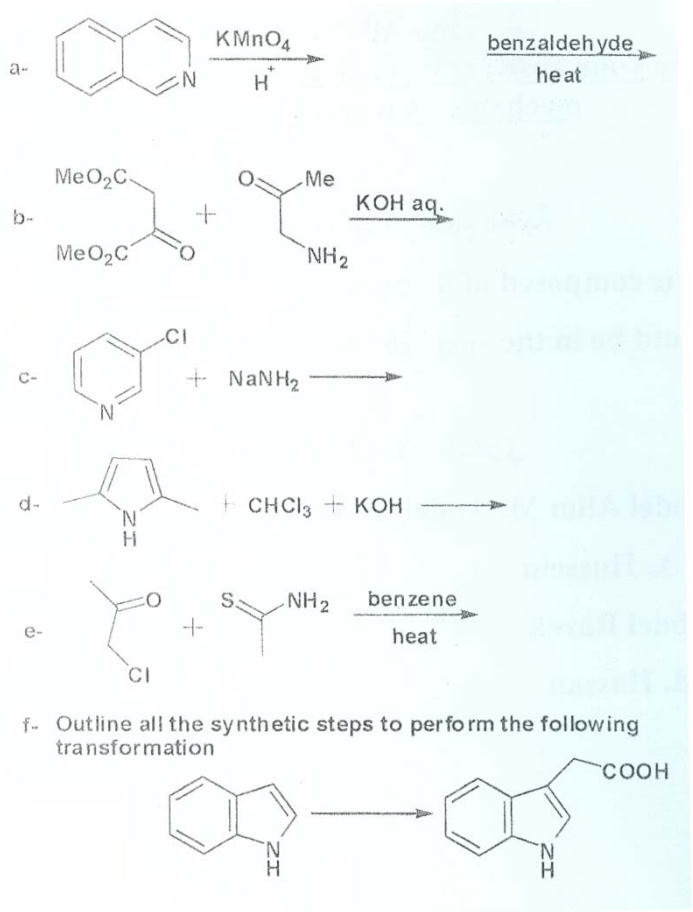
Dr. Mostafa A. Hussein

Dr. Ola I. Abdel Razek

Dr. Hajjaj M. Hassan

Section A (90 min, 35 points)

1- Complete the following equations giving the principle organic product(s): (7.5 points)

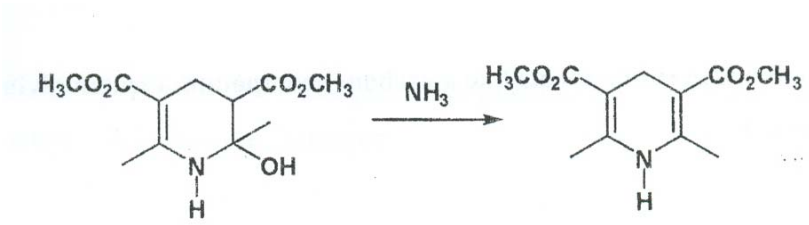


2- Many organic reactions are named after the chemists who discovered or developed them. (4 points)

a- What are the name of reactions 1(b) and 1 (e)?

b- Below is shown one mechanism step in the Hantzsch pyridine synthesis. Draw the curved arrows, and briefly explain the driving force for this step.

See next page



c- Outline the equation and mechanism of Skraup synthesis of quinoline.

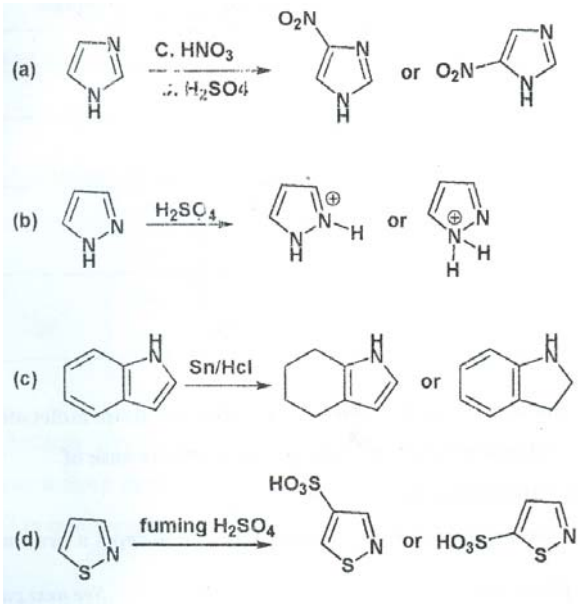
3- Rank in a descending order, without comments, the following: (3.5 points)

a- Basicity of: thiazole, pyridine, imidazole, pyrazole, oxazole and isothiazole

b- S_E reactivity of: benzene, pyridine, pyrrole and pyrimidine

c- S_N reactivity of: isoquinoline, pyridine, pyrimidine and pyridine-N-oxide

4- Encircle the major product in each case, and briefly explain your choice: (5 points)



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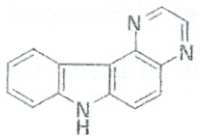
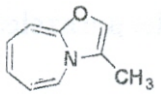
5- Sometimes pyridine reacts like a carbonyl compound, explain giving examples (3 points)

6- Nomenclature: (4 points)
Name the following structures systematically:



(a)



(b)

Draw the structures of:

a- Imidazo [2,1-b]-1,3,4-thiadiazole

b- 6-Methyl-1,4,3-oxathiazine

7- Compare between pyrrole, furan and thiophene: (5 points)

Item	Thiophene	Pyrrole	Furan
Fridel-Crafts acylation			
Bromination			
Diels- Alder reaction			
Catalytic hydrogenation			

8- Proton transfers are common in reactions involving heteroaromatic molecules. So it is useful to have a good understanding of the site and relative ease of protonation of these molecules. (3 points)

(a) Write a reaction of imidazole with H_3O^+ to show where it accepts a proton and provide an explanation.

See next page

(b) Draw curved arrows to show the preferred position for protonation of pyrrole, what is the effect on stability?

Section B (90 min, 35 points)

1- <u>Complete the following</u>: (8 points)

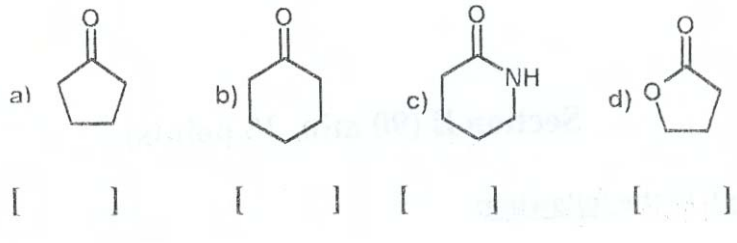
a) Absorption of infrared radiation by a molecule increases . . . . of the vibration, but does not change its frequency.
b) In IR spectrum, fingerprint region appears at .....cm^{-1} and it is characteristic to differentiate between two different molecules have the same functional groups except.. .....
c) *Stretching vibration* is the change in ..... and it needs ..... (high-Iow) energy while bending *vibration is the* change in ..... and it needs .....(high-Iow) energy.
d) IR inactive molecules, for example, ... show no infrared absorption because there is no change in .....
e) The theoretical group frequencies can be calculated from .....law which has the following formula: .....
f) Molecular ion peak (M^+) is defined as ....while isotope peaks (M^- +1, M^+ + 2) are those .....
g) Coupling constant "J" is defined as..... ..... and it is measured by ..... unite.

II <u>Account for</u> IR spectrum of diluted CCl_4 solution of p-hydroxyacetophenone; shows a sharp band for OH group at 3600 cm^{-1}, while a broad strong band at 3300 cm^{-1} in neat sample (2 points).

See next page

III-a) Correlate each compound with any of the wave numbers provided owing to their C=O group IR absorption, then account for your answer (3 points)

[1660 – 1715 – 1745 – 1770 cm^{-1}]



[ ] [ ] [ ] [ ]

Account:.....
.....

b) Using IR spectroscopy differentiate between *cis*- and *trans*-2-Butene (2 points)

IV- In view of 1H-NMR spectroscopy, account for the following: (5 points)

a) Tetramethylsilane (TMS) is used as a reference standard.

.....
.....
.....

b) Not all aromatic protons are deshielded, but in some aromatic compounds they are highly shielded, (illustrate your answer by a sketch)

V- In view of mass spectrometery, account for the following: (2 points)

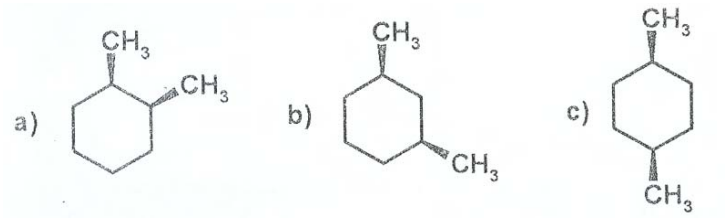
a) Ethanol shows a peak at m/z=31

b) Benzyl chloride shows a peak at m/z 91.

See next page

VI- The following is the mass spectrum for 2-octanone ($C_8H_{16}O$, M. Wt 128). Account for the major peaks at m/z 128, 113, 58 and 43 Write equations for their formation (2.5 points)

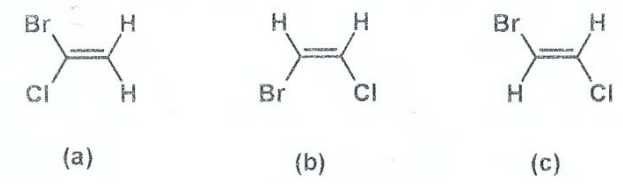
VII- The following are structural formulae for the *cis*-isomers of 1,2-, 1,3-, and 1,4-dimethylecyclohexane and three sets of ^{13}C-NMR spectral data. Assign each constitutional isomer with its correct spectral data. (3 points)



Spectrum 1	Spectrum 2	Spectrum 3
31.35	34.20	44.60
30.67	31.30	35.14
20.85	23.56	32.88
	15.97	26.54
		23.01

.....
.....

VIII- The following are structural formulae for three diasteromers with a molecular formula , C_2H_2BrCl, each has two doublets in its ^{1}H-NMR spectrum at δ 5-6 ppm, but with different coupling constants "*J*"
How could you distinguish between them? (1.5 points)



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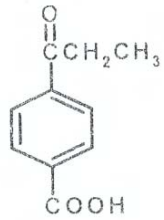
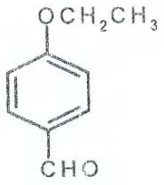
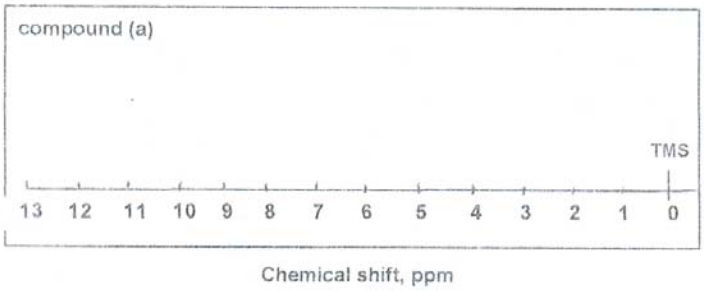
IX- (a) Sketch your predictions of the ^{1}H-NMR spectrum of each the following compounds (a and b), showing sets of non-equivalent protons, no. of protons for each set, approximate chemical shifts and multiplicity, (and coupling constant, if any): (6 points)

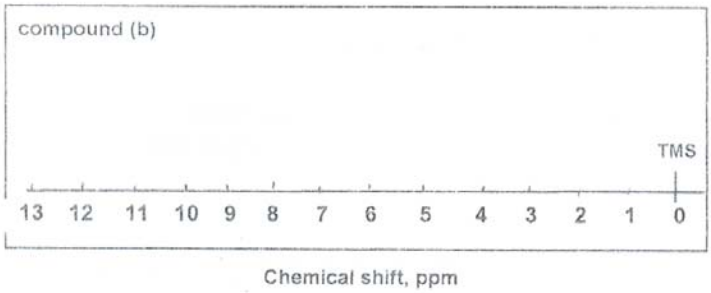


(a)



(b)





b) What would be your predictions for the ^{1}H-NMR spectra of the above compounds after adding D_2O.

For compound (a) .....

For compound (b) .....

Good Luck

Assiut University
Faculty of Pharmacy
Pharm. Anal. Chem. Dept.

Final exam.
Second year
Date: 17-06-2010
Time Allowed: 2 hours

Instrument.& Applied Pharm. Anal. 2

1-Chromatography (A): (13½ Marks)

(A) Complete the following table: (4½ Marks)

Statement	Chromatographic parameter	Equation (whenever possible)
1- A parameter used to describe migration rate in column chromatography		
2- A parameter used to provide a quantitative measure of the ability of a column to separate two adjacent peaks.		
3- A parameter used to determine how much if any, an eluting peak profile deviates in shape from a normal distribution.		

(B) Predict order of elution of the following mixtures from: (3 Marks)

1- A reversed phase column:
a- Benzene b- Naphthalene c- Phenol d- Anthracene

2- A size exclusion column:
a- NaCl b- Bovine serum albumin (Mw~ 67 kDa).
c-Casein (MW: ~23 kDa) d- Myosin, porcine (MW. ~ 205 kDa)
e- Aprotinin, boving lung ~ 6.5 k Da)
(where MW is the molecular weight and Da is the atomic mass unit; Dalton)

3- An ion exchange column:
a- Al^{+3} b- Ag+ Zn^{2+}

(C) For the separation of the last mixture (mixt. Of Al^{+3}, Ag+ and Zn^{2+}) .
Suggest the following: (4 Marks)
1- Type of ion exchange column:

2- Suitable Mobile phase:

3- The corresponding ion exchange mechanism:

(D)Show by graph and equation the experimental determination of the number of theoretical plate in plane chromatography. (2 Marks)

II-Chromatography (B): (13½ Marks)

1-Sketch a schematic diagram of a typical high performance capillary electrophoresis system, labeling the different parts clearly. (3 Marks)

2- Complete the following statements: (Each space ½ Mark)

(a) Migration rates of sample components in gas chromatograph are dependent on four factors:

i).....

ii).....

iii).....

iv).....

(b) The most common column packing in normal phase LSC is.....

.....while in reverse phase LSC it is

.....

(c) Advantage of supercritical fluids as mobile phases over HPLC is that

.....

.....

while their advantage over GC is that .....

.....

(d) The most common supporting media used in ordinary Electrophoresis are 3 types: ..... , ... and .....

(e) In GC, HPLC and HPCE, the internal standard used must fulfill two major conditions:

i) .....

ii) .....

3- A non-volatile and thermolabile pharmaceutical compound containing primary amino group (e.g. RNH_2) has to be derivatized prior to GC.
Suggest two reagents and write down the two derivatization equations.

(4 Marks)

III- **Water Quality Control:** (22 marks)

(A) Write short notes on:

1- Water Disinfectants.

2- Types and determination of water hardness.

3- Chemical determination of dissolved oxygen.

(B) Explain what is meant by the following terms:

1- COD

2- NTU

3- TDS

4- BOD

(C) What is the chemical application of the following reagents in water analysis:

1- Nessler's reagent.

2- Ortho-Tolidine-Arsenite reagent.

3- Manganese (II)/Sodium azide reagent.

(D) How can you analyze the following ions in water samples

1- Iron (III) ions

2- Fluoride ions

3- Copper (II) ions

IV- **Analysis of Oils and Fats** (21 Marks)

(A)- Complete the following: (10 Marks)

1) The saponification value is defined as:

---

2) Uses of hydrogenation are:

---

3) The hydroxyl value is defined as:

---

4) The iodine value is defined as:

---

5) The Polenske value is defined as:

(B)- Write the letter of one best answer in the following table: (11 Marks)

Questio No.	1	2	3	4	5	6	7	8	9	10	11
√ Letter											

1- Adulteration of butter-fat by hydrogenated oil can be detected by the presence of:

a) oleic acid b) caproic acid

c) iso-oleic acid d) a) and b)

2- Arachidonic acid isan example of:

a) volatile fat acid b) saturated fat acid

c) essential fat acid d) a) and b)

3-Examples of phosphatides (phosphoglycerides) are:

a) lecithin b) squalene

c) cephalin d) a) and c)

4- The vegetable oils are classified into:

a) drying oil b) semi-drying

c) non- drying d) a),b) and c)

5- The vegetable oils can be differentiated by:

a) iodine value b)acid value

c) Halphen insoluble bromide test d) a) and c)

6-Type of rancidity in the advanced stage is:

a) oxidative b) hydrolytic

c) aldehydic d) non of the above

7 - The water-slCluble volatile fat acids can be determined by:

a) acid value b)peroxide value

c)Reichert value d) Kirschner value

8- Bromine/dioxane reagent can be used for the determination of:

a) bromine value b) acid value

c) iodine value d) ester value

9- Boudouin's test can be used for the detection of:

a) cotton-seed oil b) sesame oil

c) arachis oil d) almond oil

10- According to the steps of purification,oils are divided into:

a) edible oils b) technical oils

c) medicinal oils d) all the above

11- Natural antioxidants are:

a) Vitamin E b) Vitamin A

c) Vitamin C d) all the above

Prof.Dr. Pakinaz Youssif Khashaba

Prof.Dr. Michael E. El Kommos

Prof.Dr. Abd El Maaboud Ismaiil

Prof.Dr. Kamla Emara.

Assiut University
Faculty of Pharmacy
Department of Pharmaceutics
Pharmaceutics -1 Final Exam.

2nd Year Pharmacy Final Exam
Time allowed:2 Hours
Date: 22-6-2010

15

All questions are to be answered

Part I أ.د سوزان شوقى

1- Compare between the following pairs of scientific terms (5 Marks):

a- Dental cones and sublingual tablets

b- Water soluble tablets an effervescent tablets

c- Hypodermic tablets and dispensing tablets

d- Soft gelatin capsules and hard gelatin capsules

e- Sugar coating and film for tablets

2) Discuss the role of the following materials in capsule formulation (5 Marks):

a) Surface active agents

b) Viscosity modifying agents

c) Plasticizing agents

d) Lubricants and glidants

e) Diluents

Q3) Read carefully and put (T) for the true statement and (F) for the false statement (5 Marks)

( )a-Good tablets granulation should contain particles which approach needle shape.
( )b- Flavors could be incorporated in tablet ingredients during wet processing
( )c- Mannitol is used in chewable tablets design.
( )d- Film coating cause increase in tablet weight.
( )e- Laminatin of the coat resulting from rapid drying between coating applications.

PART 2

15

(Prof. Dr. Ahmed Moustafa El-Sayed)

1. Give the reason(s) for the following: (6 points)

A- Performance of membrane permeability test in preformulation studies

B-Use of octanol as the non-aqueous solvent for determination of partition co-efficient

C-When drug substance has an aqueous solubility less than 1mg/ml, performulation studies should be initiated to increase its solubility

2. Indicate whether each of the following statements is true (√) or false (X) and justify your answer: (9 points)

( ) A- In performulation studies for solid dosage forms, it is necessary to ensure taste masking and sterility (2 points)

( )B- Excipients may be used to alter drug solubility (2 points)

( )C- In preformulation studies, the main advantage of drug assay using U.V Spectroscopy method is stability indicating character (2points)

( )D- Problems that occur during measurement of drug solubility may include difficulty in filtering out colloidal particles of solid (1point)

( )E- Drug salt is used to improve solubility, A salt which form less acidic or basic solution is required. Oral syrups should not be too acidic and injections should lie in the pH range of 3-9 (2 points)

Part III Prof. Dr. Fergany Mohammed

I-Put (T) for the true statement and (F) for the false one for each of the following (15 marks)

I-Diadermatic ointments are those which penetrate the skin permitting or encouraging systemic absorption .This group includes Lard, lanolin and vegetable oils.

2- Blooming of suppositories means sedimentation of the suspended drug on the tip of a suppository.

3- Among the components of douche powders are quaternary ammonium compounds.

4- Sunscreening agents that filter out ultraviolet rays may be incorporated in various types of dermatologic vehicles. The protective agent in this case would be the active ingredient, not the base.

5- The partial glycerides present in witepsol bases act as W/Oemulsifying agent and enable appreciable quantities of aqueous solutions to be incorporated.

6- Some vaginal inserts are capsules of gelatin containing medication to be released intravaginally.

7- Nasal decongestant solutions are best used for short periods of time (no longer than 10 days).

8- Pastes are less greasy and more absorptive than ointments.

9- Salicylic acid 1 to 2 per cent is an example of a keratoplastic agent, whereas stronger strengths of salicylic acid are keratolytic.

10- Epidermatic ointments demonstrate little or no power of penetration into the skin. This group includes the anhydrous lanolin and the hydrocarbon bases.

11- Endodermatic ointments possess some power of penetration into the skin. Emulsion type and water-soluble bases belong to this class.

12- A topical can be defined as a formulation (liquid, semisolid, solid or aerosol) which is applied directly to an external body surfaces by spreading and rubbing.

I3-Fissuring of suppositories is usually due the insufficient elasticity of the base.

14- Gels and creams exhibit higher absorption power than ointments

15- Gels can be used topical, vaginally and orally.

(Write your answers in the table)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

2) Write the scientific term for each of the following (10 Marks)

I- Agents tend to increase the thickness of the homy layer.
2- Suppositories for intravaginal administration.
3- Tablets for intravaginal administration.
4- Agents that help to remove ear waxes.
5- Agents that used prevent skin drying.
6- Materials unable to hold or incorporate water.
7- Agents that protect the skin against moisture, air and chemicals.
8- Soft preparations applied to the skin while hot in order to reduce inflammation or, in some cases, to act as counterirritants.
9- Ophthalmic dosage form utilized for chronic conditions to avoid interruption of patient sleep.
10- Materials used to prevent the unsaturated fats and oils from rancidifying.
11- The solvent or liquid constituents flow out slowly to the surface of the suppositories.
12- Suppository base that permit the convenient storage of the suppositories without need of refrigeration and without danger oftheir softening excessively in warm weather.
13- Acids used in topical formulations.
14- An index reveals the presence of mono- and diglycerides in a particular substance.
15- The number of milligrams of KOH required to neutralize the free acids and saponify the esters contained in one gram of a fat.
16- The amount of water in grams which can be incorporated in 100 grams of base.
17- Form of cocoa butter that melt at 18°C.
18- Semisynthetic suppository bases that consist oftriglycerides of saturated fatty acids.
19- Sedimentation of the suspended drug on the tip of a suppository.
20- Synthetic water-soluble suppository base with different physical states depending on molecular weights.

(Write your answers in the table)

1-	5-	9-	13-	17-
2-	6-	10-	14-	18-
3-	7-	11-	15-	19-
4-	8-	12-	16-	20-

15

Part IV **Dr. Gihan Fetih**

1- Choos the most correct answer: (Write your answers in the table)

(12 marks)

1	2	3	4	5	6	7	8	9	10	11	12

1- Borax is added to shaving cream formulation to:
a) Improve stability of the cream
b) improve viscosity of the cream
c) prevent cream from drying out
d) react with other ingredients to act as self emulsifying agent

2- Superfatting agents are included in shaving cream formulations to:
a) neutralize any free alkali
b) stabilize both the cream and the lather
c) improve viscosity of the cream
d) a& b

3- Shaving soaps are similar to ordinary bar toil~t soaps, but differ in:
a) consistency is softer due to higher water content
b) consistency is very firm as it must be rubbed against moistened skin
c) it must lather quickly and copiously
d) b & c

4- A formula consisting of: triethanolamine lauryl sulfate (35%), sodium alginate (2.5%) in water represents a simple form of:
a) liquid creme shampoo
b) liquid clear shampoo
c) cleansing lotion
d) oral deodorizing liquid

5- Sulfated fatty a1cohols used in shampoo formulations should:
a) have a high degree of sulfation to obtain good detergency
b) have a low degree of sulfation to be non-irritant
c) be 100% sulfated to obtain maximum detergent effect
d) have a chain length of more than 18 carbon atoms to produce good foam

6- The most acceptable detergent used in shampoo formulations is:
a) ammonium alkyl sulfate
b) sodium alkyl sulfate
c) triethanolamine alkyl sulfate
d) a combination of sodium and potassium alkyl sulfate

7- For liquefying cleansing creams, all the following is true except:
a) it is designed to liquefy when gently massaged on the skin
b) it is anhydrous and particularly used for dry skin
c) it is a *w/o* emulsion type cream
d) its hardness is obtained by thixotropic effect produced by a wax such as paraffin.

8- For demineralization of enamel, all the following is true except:
a) means dissolving of calcium and phosphorous from the enamel
b) caused by lactic acid produced by anaerobic bacteria in the mouth
c) it increases in case of accumulation· of plaque
d) it is increased by the action of saliva

9- Halitosis is:
a) inflammation of the tongue
b) infection of gum tissues
c) unpleasant breath odor
d) malocclusion of the jaws

10- Fluorapatite is:
a)deformity of enamel due to excessive ingestion of fluoride
b) produced by incorporation of fluoride in calcium crystals of the enamel mineral
c) the substance covering the root of tooth and attach it to periodontum legaments
d) non of the above

11- Xylitol is used as sweetening agent in chewing gum because:
a) it stimulates the production of saliva
b) it neu.tralizes the acid produced by bacteria
c) it causes the bacteria lose their ability to stick to teeth
d) all of the above

12- The role of alcohol in mouth washes formulations is:
a) acts as a carrier for flavor b) solublizes other ingredients
c) contributes to the antibacterial activity d) all of thr above

2- Write briefly on the following: (3 marks)

A- Dentifrices for sensitive teeth.
.....
.....
.....

B- Role of fluoride in reducing dental caries.
.....
.....
.....
.....

GOOD LUCK

يعقد امتحان الشفوى بالقسم بعد النظرى مباشرة

Assiut University **Time:2h.**
Faculty of Pharmacy **June,2010**
Medical Microbiology **Second year Final Exam.**

Answer the following questions:

I-Mention,in table,the causative agent&mode of infection of the following diseases: (16 Marks)

a-Botulism. b-Syphilis. c-Bacillary dysentery.
d- Traveller diarrhea. e-Rheumatic fever. f-Undulent fever.
g-Epidemic cerebrospinal meningitis. h-Hepatitis A.

II- Prophylaxis against (6Marks)

a-Poliomyelitis. b-Hepatitis B. c-Influenza.
e-Measles. f- Tuberculosis. g-Diphtheria

III-Write an account on the following: (9 Marks)

a-Antifungal drugs.
b-General characters of Mycoplasma.
c-Inclusion bodies &their importance.

IV-Mention Lab. diagnosis for the following diseases: (15 Marks)

a-Acute gonorrhea. b-Malignant pustule. c- Tinea pedis.
d- Infectious mononucleosis. e- Enteric fever during first week.

V-Choose the letter of the best correct answer for each of the following(12Marks)

I-The cholera vibrio;
A)Is anaerobic. B) Grows best at 25C. C)Grows best at slightly acidic pH
D)Has marked tolerance for alkaline pH

2- The most frequently isolated bacteria from puerperal sepsis is:
A)Staph.aureus. B)E.coli. C)Clost.tetani. D)Strept.pyogenes.

3-Secondry syphilis is characterized by all of the following EXCEPT:
A)Cutaneous lesions. B)Onset 2-12 weeks after chancre.
C)Enlargement of lymph nodes D)Inability to find spirochaetes from lesions.

4-Cord factor of the tubercle bacilli is:
A)Composed of mycolic acid. B)Not related to virulence.
C)More abundant in virulent strains. D)None of these.

5-Man is the only host for:
A)Shigella flexneri. B)Salm.enteritidis. C)Brucella abortus. D) Yersinia pestis.

6-E.coli cause the following disease EXCEPT:
A)N eonatel meningitis. B)Gastroenteritis.
C)Septicaemia. D)Toxic shock syndrome.

7-The virus which contains a hemagglutinin &neuraminidase is:
A)Rubella virus.B)Adenovirus.C)Influenza virus. D) Respiratory syncitial virus.

8-Pneumococcal pneumonia or meningitis rarely occurs in the absence of what virulence factor?
A)Capsule. B)Outermembrane. C)Peptidoglycan-teichoic acid. D)Sex pili.

انظر باقى الأسئلة فى الخلف .....

9-Interferons inhibit viral growth primarily by affecting:
A)Host cytokine production. **B)Host protein synthesis.**
C)Viral protein synthesis. **D)Viral transcription process.**
10- What is the most dominant method of spread for measles?
A)Fecal-oral. B)Fomite spread. C)Respiratory droplet. D)Blood transfusion.
l1-A virus commonly transmitted by use of contaminated blood&surgical tools;
A)Hepatitis A virus, B) Hepatitis **C virus.**
C)Hepatitis E virus. **D)None** of these.
12-A baby has the greatest chance of acquiring which virus in utero?
A)Hepatitis A virus. **B)Influenza virus.**
C)Poliovirus. **D)Rubella virus.**
VI .. Write T(true) orF(false)for each of the **following statements(12 Marks)**
I-Bacillus anthracis cannot be used as a weapon ofbioterrorism.
2-0nly lysogenized strain ofStrept.pyogenes causes Scarlet fever
3-Diphtheria organism can be isolated by blood culture.
4-Meningococcal vaccine does not include group B capsular polysaccharide. 5-Cell-mediated immunity is intact in the lepromatous leprosy.
6- The isolation of Shigella sp. from the feces is not essential for a definitive diagnosis of dysentery.
7-The primary requirement for initiation of Clostridium perfringens infection is a lowered oxidation-reduction potential.
8-A chronic carrier may be develop in Typhoid fever illness.
9-All members of family Enterobacteriaceae are Gram negative bacilli & oxidase positive.
10- The interaction of viruses to specific sites on cell,s outer membrane can be prevented by neutralizing antibody.
I1-Staph. Food poisoning is produced by certain types of Staph.aureus.
12-Dane particle can be isolated from Hepatitis C infection.

"GOOD LUCK"

الامتحان الشفوى عقب الامتحان النظرى مباشرة بالقسم للطلاب من 1-400 وباقى الطلاب فى اليوم التالى من الساعة التاسعة صباحا.

Pathology Department
Faculty of Medicine
Assiut University

Time allowed: 1.5 hour
26/6/2010

Pathology Examination for Second Year Pharmacy Students

1. Give an account on types of thrombi, their fate and effects. (10 marks)
2. Compare between primary and secondary tuberculosis in a table form. (10 marks)
3. Enumerate the following: (5 marks each)
   a. Complications of malignant tumors (5 only)
   b. Factors affecting repair (5 only)
   c. Types of granuloma and give an example for each type
   d. Causes of cell injury

Good Luck

N.B:

ميعاد الأمتحان الشفوى:

من رقم (1) الى (375): يوم الأحد 2010/6/27 الساعة الثامنة صباحا

ومن رقم (376) الى الآخر: يوم الأحد 2010/6/27

الساعة العاشرة و النصف صباحا

Assiut University
Faculty of medicine
Parasitology department

Date: 26/6/2010
Time: 1.5 hours

Parasitology examination for the second year, Faculty of pharmacy.

==========

(10 marks for each)

1- Define with examples: endoparasite - final host - cercarial dermatitis- verminous pneumonia - Baghdad's boil.

2- Enumerate 5 parasites in small intestine and mention and draw the life cycle of one of them which cause steatorrhoea.

3- A child aged 8 years old, suffering from peri - anal itching. What is the most probably causing parasite, mention and draw the infective stage and how to control this parasite.

4- Rewrite after completing the following:

a- Then infective stage of Fasciola sp .is .....

b- The diagnostic stage of Heterophyes, heterophyes is .....

c- The intermediate hast of Taenia saginata .....

d- The larval stage of Echinococcus granulosus is called .....

e- The infective stage of Ancylostoma duodenale is .....

f- Amoebic liver abscess is caused by .....

g- ♀ Anopheles biting may transmit.....

h- ♀ culex biting may transmit .....

i- Playing with cats may transmit .....

j- Balantidium coli habitat is .....

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* الشفوى : من "1:400" يوم 6/28 الساعة 8 صباحا

من "401:الآخر" يوم 6/29 الساعة 8 صباحا

أجب عن سؤالين فقط مما يلى:- (25 درجة لكل سؤال)

السؤال الأول

يعتبر العهد الدولى للحقوق الاجتماعية والثقافية والاقتصادية من أهم الوثائق الدولية المعنية بحقوق الانسان.
اشرح تفصيلا الحقوق التى ورد النص عليها فى هذا العهد؟

السؤال الثانى
اشرح تفصيلا مظاهر توسع الإسلام فى مخارج الرق؟

السؤال الثالث
اكتب فى الميثاق العربى لحقوق الانسان من حيث (إصداره – أهدافه – الحقوق التى ورد النص عليها فيه)؟

مع أطيب الأمنيات بالنجاح والتفوق
د/ ناصر عثمان

Assiut University 25- 11- 20 10
Faculty of Pharmacy Time: one hour

General Microbiology&Immunology

Answer the following questions:

I-Write ,in the follwing table,T(true) or F(False) for each of the following statement:(8Marks)

I-In turbidemetric assay of antibiotics sub-static concentration of A.M.A is used.
2-Sulphonamides are bacteriostatic agents.
3-lndex ratio number indicates bacteicidal efficiency of antimicrobial agents
4-Filteration is the passage of a liquid or gas through a filter to remain microbes out.
5-In C.M. phenol coefficient test the extinction time of the tested disinfectant is variable.
6-Addition of cresol enhance the antimicrobial activity of soap.
7-Ionizing radiation has high degree of penetration so used for sterilizing pharmaceuticals, medical & dental supplies.
8-lodines combine sultbydryl group of certain amino acids to inactivate enzymes.
9-Ethylene oxide gas requires long exposure times & is explosive and toxic in pure form.
10-Fimbriae are originating from the cytoplasmic membrane.
11-Resistance of bacteria to penicillin may be due to structural alteration of penicillin target site.
12-Heat resistance of bacterial endospores is due to condensation of the nuclear bodies.
13-Motility of bacteria is aided by the presence of pili.
14-Endotoxins are part of the bacterial cell wall,whereas exotoxin are not.
15-Bacterial and human ribosomes are of the same sizes and chemical composition.
16- Abrupt change in the slope of the phase tolerance curve indicate change in the mode of action of A.M.A.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

II-Choose the letter of the best correct answer for each statment & write it in the following table (7 Marks)

1-Which drugs act on the helical DNA
A)Penicillins B)Aminoglycosides C)Tetracyclines D)Fluroquinolone

2- Which antibiotic has narrow spectrum
A)Vancomycin B)Tetracyclines C)Erythromycin D)Chloramphenicol

3-Cold sterilization is done by
A)IR rays B)Pasteurization C)Gamma rays D)Not recalled.

4-0ne thousand of microbial cells are exposed to a disinfectant.After 10 minutes 90% of the cells are killed. How many cells remain viable after 20 minutes?
A)500 B)100 C)10 D) **O**

5-PCR means that the genes is

A) Detected directly by DNA probe. B)Detected after amplification.
C) Cleaved by nuclease enzyme. D)None of these.

6-Bacteria that make either a fermentative or a respiratory set of enzymes are known as:

A)Obligate anaerobes. B)Obligate aerobes.
C)Facultative organisms D)Microaerophiles.

7-Plasmids are;

A)Single stranded DNA molecules. B)Carrying optional genes
C)Carrying essential genes for growth. D)Present in very. few bacteria.

1	2	3	4	5	6	7

Practical Examination

Choose the letter of the best correct answer for each statment & write it in the following table (10 Marks)

I-The most satisfactory medium for isolation of fungi is:

A)Nutrient agar B)Sabouraud dextrose agar
C)Loeffler serum D)Chocolate agar

2-Gram negative &Gram positive bacteria differ in:

A)Cell wall B)Nucleus C)Ribosomes D)Cell membranes

3- The optfmum concentration of alcohol used as disinfectant is:

A) 100% B)95% C)70% D)50%

4- Gram stain is counter stained by

A)Safranin B)Methylene blue C)Methyl violet D)None of these

5- If a bacteria ferments mannitol salt, which is a peachy red color, what color will it change to if the test is positive?

A) Blue B) Red C) Green D) Yellow

6-Malachite green dye acts as selective bacteriostasis in One of these media:

A)Loeffler serum B)Lowenstein- Jensen. C)Dorset egg D)MacConkeyagar

7-Pour plate methods are used for counting bacterial cells in liquids using dilutions in:

A)Nutrient agar B)Saline C)Water D)None of these

8-Sterilization by inspissation is used for this medium:

A)Loeffler serum B)Sugar C)Blood agar D)MacConkeyagar

9- What is the chemical reagent used in the decolorization step in the Ziehl-Neelsen staining technique?

A) Carbol Fuchsin B) Acid Alcohol C) Methylene Blue D)Gram Dye

I0-Autoclave can be used for sterilization of the followings EXCEPT

A)Cotton' B)Surgical tools C)Glasswares D)Paraffin oil

1	2	3	4	5	6	7	8	9	10

"Good Luck"

Assiut University — 2nd Year Pharmacy
Faculty of Pharmacy — Periodical Exam
Dept. of Pharm. Organic Chemistry — Nov., 22, 2010
Pharm. Organic Chemistry Exam.
Name: — Time allowed 1h
Illustrare your answers with chemical equations whenever possible

I- Explain breifly:

a) Trifluoromethyl group is a meta directing one in S_EAr reactions.

b) Conversion of benzene to p-dinitrobenzene.

II- Assign the following statements by true (11 or false (F) or complete whenever needed (3 Points):

1)Aromatic aldehydes are easily polymerize in presence of dil. NaOH solution ( ).

2)The Armstrong centric formula confirmed the stability of benzene ( ).

3)Halogen atoms decreases the basicity of aniline by their -R effect ( ).

4) The effectiveness of resonance of the nitro group in the aromatic derivatives depends on its position ( ).

5) Azo dye formation depends on the pH of the medium of the reaction ( )

6) A *p-methyl* group in p-methylaniline decreases the basicity by resonance ( )

See next page

III- Using chemical equations. answer the following reactions:

a) Chlorination of toluene depends on the conditions of the reaction either usmg sunlight or halogen carrier, give the product (s) in both cases and the reaction mechanism of only one of these reactions.

b) Separation of a mixture of aniline and N,N-dimethylaniline (chemical equations).

Good Luck

اسم الطالب: رقم الطالب:

[I] Potentiometry, Conductimetry and Polarography: (7.5 Marks)

(A) Put (√) for the correct statement and (X) for the incorrect one then CORRECT it. (2.5 Marks)

( ) KCl is an example of supporting electrolyte

( ) Rule of supporting electrolyte is to decrease conductivity of the solution

( ) Concentration of supporting electrolyte must be equal to the concentration of the electro active substance.

( ) Diffusion current is the sum of limiting and residual currents.

( ) Half wave potential (E1/2) is the potential at which current equal to one half of the diffusion current.

( ) EI/2 is characteristic nature of the reactive material and depends on its concentration.

( ) Diffusion is movement of species under the influence of difference in the electrical field

( ) Residual current is the region on the polarogram in which current after increased sharply becomes independen~ on the applied potential

( ) Potential difference between anode and cathode in a cell is called the electromotive force (emf)

( ) Alkaline error means that measured pH will be higher than the true pH.

(B) Mention Two advantages for the use of polarography in analysis of phannaceutical compounds (0.5 Mark)

(C) Give reason for the following: (1 Mark)

1- In a conductimetric titration, the titrant is very concentrated and the titrated solution is very diluted

2- Presence of internal reference electrode in glass electrode

3- ln polarography, the measurement is carried out in quite solution and at fixed temperature.

4- Use of dropping mercury electrode in polarography (one reason only)

(D) Mention the name of indicator electrode which used to measure the following in solution (1 Mark)

1-Copper ions
2-Iodide ions
3-Ceric-cerous ions
4-Urea

(E) Draw and label a conductimetric titration curve for the titration of a mixture of strong acid and weak acid with strong base (1 Mark)

(F)Draw and label a saturated calomel electrode (SCE), (1.5 Mark)
Also mention its
Electrode reaction,
Half cell,
Nernest equation and
Use.

[II] SPECTROPHTMETRY: (7.5 Marks)

(a) Compare between the following pairs: (2 Marks)

Wavenumber	Frequency
Chromophpre	Auxchrome
Hypsochromic	Bathochromic
Tungsten-filament lamp	Tungsten-Halogen filament lamp

(B) Draw a schematic Diagram for the following: (1 Mark)

1- Main components of a spectrophotometer

2- Beer's-Lambert's law plot

(C) Calculate the required values for each of the following: (1.5 Marks)

I-The Frequency of a light· with wavelength 400 nm is:

2- If you know that Planck's constant = 6.625XIO-Z7 erg.sec, the wavelength of a molecule absorb energy of 1.325XIO-15 erg is:

3- A drug with molecular weight=300 and its concentration is 25 mg/l00 ml has absorbance of 0.5 when measured in 1 cm cell at 400 nm, so the calculated molar absorptivity of it is: (3 Marks)

(D) Select from list (I) the correct statement for each in list (II):

LIST (I)

1- Hypochromic effet	2- conjugated chromophores
3- Deuterium lamp	4- Amplitude
5- Aniline	6- E-band
7 - Electronic transition	8-Auxochromes
9- Beer's law	10- Absorption Curve
11- B-band	12-Bathochromic shift
13- Lambert's law	14- Tungsten lamp
15- Real deviation from Beer's-Lambert's law	16- Hyperchromic effect
17- The pH of the solution	18- Stray light
19- Monosubstituted benzene	20- Benzene ring
21- Wavenumber	22- Grating
23- Phenol	24- Prism

LIST (11)

( ) Through diffraction and interference it disperses the light beam
( ) It gives radiations in the range from 190 to 370 nm.
( ) Is the relation between the absorbance and wavelength
( ) Any light reaches the detector without passing through the sample
( ) Occur mostly at high concentration levels
( ) It relates absorption capacity to the concentration of absorbing solute
( ) Its absorption band is red shifted when dissolved in NaOH
( ) Is characterized by vibrational fine structures
( ) Undergo a red shift when substituted with either electron withdrawing or electron donating group.
( ) Its absorption band is blue shifted when dissolved in HCl
( ) is the increase in the absorption intensity
( ) is the vertical distance from midline of a wave to the peak or trough

Answer the following questions:

I-Write an account on each of the following:

I-Differentiate between antiseptics &disinfectants. List 3 methods for evaluation of each.Give the principle of one for Each. (10 Marks)

2-Mention mode of action of chemical methods of microbial control with giving examples. (6 Marks)

3- Resistance to antibiotics (origin, mechanisms and transmission). (10 Marks)

4-Mechanisms of action of antiviral drugs with giving examples. (5Marks)

II-Write, in table, T (true) or F (False) for each of the following statement: (12 Marks)

I-Microbial challenge test can be used for the evaluation of preservatives used for eye drops.

2-Actively growing bacteria more susceptible to the action of antimicrobial agents than dormant one.

3- Death rate measurements could be used as parameters for the evaluation of disinfectants.

4- Ditch plate agar diffusion technique could be used for the determination of M.I.C. of antiseptics.

5- For oral and topical preparations, the official limit of microbhll count approved 100 cfu/g or ml

6- During determination of the permeability of an antiseptic by surface contact inhibition technique, the agent is placed over an already grown M.O.,

7- Chromosomal resistance to aminoglycoside is associated with development of an altered structural target for the drug.

8-In microbiological assay of mixture of tetracycline & nystatin two different types of microorganisms should be used

9- In turbidemetric assay of antibiotics generation time of microorganism is reduced.

10-One advantage of microbiological assay of antibiotics that it is not affected by the vehicle of the preparation.

11-Microbes can be removed from air by high efficiency particulate air filters (HEPF).

12-Microbial contamination in pharmaceutical products doesnot represent potential health hazards to the patient.

انظر بالخلف باقى الاسئله

II-Choose the letter of the best correct answer for each statement & write it in table: (7 Marks):

1- The tetracyclines have the same mechanism of action as

A Sulfonamides B.Penicillin C.Iisoniazid D.Chloramphenicol

2- Antimicrobial agent that inhibits protein synthesis (inhibitors of transcription)

A.Mitomycin B.Rifampicin C. Penicillin D. Streptomycin

3- The complication that most commonly associated with use of chloramphenicol:

A.Aplastic anemia B.Neurotoxicity C.Nephrotoxicity D.Deafness

4- The lowest amount of antibiotic that results in vitro killing of the organism is the:

A. Minimal bacteriostatic conc. B.Serum bactericidal conc

C.Minimal bactericidal cQnc. D.None of them

5-Non-selective toxicity of antimicrobial agent means that:

A.It is lethal toGram positive only B.Lethal to Gram negative only

C.Toxic to the microorganisms &the host D. None of these

6-On evaluation of gargles the end points should be below:

A.One minute. B. Five minutes. C.Ten minutes D. None of these

7-Ethylene oxide gas:

A. Penetrates crystals B. Has short exposure time.

C. Explosive &toxic in pure form. D. None of these

Good Luck"

الامتحان الشفوى عقب الامتحان النظرى بالقسم

Department of Pharmaceutics
Faculty of Pharmacy
Assiut University

Date: 13-1-2011
Time allowed: 2 hours

2nd Year Pharmacy Final Exam.
Physical Pharmacy-2

Exam consists of **8 DIFFERENT PAGES**
All Questions Should Be Attempted

18

Part I **Prof. Dr. Suzan Shawky**

A- Tick (T) for true ,statements and (F) for false ones: **(5 marks)**

[ ] 1- Half life of first order reaction is constant and independent on concentration.

[ ]2- The rate of photochemical reactions depends on the intensity and wavelength of light as well as on temperature.

[ ]3- Increasing the concentration of an active ingredient hydrolyzing by zero order kinetics decreases the percentage of decomposition.

[ ]4- reactions catalyzed by species of the buffer components of the system are said to undergo specific acid-base catalysis.

[ ]5- For the reactions between ions of opposite sign an increase in dielectric constant of the solvent results in a decrease in the rate constant.

B- Give reason(s) for each of the following, illustrate your answer with equation(s) and/or examples: **(9 marks)**

1- The rate constant of the reaction is affected by temperature.

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2- In the hydrolysis of the antibiotic, streptozotocin, rate in phosphate buffer exceeds the rate expected for specific base catalysis.

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3- The same drug may exhibit different order of decomposition under various conditions.

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.....

C-Mention the rate and half life equations for the following items: (4 marks)

Order	Integrated rate equation	Half life equations	Where:
Zero order			
First order			

Part II
Prof. Dr. Ahmed Moustafa El-Sayed

15

I.Give definition for: aging (one mark)

2. Select and circle the ONE lettered answer that is correct in the following: (2 marks)

A- The rate of chloramphenicol degradation was independent of pH between:
i-7-12 ii-5-10 iii-2-7

B- p-aminosalicylic acid is transformed to m-aminophenol at temperatures above 40C and considered as :
i-Dehydration ii-Oxidation iii-Decarboxylation

3. Indicate whether each of the following statements is true (√) or false (X) and justify your answer: (9 marks)

A-EDTA is used to stabilize penicillin and epinephrine ( )

B- Tocopherols, occur naturally in vegetable oils, are used successfully as effective antioxidants for animal fats without any disadvantages ( )

C- Vitamin B12 is relatively stable in alkaline solution in presence of ascorbic acid

D-Crystal form of the drugs are more soluble and less stable than amorphous form ( )

E-Aminoglycoside antibiotics such as gentamicin and kanamycin are inactivated by penicillin in IV admixtures ( )

F-Under usual circumstances, most manufactured products require a shelf-life of 2 or more years to ensure their stability at the time of patient consumption ( )

4.Give ONE example for each of the following: (3 marks)

A-Instability of a drug product due to formation of toxic degradation products

B-Liquids used in injections to replace water as solvents for protection of drugs against hydrolysis

C- Solid state instability

Part III
Prof. Dr. Fergany A. Mohammed

22

A) Write the kinetic'equations suitable for each of the following (4 Marks):

1- Diffusion of drug through semipermeable membrane at steady state.

2- Dissolution rate of uniform, spherical particles.

3- Effects of *Porosity and Tortuosity* on release of drug from granular matrix.

4- Determination of diameter of spherical particles in diluted suspension.

B) A sample of powdered zinc oxide, density 5.60 g/cm^3, is allowed to settle under the acceleration of gravity, 981 cm sec-^{2}, at 25°C. The rate of settling, v, is 7.30 x 10^{-3} cm/sec; the density of the medium is 1.01 g/cm^3, and its viscosity is 1 cp = 0.01 poise or 0.01 g cm'] sec^{-1}. Calculate the Stokes' diameter of the zinc oxide powder. **(4 Marks)**

C) The granule density Pg of sodium bicarbonate is 1.450 and the true density p is 2.033. Compute the intraparticle porosity. **(4Marks)**

D) Give the Scientific term for each of the following statements: (lO Marks) (Write your answer ONLY in the. **down TABLE).**

1- The material itself (actual solid material), exclusive o(the voids and intraparticle pores larger than molecular or atomic dimensions in the crystal lattices,
2- Determined by the displacement of mercury, which does not penetrate at ordinary pressures into pores smaller than about 10 μm,
3- The mass of a powder divided by the bulk volume.
4- The volume of the_solid and essentially all of the pore volume within the particles.
5- The reciprocal of bulk density.
6- The ratio of the void volume to the bulk volume of the packing
7- The science and technology of small particles
8- The diameter of a sphere having the same surface area as the particle in question.
9- Used in kidney malfunction to rid the blood of metabolic waste products (small molecules) while preserving the high-molecular-weight components of the blood.
10- The region or regions that offer resistance to passage of a diffusing material.

1	2	3	4	5	6	7	8	9	10

Part IV

Prof. Dr. د. جيهان فتيح

15

A- Choose the most correct answer: (10 marks)

(Write your answer in the given table)

1	2	3	4	5	6	7	8	9	10

1- p-aminosalicylic acid (PAS) is better used in the form of chelate with copper rather than free drug because:

a) Higher aqueous solubility b) Higher fat solubility & higher activity

c) Less side effects in vivo d) higher stability in vitro

2- Oxine (8-hydroxyquinoline) depends on complexation for its action as antibacterial because:

a) Only the complex can penetrate bacterial cell membranes

b) It complexes iron present in the host and uses it as bacterial toxin

c) It complexes with enzymes necessary for bacterial metabolism

d) Non of the above

3- For monomolecular inclusion complexes, all the following statements arc true except:

a) Cyclodextrins a:rethe most common hosts

b) Steriospecifity is important for guest entrapment

c) Used mainly to stabilize or solubilize entrapped drugs

d) Involve entrapment of many guest molecules in the cavity of one host molecule

4- Butesin picrate complex is used as:

a) Antidote for metallic poisoning b) Electrode in pH determination

c) Ointment for burns and skin abrasions d) Antibacterial and antifungal

5- In Job's method for complex analysis, all the following statements are true except:

a) Dielectric constant can be used for measurement of complexation

b) It involves plotting dielectric constant against mole fraction of M & L

c) The mole fraction of complex is obtained from the plot in (b)

d) The stability constant (K) is obtained from the plot in (b)

6- The red solution of iodine in benzene is:

a) A simple inorganic metal complex b) An aromatic pi-bond complex

c) An aromatic sigma-bond complex d) A chelate

7- The complexation between caffeine and.sodium salicylate is intended for;
a) decreasing the solubility of caffeine to mask its bitter taste
b) Increasing the solubility of caffeine so it can be used for injection
c) Increasing the activity of caffeine as eNS stimulant
d) Stabilization of caffeine

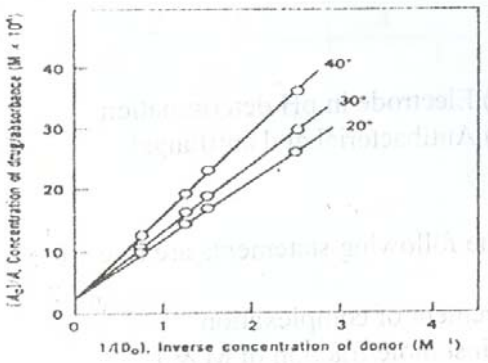
8- For clathrates, all the following statements are true <u>except:</u>
a) They take a cage-like structure
b) The molecular size of the host is critical for complex formation
c) Chemical bonds are important to keep the guest entrapped
d) Stability is due to high energy required for decomposition

9- The term ('n) is:
a) The amount of titrant used in pH titration method
b) The average number of ligand groups bound per metal ion
c) The formation constant of intermediate complex in glycine-Cu complexation
d) Obtained from the curve of log [ML_n] versus log [L]

10- Zeolites are:
a) Molecular sieves b) inclusion complexes

c) Metal ion complexes d) compounds, not complexes

B- Complete the following: **(5 marks.)**



The equation describing the opposite figure is:
.....
Where:
.....
.....
.....
Intercept = ……
Slope = ……
This equation is used to calculate .....in ..... method of complex analysis.

GOOD LUCK

سوف يجرى امتحان الشفوى بعد انتهاء امتحان النظرى مباشرة

بسم الله الرحمن الرحيم
جامعة أسيوط – كلية الصيدلة
قسم الصيدلانيات
التشريعات الصيدلية للفرقة الثانية

زمن الامتحان: ساعة واحدة الدرجة الكلية:50 درجة التاريخ: 2011/1/16

ملاحظات: تتم تلاجابة على كل الأسئلة – اقرأ الأسئلة جيدا قبل أن تبدأ فى الاجابة عليها – تتكون ورقة الاسئلة من أربع صفحات – مبين على كل جزء درجته

الجزء الأول
(أ.د. سوزان شوقى)
(5 درجات)

السؤال الأول: أذكر ما تعرفه عن:
ا-القواعد المتبعة عند قيد التذاكر الطبية المحتوية على جواهر مخدرة ومدة الإحتفاظ بها

ب- النباتات المخدرة الممنوع زراعتها

الجزء الثانى
(أ.د. احمد مصطفى السيد)
(25 درجة)

السسؤال الثانى: طبقا للقانون 127 لسنة 1955 بشأن مزاولة مهنة الصيدلة:
أذكر الآتى: (14 درجة)
1- تعريف مزاولة مهنة الصيدلة فى حكم هذا القانون

2-الخطوات القانونية الواجب اتخاذها فى حالة ترك مدير المؤسسة الصيدلية ادارتها

3- الشروط القانونية للعمل بالمؤسسة الصيدلية كعمال أو عاملات يشتغلون بها أو بتوصيل الأدوية

4- شروط بيع الأدوية من مستودعات وسطاء الأدوية

5- شروط بيع النباتات الطبية من محال الاتجار فى النباتات الطبية ومتحصلاتها

6- عقوبة كل من فتح أو أنشأ أو أدار مؤسسة صيدلية بدون ترخيص وعقوبته فى حالة العودة لنفس المخالفة

7- أنواع المواد التى يشتمل عليها الجدول السابع الملحق بالقانون وأكتب مثالين لتلك المواد

ب- ضع علامة ( ) أمام العبارات الصحيحة وعلامة (×) أمام العبارات الخاطئة واذكر السبب فى ذلك:
(8 درجات)

1- يجوز أن يكون للمؤسسة الصيدلية اتصال مباشر مع مسكن خاص أو محل مدار لصناعة أخرى أو منافذ تتصل بأى من ذلك ( )

2- يجوز للطبيب البشرى أو البيطرى المرخص له مزاولة المهنة أن يصرف ويجهز أدوية لمرضاه الخصوصيين. ( )

3- فى بعض الحالات الخاصة يجوز للصيدلية أن تبيع بالجملة أدوية أو مستحضرات طبية للصيدليات الأخرى

أو مخازن الأدوية أو الوسطاء أو المستشفيات أو العيادات ( )

4- يجوز لوزير الصحة بعد أخذ رأى نقابة الصيادلة أن يرخص لصيدلى لا تتوفر فيه الشروط المنصوص عليها بالقانون فى مزاولة مهنة الصيدلة فى مصر لمدة سنتين قابلة للتجديد مرة واحدة ( )

السؤال الثالث: طبقا للاشتراطات الصحية الخاصة بإنشاء المؤسسات الصيدلية الصادرة 1956 أذكر الآتى: (3 درجات)

1- الشروط اللازمة لوجود حيوانات بمصانع الأدوية

2- مواصفات التهوية والإضاءة للمؤسسات الصيدلية

الجزء الثالث

(أ.د. فرجانى عبد الحميد)

(15 درجة)

السؤال الرابع: (15 درجة)

1- عرف كل من: (3 درجات)

1- المكتب العلمى:

2- الأدوية التى تصرف بدون تذكرة طبية (OTC drugs)

3-الجواهر المخدرة:

ب- ما هى محازير تداول أدوية OTC drugs: (3 درجات)

ت- ما هى شروط منح ترخيص المكتب العلمى: (3 درجات)

ث- أذكر ثلاث مواد تعتبر مخدرة من الجدول الأول الملحق بالقانون 182 لسنة 1960 (3 درجات)

ج- اذكر شروط الاتجار فى الجواهر المخدرة: (3 درجات)

الجزء الرابع

(د.جيهان نبيل فتيح)

(5 درجات)

السؤال الخامس:أكمل مايأتى: (5 درجات)

1-تتكون الجمعية العمومية لنقابة الصيادلة من ---------- ويرأسها ----------

2- من شروط صحة انعقاد اجتماع الجمعية العمومية:

أ ----------

ب ----------

3- يشكل مجلس النقابة العامة من ----------

وتكون العضوية فيه لمدة ----------

4- شروط الطعن فى قرارات الجمعية العمومية:

أ----------

ب----------

ج----------

5-تتكون هيئة التأديب الابتدائية من ---------- و ----------

مع أطيب التمنيات

بسم الله الرحمن الرحيم

جامعة أسيوط – كلية الصيدلة - قسم الصيدلانيات

التشريعات الصيدلية للفرقة الثانية (للطلاب المتخلفين)

زمن الامتحان: ساعة واحدة الدرجة الكلية:50 درجة التاريخ: 2011/3/9

ملاحظات: تتم الاجابة على كل الأسئلة – اقرأ الأسئلة جيدا قبل أن تبدأ فى الاجابة عليها – تتكون ورقة الاسئلة من أربع صفحات – مبين على كل جزء درجته

طبقا للقانون 127 لسنة 1955 بشأن مزاولة مهنة الصيدلة أجب على الأسئلة الآتية:
السؤال الأول: أذكر الآتى:

1- تعريف المستحضرات الصيدلية الخاصة (2 درجة)

2- فائدتين لصدور التشريعات الصيدلية وتطبيقها (2 درجة)

3- الأحوال التى تلغى فيها تراخيص المؤسسات الصيدلية الخاضعة لأحكام هذا القانون(4 درجة)

4- الخطوات القانونية الواجب اتخاذها فى حالة تصفية المؤسسات الصيدلية (4 درجة)

السؤال الثانى: أكمل الآتى: (6 درجات)

1- لا يسمح بدخول المستحضرات الصيدلية الخاصة فى مصر ولو كانت عينات طبية ولا بالافراج عنها الا اذا توافرت فيها بعض الشروط مثل:

أ.

_____

_____

ب._____

_____

2- يشمل الجدول الثالث الذى يوجد ضمن الجداول الملحقة بهذا القانون والمكملة له على:

_____ والتى يجب أن

_____

3- كل دواء يحضر بالصيدلية يجب أن يوضع فى وعاء مناسب ويوضح على بطاقته الآتى:

_____

_____

_____

السؤال الثالث: ضع علامة (√) أمام العبارات الصحيحة وعلامة (×) أمام العبارات الخاطئة (6 درجات)

( ) 1-يجب أن يكتب اسم المؤسسة الصيدلية واسم صاحبها ومديرها المسئول على واجهة المؤسسة بحروف ظاهرة باللغتين العربية والانجليزية

( ) 2-لا يجوز لغير الاطباء البشريين تحرير التذاكر الطبية وصرفها من الصيدليات

( ) 3-لايمنح الترخيص بفتح مخزن أدوية الا فى المحافظات أو عواصم المديريات والمراكز التى بها صيدليات

السؤال الرابع: طبقا للقانون رقم 182 لسنة 1960 بشأن مكافحة المخدرات وتنظيم استعمالها أو الاتجار فيها أذكر الآتى:

1- تعريف الجواهر المخدرة (2 درجة)

2- الاشخاص الذين لايجوز منح ترخيص بالاتجار فى المواد المخدرة لهم (4 درجة)

أ._____

_____

ب._____

_____

ت._____

_____

ث._____

_____

3- أجزاء النباتات المخدرة المستثناه من أحكام القانون (4 درجة)

أ._____ب._____

_____

ت._____ث._____

_____

4-ينقسم رجال الضبط القضائى الى ثلاث فئات حددهم القانون على النحو الآتى: (3 درجة)

أ._____

_____

ب._____

_____

ت._____

_____

السؤال الخامس: وضح الآتى:

1- تعريف المكتب العلمى كما ورد بقرار وزير الصحة رقم 449 لسنة 969 بشأن تنظيم المكاتب العلمية (2 درجة)

2- خصائص الأدوية التى تصرف بدون تذكرة طبية OTC Products (3 درجة)

السؤال السادس: طبقا للقانون رقم 47 لسنة 1969 الخاص بانشاء تقابة الصيادلة أذكر الآتى:

1- ثلاثة أهداف تعمل نقابة الصيادلة على تحقيقها (3 درجة)

2- شرطين من شروط صحة انعقاد الجمعية العمومية (2 درجة)

3- ضع علامة (√) أمام العبارات الصحيحة وعلامة (×) أمام العبارات الخاطئة مع تصحيح الخطأ: (3 درجات)

( ) أ. لا يجوز للصيدلى أن يروج لمهنته بأى طريق من طرق الاعلان والنشر

_____

_____

_____

( ) ب. تكون رئاسة مجلس اتحاد نقابات المهن الطبية لنقيب الأطباء ويكون النقباء الأخرون نوابا لرئيس المجلس

( ) ت. لايجوز محاكمة الصيدلى تأديبيا أمام الهيئات التأديبية بالنقابة اذا تمت محاكمته جنائيا أو تأديبا بالجهة التى يعمل بها

مع أطيب التمنيات

Assiut University
Faculty of Pharmacy
Second year Final Exam.

23- 1- 20 11
Time: one hour

General Microbiology&Immunology

Answer the following questions:

I-Describe the pattern of microbial death caused by antimicrobial agents. (5 Marks)

II-Compare & contrast each of the following: (20 Marks)
1- Transformation & conjugation .
2- T cytotoxic cells & natural killer cells.
3- Primary &secondary immune response.
4- Type I &type IV hypersensitivity.

III-Evaluate by one method each of the following: (12 Marks)
1-AutocIaving process.
2- Hydrogen peroxide gargle.
3-Cresol solution.
4-Antibiotic in serum.

IV-Define each of the following: (15 Marks)
1-Heterotrophs.
2-0pportunistic pathogen.
3-Autotolerance.
4-Opsonization.
5-Polymerase chain reaction.

V-Mention functions of each of the following: (12 Marks)
1- The cytoplasmic membrane of bacteria.
2- Bacterial plasmids.
3- The complement system.
4- T helper cells.

VI-Mention different phases of penicillin production.Illustrate your answer with labeled diagram. (6 Marks)

(Good Luck)

Assiut University 2nd Year Pharmacy
Faculty of Pharmacy
Dept. of Pharm. Organic Chemistry Feb., 13, 2011
Pharm. Organic Chemistry Exam.(Make-up)

Time allowed 3h

Illustrare your answers by chemical equations and reaction mechanisms whenever possible

الامتحانات الشفهية عقب الامتحان النظرى مباشرة لجميع الطلبة

Section A (67 min, 32 points)

Explain shortly the following using chemical equations:

1) The $N0_2$ group is a m-directing group while the OH group is an *0*- and *p*- directing one.
2) Limitations of Fried el-Crafts alkylation reactions.
3) Conversion of benzene to benzene sulphonic acid (reaction mechanism).
4) AICl) is added in catalytic amount in Friedel-Craft's alkylation, while it is added in more than one equivalent in Friedel-Craft's acylation one.
5) Cyclopentadiene is not aromatic while cyclopentadienyl anion is aromatic one.
6) Aminolysis of o-bromotoluene with sodium amide and liquid NH_3 at -33°C yields equimolar equivalents of *0*- and m-toluidine. .

Section B (67 min; 32 points)

I- Explain the following statements:

1)3,5-Dimethyl-4-nitroartiline is a stronger base than 2,6-dimethyl isomer, give the structures and reason.

2) Aniline is a weaker base than aliphatic amines due to resonance, explain.
3) Arrange in a descending order the following compounds (p-nitrophenol, *p*. methylphenol,cyclohexanol, and phenol) according to their acidity giving reasons.

III- Outline the following equations with reaction mechanism (8 points):

a) Kolbe's synthesis (reaction mechanism)
b) Claisen rearrangement
c) Sandmeyer reaction
d) Cummene hydroperoxide synthesis of phenol.

Section C (46 min, 22 points)

1) Compare between the acidity of each of the following pairs giving reasons:

a) 2-Hydroxyl1enzoic acid and 4-hdroxybenzoic acid.
b) 4-Nitrobenzoicacid and 3-nitrobenzoic acid.
c) 2,6-0imethylbenzoic acid and benzoic acid.

2)Outline the mechanism of the following reactions:

a) Haworlh reaction for synthesis of phenanthrene.
b) Reactivity of anthracene versus naphthalene (mention resonance energy and chemical· reactions).
c) Saccharin synthesis from *o*-toluenesulphonyl chloride.

Good luck

	Department of Pharmacognosy Final Exam of Second Year Refereed Students {New by Law} Date: 2/2011 Time allowed: 3 hrs.	
Assiut University	Total Marks= 85 Marks	Faculty of Pharmacy

قبل البدء فى الاجابة الرجاء قراءة هذه التعليمات جيدا

1-تأكد أن ورقة الامتحان تتكون من 6 صفحات مختلفة (3ورقات) وفى حالة التكرار أو النقص يطلب استبدالها فورا.
2- الرجاء الاجابة فى الأماكن المخصصة لذلك.
3- يجب تخصيص الوقت المناسب لاجابة كل سؤال ومراعاة عدم تجاوزه حتى يتسنى لك اجابة جميع الأسئلة.
4- محاولة الغش أو الاستعانة بالاخرين أو اعانتهم فى اجابة الامتحان يعرضك للمسائلة القانونية من قبل الجامعة وما يترتب عليها

مع أطيب الأمنيات بالنجاح والتوفيق

أ.د. ساميه محمد الصياد

أ.د. هناء محمد سيد
أ.د. صفاء أحمد محمد المغازى

سوف يعقدالامتحان الشفهى والعملى عقب الامتحان النظرى مباشرة فى تمام الساعة الثانية عشر والنصف

وعلى كل طالب الالتزام بموعد ومكان الامتحان

Part I Seeds: **{28 Mark}**

Question **I**: {11 Mark}

A- Give an example for each from the following: {3 Marks}

1- An immunostimulant seed:.....

2- A cardio tonic seed:.....

3- A seed used as a kernel: .....

B-1- For example No. **1** Give the name of the active constituent responsible for its action: {3 Marks}

.....

2- For example No. 2 draw <u>One</u> key element of its powder under microscope: {5 Marks}

Question II: {17 Mark}

A- Write two lines only on **ONE** of the following giving example: {6 Marks}

a- Orthoplocus embryo or b- Arillode

.....

.....

.....

B- Why fixed oil of linseed can act a role in preventing Atherosclerosis? {6 Marks}

.....

.....

C- Complete the following: {answer 2 only} {5 Marks}

a- Strophiole is ..... and its example

is .....

b- An example of coiled embryo is.....

c- Bitter Almond contains . .....

d- Castor seeds are toxic because they contain: .....

Part II Fruits: {28 Mark}

A- A follicle is: {1½Mark} .....

.....

.....

B- In the following table mention one crude drug used for treatment of the following cases and complete the required items: {3x4 =12 M}

Cases	Drug name and its origin	Active constituents
Renal Colic	Drug name:{½M} Origin: {1½M}	{1M}
Infantile spasm	Drug name:{½M} Origin: {1½M}	{1M}

Vitiligo	Drug name:{½M} Origin: {1½M}	{1M}
Convulsive	Drug name:{½M} Origin: {1½M}	{1M}

C- Draw the diagnostic elements of powdered Coriander {2 marks}

D- You are provided with a case of post herpetic neuralgia caused by *Herpes zoster*; suggest:

a- What is the suitable fruit for the treatment of this case?

b- The main active constituent which is responsible for the healing property

c- Mechanism of action of this active constituent.

d- Suggest its pharmaceutical preparation which used in this treatment

{Put your answer in the specified place in the following table} {6½ Marks}

Name of the fruit {1 Mark}	

The main active constituent {1 Mark}	
Mechanism of action {4 Marks}	
Pharmaceutical preparation Used in the treatment {½ Mark}	

E- What is meant by Vanilla pods curing? Mention steps of changes of active constituents to the final product {4 Marks}

F- Mention the medicinal importance of Star anise {2 Marks}

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Part III Herbs: **{29 Marks}**

A- Write shortly on each of the following {6x2=12 Marks}

1- Detection of Cannabis in crude form and in biological sample:

.....

.....

.....

.....

2- Types of branching:

.....

.....

.....

.....

3- Mycotoxins:

.....

.....

.....

.....

4- A unicellular fungi:

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.....

5- Medicinal uses of Ephedra herb:

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.....

6- Medicinal importance of tropane alkaloids:

.....

.....

.....

.....

B- Draw the diagnostic elements of:

Thyme	Cannabis

C- In the following table mention a crude drug used for treatment of the following cases and complete the required {14 Marks}

Cases	Drugs and its origin	Items required
Bronchial asthma	Drug: {½ M} Origin: {1½ M}	Active const.: {1 M} Chem. Test: {1 M}
Impaired liver function	Drug: {½ M} Origin: {1½ M}	Active const.: {1 M}

Renal Problems	Drug: {½ M} Origin: {1½ M}	Active const.: {1 M}
Postpartum haemorrhage	Drug: {½ M} Origin: {1½ M}	Active const.: {1 M} Chem. Test: {1 M}

PRACTICAL SHEET EXAM — INSTRUM. & APPL.PHARM.ANAL. (2)
ASSIUT UNIVERSITY — PHC-364
FACULTY OF PHARMACY — May 6, 2011
PHARM. ANAL. CHEM. DEPT. — TIME ALLOWED: 30 minutes

Question No	I	II	III	Total
Mark				

Chromatography **(15 Marks)**

1- The following four analgesics are separated on a silica TLC plate using ethyl acetate with 0.5% glacial acetic acid as a developing solvent. Calculate the R_f values for both Acetaminophen and salicylamide. (2 Marks)

II-Put (√) for the correct statement and (X) for the wrong one. Comment goiving reason for your answer (1x5=5 Marks)

a- Spots in a TLC plate should be far enough ( )

b- The solvent level has to be above the starting line of the TLC plate. ( )

c- The side with the white surface on the TLC plate should not be handled. ( )

d- Too much amount of the same sample should be spotted on the TLC plate. ( )

e- Start line in TLC plate should be marked with a pen at a distance 0.5 – 1 cm from bottom of the plate.

III- The following HPLC chromatographic data were recorded after separation of a mixture of aspirin, phenacetin and caffeine on a 5µm silica SCX column, 12.5 cm x 4.6 mm using a flow rate = 2 ml/min.

	Aspirin (1)	Phenacetin (2)	Caffeine (3)
Retention time (min.)	5	7	10
Peak width (min.)	0.3	0.35	0.5

If t_0 = 0.5 min., Calculate the following:

a- Capacity factor for Aspirin. (2 Marks)

b- Resolution for Aspirin and phenacetin peaks. (2 Marks)

c- Selectivity factor for the phenacetin and Caffeine peaks. (2 Marks)

d- Number of theoretical plates for aspirin peak. (2 Marks)

Prof.Dr. Samia El Gizawi
Prof. Dr. Pakinaz Khashaba

PERIODIC EXAM — INSTRUM. & APPL.PHARM.ANAL. (2)
ASSIUT UNIVERSITY — PHC-364
FACULTY OF PHARMACY — May 6, 2011
PHARM. ANAL. CHEM. DEPT. — TIME ALLOWED: 45 minutes

Student Name: Student No.:

Question No	I	II	III	Total
Mark				

I-Chromatography:A (4 Marks)

A- Choose the best answer for the following questions: (½ x 4 = 2 Marks)

1- Of the following compounds, which would you expect to elute first from a reverse-phase liquid chromatography column?

a. Methanol (CH_3 OH)

b. Ethanol (CH_3CH_2 OH)

c. n-Propanol ($CH_3CH_2CH_2$ OH)

d. n-Butanol ($CH_3CH_2CH_2CH_2OH$)

e. n-Pentanol ($CH_3CH_2CH_2CH_2CH_2OH$)

2- What is the functional group regularly employed in the stationary phase of anion exchange chromatography?

a. Quaternary ammonium, -N $(CH_3)_3^+$

b. Peroxide,

c. Sulfite $-SO_3^{--}$

d- Nitrate $-NO_3^-$

3- What type of chromatographic system would be suitable for the analysis of a mixture of NO_3^- and NO_2^-?

a- Size exclusion chromatography

b- Reversed phase chromatography

c- Cation exchange chromatography

d- Anion exchange chromatography

4- In gel filtration chromatography mobile phase used is:

a- Aqueous solution

b- Organic solution

c-Inert gas

d- Oxygen

B- Give equation describing each of the following statements:

(½ x 4 = 2 Marks)

1- The parameter used to describe migration of a solute in column chromatography.

2- The parameter used for the determination of deviation in shape of an eluting peak profile.

3- The Volume of mobile phase required to elute unretained component.

4- Height equivalent to theoretical plate.

II-Chromatography:B **(4 Marks)**

A--Mention briefly each of the followings:

1- Methods for quantitative chromatographic analysis in TLC

2- Types of elution in HPLC

3- Development and mechanism of separation in paper chromatography

B-Sketch a diagram for a gas chromatography unit, and mention types of mobile phase used.

III- Water Quality Control (7 Marks)

A- Mark [√] for the correct statement and [x] for the wrong one and correct it
(1/2 x 8 = 4 Marks)

1- High fluoride levels causes disfigurement in teeth of adults. **[ ]**

2- Breakpoint chlorination is used where water supplies are of high quality and is the simple dosing of chlorine to produce a desired level of free residual chlorine.

3- Monochloramine is more effective as disinfectant than free chlorine and more persistent. [ ]

4- For toxic metals and organic compounds of industrial origin, measurements are routinely made in part per million (ppm). [ ]

5- Mineral acidity can be determined by titration with N/50 NaOH using M.O. as indicator [ ]

6- Soda reagent method can differentiate between temporary and permanent hardness. [ ]

7- Winkler's method can be used for the determination of biological oxygen demand. [ ]

8- Brucine method is preferred over phenoldisulphonic acid method for the determination of nitrate. [ ]

B- Complete the following statements: (1/2 x 6 = 3 Marks)

1- Small scale disinfection can be achieved by .....

2-TDS is measured by .....

3- Softening of water is .....
and can be achieved by .....

4- Nitrite interference in Winkler's method can be overcome by adding
.....

5- Copper can be determined colorimetrically by using .....

Prof. Dr. Pakinaz Y. *Khashaba*
Prof. Dr. Samia M. *Elgizawy*
Dr. Sameh Abde/-Raouf Ahmed

Assiut University Time:2 hours
Faculty of Pharmacy Second Year Final Exam.
Department of Medical Microbiology&lmmun. 7-6-2011

.....

Medical Microbiology Exam.

Answer the following questions:

I-Mention the causative organism(s) ,mode of transmission, Lab.diagnosis,control &treatment for each of the following diseases:(24Marks)

a- Wool sorter,s. b- Traveler,s diarrhea.
c-Chicken pox. d-Undulant fever.

II- What are post streptococcal complications diseases, Diagnose ONE of them. (8Marks)

III- Mention Lab. methods used for diagnosis of viral infection. (l0 Marks)

IV-Write short notes on prophylaxis against:

a-Diphtheria b- Tuberculosis. c-Hepatitis B . (12Marks)
d-Poliomyelitis. e-Epidemic cerebrospinal meningitis f-Measles

V-Write, in table ,the letter of the best correct answer for each statment: (16 Marks)

I-Which of the following diseases is caused by *Hemophilus injluenzae*

a-Meningitis b-Pneumonia c-Otitis media d-All of the them

2-Pertussis is :

a-Caused by *Bordetella pertussis* b-Also known as whooping cough
c- a & b d- None of these

3- Gonorrhea is a disease of :

a-Nervous system b-Gastrointestinal tract
c-Respiratoryairways d-Genital organs

4. The best specimen for diagnosis of brucellosis in human include:-

a-Blood b-Sputum c-Urine d-Faeces

5.Canned food may be a source of food poisoning with the toxin of:

a-Salmonella enteritidis. b-Shigella sp. c-Staph.aureus d-Cl.botulinum

6. Chancroid is :

a-A disease of lungs b-Infection occur by feco-oral route
c-It is a zoonosis d-A sexually transmitted disease

7-The best treatment of diphtheria is:

a- Penicillin b- Toxoid c-Broad spectrum antibiotic. d-Antitoxic serum

8- The man is the only host for:

a- Shegilla flexneri b- Salmonella enteritidis. c- Brucella abortus. d- Yersinia pestis.

9- Pathogenicity of Staphylococci is determined by production of:

a- Haemolysin. b- Pigment. c- Coagulase. d- Catalase.

10- Anthrax is:

a- Zoonotic. b- A disease only of animals.

c- A disease only of man. d- None of these

11- Tetanus toxin produces the following characteristic symptom:

a- Dysentery. b- Constipation. c- Vomiting. d- Lock jaw.

12- The main differentiating characteristics of the proteus group is:

a- A slow lactose fermenter. b- Hydrolysis of urea.

c- Production of H2S. d- Oxidase positive.

13- Bacillary dysentery is caused by

a-Klebsiella sp. b- E. coli c- Shigella sp. d-None of them

14- The Haemophilus influenza vaccine contains which of the following?

a-Lipopolysaaharide b-Live attenuated H.influenza

c- Polysaccharide capsule d- Toxoid

15-A serpentine like colonial morphology of Myco.tuberculosis is caused by

a-Endotoxin b-Cord factor c-Wax D d-Protein fraction

16-Which form of plague is most likely to be transmitted from human to human

a-Pneumonic b-Bubonic c- Typhoidal d-None of these

"Good Luck"

الامتحان الشفوى غدا يوم الاربعاء 8-6- 2011 بالقسم

الطلاب من ارقام 1-500 الساعة 8.30 صباحا والطلاب من أرقام 501 – للآخر من الساعة 12 ظهرا

Department of Pharmaceutics Date: 16/6/2011
Faculty of Pharmacy Time allowed: 2 h
Assiut university

Pharmaceutics-l Final Exam.
2nd Year Pharmacy Students

Pages: 8 Total mark: 70

All Questions should be answered

Part I Dr. Suzan Shawky

1- Denote (T) for the true statements and (F) for false ones: (8 marks)

( ) 1- Mottling and wrinkling are common sugar coating defects.

( ) 2- Formulation of the fill for soft gelatin capsule requires solid based materials.

( ) 3- Lamination of tablets coat resulting from rapid drying between coating applications.

( ) 4- Surface active agents are included in liquid fill for hard gelatin capsule to stabilize the suspended agents.

( ) 5- Flavors could be incorporated in tablets ingredients during wet granulation.

( ) 6- Film coating causes increase in tablet weight.

( ) 7- Enteric coating material should Be impermeable to gastric juices.

( ) 8- Gelatin and viscosity modifying agents are used in capsule manufacture.

II- Discuss the role of the following excipients in tablet formulation:

(10 marks)

Excipient	Role	Example
1- Diluents		
2- Binders		
3- Lubrocants		
4- Disintegrants		
5- Antiadherrants		

Pharmaceutics 1 Exam. 16/6/2011

دكتور أحمد مصطفى السيد (15 درجة)

1.Indicate whether each of the following statements is true (√) or false (X): .....(6 marks)

( )A-Changing of crystal habit must change polymorphic form of the substance, the two parameters are dependent

( )B-Addition of other solutes and ions may change crystal habit by poisoning crystal growth in one or more directions

( )C-The poorly wetted powder have a large interface with the liquid

( )D-The vast majority of pharmaceutical materials, even the most hydrophobic, sorb water from atomosphere in different amounts.

( )E-The preformulation scientist should always recommend some type of biological test to demonstrate the activity of the drug when it is solubilized by surfactant.

( )F-A technique utilizing the 'everted intestinal sac' may be used in evaluating solubility characteristics of the drug substances.

2.Mention the limitations of an assay used in preformulation studies (3 marks)

i-.....
ii-.....
.....
iii-.....
.....
.....

3.Complete the following : ..... (6 marks)

A-Preformulation tests should include tests that relate specifically to a desired dosage form. For example in case of suspension, the vital preformulation tests include: (2 marks)

i-.....

.....

ii-.....

.....

B-Sink condition in the dissolution measurement experiment means (2 marks)

.....

.....

.....

.....

C-The reason of using octanol as the non-aqueous solvent for determination of partition co-efficient of drugs is (2 marks)

.....

.....

.....

.....

Part III (Prof. Dr. Fegany Mohammed)

A) Put (T) for the true statement and (F) for the false statement for each of the following, If your answer is false (F), Write the correct one. Write your answer ONLY in the table. (l0Marks)

1- In ophthalmic suspensions, only water-insoluble drugs are used and show more prolonged duration than ophthalmic solutions.

2- Ophthalmic inserts are generally used for treatment of chronic diseases

3- Nasal sprays are less effective than nasal drops

4- Ideal suppository bases should show low iodine value and low hydroxyl index.

5- All fatty (oleaginous) suppository bases are subjected to rancidity.

6- Water-soluble lubricants are used for water-soluble suppository bases.

7- Ideal suppository base should show high water number.

8-Nasl preparations are best used for long period (5-10) days.

9- Penetration power of ointments depends mainly on physicochemical characteristics of the ointment base.

10- Drug absorption from Suppositories by passes the first pass effect.

Answer Table

1	2	3	4	5	6	7	8	9	10

B) Give reason (s) for each of the following: **(12 Marks)**

1- Addition of bees wax to cocoa butter suppositories.

2- Nasal preparations should not be used for prolonged time.

3- Addition of surfactants to cocoa butter suppositories

4- Absence of Polymorphism in synthetic fatty bases.

5- Use of suppository for certain types of drugs.

6- Addition of cetyl ester wax to certain types of suppository bases.

7- Mold lubrication is important in preparation of certain suppositories.

8- Use of carbamide peroxide in cerumon-removing preparations.

9- Suppository dose is (0.5-2) times the oral dose. (3 Marks)

10-In evaluation of suppositories, melting range has been used rather than melting point

Part IV Dr. Gihan Fetih

I- Choose the most correct answer: (Write your answers in the given table) **(12 marks)**

1	2	3	4	5	6	7	8	9	10	11	12

I-Talc in face powder formulations is:

a) used for its high covering power b)an additive to improve adhesion to skin

b) the basic or bulk ingredient d) used to improve powder mixing

2- the binding ability of compact face powder depends on:

a) the proper balance between ingredients

b) using a high percentage of talc and an optimum compression force.

c) the used binder and optimum compression force

d) a&b

3- Shaving soaps axe similar to ordinary bar toilet soaps. but differ in:

a) consistency is softer due to higher water content

b) consistency is very firm as it must be rubbed against moistened skin

c) it must lather quickly and copiously

d) b&c

4- Using insufllcient quantity of borax in cold cream formulation results in:

a) precipitation of sharp crystals b) hard cream

c) yellowish or off-white cream d) dull grainy cream

5- Sulfated fatty alcohols used in shampoo formulations should:

a) have a high degree of sulfation to obtain good detergency

b) have a low degree of sulfation to be non-irritant

c) be 100% sulfated to obtain maximum detergent effect

d) have a chain length of more than 18 carbon atoms to produce good foam

6-The most acceptable detergent used in shampoo formulations is:

a) triethanolamine alkyl sulfate

b) ammonium alkyl sulfate

c) Sodium alkyl sufate

d) a combination of sodium and potassium alkyl sulfate

7- Cleansing creams should contain:

a) Low percentage of mineral oil b) high percentage of mineral oil

c) high percentage of vegetable & mineral oil d) no mineral oil at all.

8- For demineralization of enamel, all the following is true except:

a) means dissolving of calcium and phosphorous from the enamel

b) it is increased by the action of saliva.

c) caused by lactic acid produced-by anaerobic bacteria in the mouth
d) it increases in case of accumulation of plaque

9- Fluorapatite is:
a) deformity of enamel due to excessive ingestion of fluoride
b) produced by incorporation of fluoride in calcium crystals of the enamel mineral
c) the substance covering the root of tooth and attach it to periodontum legaments
d) non of the above

10- Fluoride fights dental caries through:
a) incorporation into hydroxypatite
b) suppressing the metabolic activity of oral bacteria
c) increasing rate of remineralization
d) all of the above

11- Xylitol is used as sweetening agent in chewing gum because:
a) it stimulates the production of saliva
b) it neutralizes the acid produced by bacteria
c) it causes the bacteria lose their ability to stick to teeth
d) all of the above

12- The role of alcohol in mouth washes formulations is:
a) acts as a carrier for flavor
b) solubilizes other ingredients
c) contributes to the antibacterial activity
d) all of the above

II- Denote(√) for true statements and (X) for false ones and justify your answer: (3 marks)

[ ] 1- The term "light", "medium" or "heavy" face powder refers to its density.
.....

[ ] 2- Fatty acid alkaloylamides are added to shampoos as conditioning agents .
.....

[ ] 3- Lather shaving creams are o/w emulsion type creams.
.....

[ ] 4- The most common surfactant use4 in dentifrices is sodium lauryl sufate .
.....

[ ] 5- Mouth washes contain many of the constituents as toothpastes except for abrasives and thickening agents.
.....

[ ] 6- Breathanol is commonly used as an abrasive in toothpastes.
.....

GOOD LUCK

يعقد امتحان الشفوى بالقسم بعد النظرى مباشرة

Assiut University
Faculty of Pharmacy
Pharm. Anal. Chem. Dept.
Second Year

Final examination
Instrum.& Appl. Pharm. Anal. 2
June 19, 2011
Time Allowed: 3 hours

1-Chromatography (A): (13.5 Marks)

Prof. Dr. Pakinaz Y. Khashaba

A- Compare between classical column chromatography and modern liquid chromatography regarding the followings: (2.5 Marks)

	Classical Column chromatography	Modern liquid chromatography
1-Column		
2-Stationary phase		
3-Volume of sample		
4-Flow of mobile phase		
5-Detection of sample		

B- Explain briefly the following using graphical illustration and of equation if possible: (4 items x 2 = 8 merks)

1-Measurement of peak asymmetry according to USP.

2- Experimental determination of the number of theoretical plate in a TLC plate:

3- Normal and reversed phase chromatography.

4-Anion exchange mechanism:

C-Mention the suitable chromatographic technique for the followings: (3 marks)

1- Water purification and removal of hardness.

2- Analysis of polymers.

3- Analysis of mixture of samples of different polarity.

II-Chromatography: B (13.5 Marks)

Prof. Dr. Samia M. Elgizawy

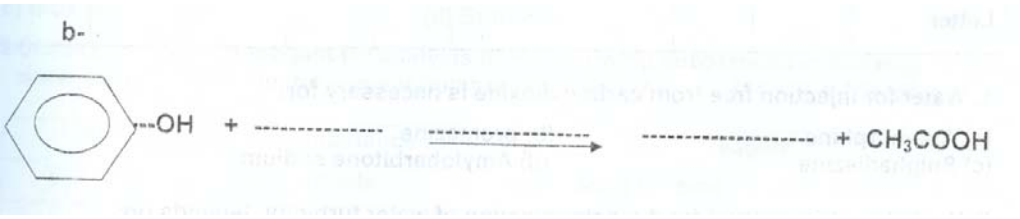
A- Complete the following statements: **(15x½=7½ Marks)**

1- In TLC the detection techniques include ....., ... and ..... for colourless compounds.

2- Migration rates of sample in GC depend on:
a-.....
b-.....
c- .....
d- ……

3· Examples of derivatization in GC is:
a- .....by addition of trimethyl silyl group by treatment of .....

b-



4- In Electrophoresis the rate of migration of each species depend mainly on ..... , ... and .....

B· Mark [√] for the correct statement and [x] for the wrong one and correct the wrong: **(5x1 = 5 Marks)**

1- Nitrogen- phosphorous detector is used for compounds containing sulphur or Phosphorous ( )

2-Flame ionization detector is used for detection of halogenated compounds ( )

3- In gradient elution the polarity of the mobile phase is kept the same during the whole Chromatogram. ( )

4- The peak area is the distance from baseline to peak maximum. ( )

5- The internal standard method for quantitative analysis is prepared by plotting peak area versus concentration of compound. ( )

C- Sketch a diagram for capillary zone electrophoresis (one mark)

III-<u>WATER QUALITY CONTROL</u>: **(22 Marks)**

Dr. Samia Abd ElRaoof

A- Choose the correct answer (s) from (A), (B), (C), (D) and then write the correct letter in the following table. (10 x ½ = 5 Marks)

Question	1	2	3	4	5	6	7	8	9	10
Letter										

1. Water for injection free from carbon dioxide is necessary for:
(a) Apomorphine (b) promazine
(c) Sulphadiazine (d) Amylobarbitone sodium

2. Nephelometric method for the determination of water turbidity depends on:
(a) Transmitted light (b) Absorbed light
(c) Scattered light (d) All of the above

3. Agglomeration of the particles by inter-particle binding is:
(a) Coagulation (b) Flocculation
(c) Sedimentation (d) Non of the above

4. The followings are advantages of chlorine as disinfectant *except:*
(a) Safe and easy to handle (b) Cheap
(c) Have a residual effect (d) Readily available as a gas, liquid or powder

5. Chlorination of water can be achieved by using:
(a) Liquified chlorine gas (b) Sodium hypochlorite solution
(c) One-site chlorine generator (d) All of the above

6. Softening of water can be achieved by using:

(a) Ultrafilteration (b) Adsorption

(c) Ion exchange (d) Reverse Osmosis

7. Which of the following methods can differentiate between temporary and permanent hardness?

(a) EDTA titration (b) Soda reagent method

(c) Palmitate method (d) Soap method

8. It is a measure of the oxygen used by microorganisms to decompose organic waste:

(a) BOD (b) COD (c) DO (d) NTU

9. Methemoglobinemia in infants is caused by high water content of:

(a) Albuminoid ammonia (b) Organic nitrogen

(c) Nitrite (d) Nitrate

10. If phenolphthalein alkalinity is equal to total alkalinity, this means absence of:

(a) Hydroxide (b) Carbonate

(c) Bicarbonate (d) Both 8 and

B-Choose the suitable reagent for analysis of the following substances in drinking water sample and write the reagent number in column (A): (14 x ½=7 Marks)

(A)	Substance	Reagent
[.....]	Orthophosphate	1- Soda reagent
[.....]	Ammonia	2- Ammonium molybdate
[.....]	Nitrite	3- Phenoldisulphonic acid
[.....]	Nitrite	4- Orthotolidine
[.....]	Chlorine	5- Ammonium thiocyanate
[.....]	Zinc	6- Dithizone
[.....]	Ferric	7- Ammonium persulphate
[.....]	Ferrous	8- Nesseler's reagent
[.....]	Copper	9-Sulphanilic acid
[.....]	Flouride	10- Methylene blu
[.....]	Hardness	11- Potassium permanganate
[.....]	Manganese	12- Mercuric nitrate
[.....]	Sulphide	13- Chloramine
[.....]	Chloride	14- Potassium ferrocyanide

		15- 2,2-bipyridyl
		16- Thorium chloroanilate

C- Discuss briefly the followings illustrating your answers with equation whenever possible: (10 Marks)

1- Determination of free and combined chlorine residuals in water sample (4 Marks)

2- Determination of fluoride by alizarine method (3 Marks)

3- Prevention of corrosion and plumbosolvency (4 Marks)

Analysis of Oils and Fats

IX-Complete the following: (21 Marks)

1- Boudouin's test can be used for the detection of _____

2- Kries test can be used for the' detection of _____

_____

3- The vegetable oils are classified into:

a) _____

b) _____

c) _____

4- Vitamin A and vitamin C are _____

5- Halphen's test can be used for the detection of _____

6- The Hydroxyl value is defined as _____

_____

_____

_____

7 - The Reichert value is defined as:

_____

_____

_____

8- The Kirchner value is defined as:

_____

_____

_____

9- The saponification vatue is defined as:

_____

_____

_____

10- Hydrogenated oil can be detected by the presence of _____

11- Two types of rancidity in the advanced stage are _____ _____ and _____

12- _____ is an example of volatile fat acid.

13-The iodine value is defined as: _____ _____ _____

Prof. Dr. Kamla Emara

Date: 27 / 6 / **2011** **Time: 1.5 hour**

Pathology Examination for Second Year Pharmacy Students

1- Compare between benign and malignant tumors in a table form. (10 marks)

2- Describe causes and types of edema. (10 marks)

3- Mention the followings : (5 marks each)

a- Epithelial changes in urinary bladder bilharziasis .

b- Types of necrosis and give an example for each type.

c- Complications of pulmonary tuberculosis.

d- Definition of hypertrophy and its types.

Good Luck

Oral Examination:

From 1-405: on 28/6/2011 , 8 o'clock

From 406 – end: on 29/6/2011 , 8 o'clock

Assiut university
Faculty of medicine
Paracitology dapartment
Date:27/6/2011
Time allowed: one hour

Parasitology examination for Second year students of pharmacy

Answer the following questions; illustrate your answers with diagrams whenever possible:-

(1) Define the following terms:- (15 marks 1.5 each)

Reservoir host - Accidental parasite-Erratic parasite- Congenital transmission -Connatal transmission- Endodyogony- Ookinete- Elephantiasis-Bather s itch - Creeping eruptions.

(2) Complete (10 marks 0.5 for each)

(1) Entamoeba histolytica inhabits .....due to .....
(2) Protozoa lacking cyst stage is ..... transmitted by ....treated by .....
(3) Billiary fluke is .....while blood flukes is .....•.....• best treatment for blood flukes is .....
(4) Ectopic fascioliasis occur due to .....while Pharyngeal fascioliasis might be due to .....
(5)The two nematodes of human causing anaemia is ..... due to..... the other is ..... due to .....
(6) Sleeping sicknes is caused by ..... Transmitted by .....Dignosed by ..... treated by .....
(7) Reservoire host of Entamoeba histolytica is ..... While that of Blantidium coli is .....

(3) Discuss briefly the following (15 marks 3 marks each)

(A) Autoinfection
(8) Stages of development of Entamoeba histolytica
(C) Toxoplasmosis (mode of infection. diagnosis)
(D) Hydatid disease (diagnosis. treatment .control)
(E) Role of arthropods as biological transmitters of protozol parasites.

امتحان الشفوى
200-1 9 صباحا الثلاثاء 6/28
400-201 12.30 ظهرا الثلاثاء 6/28

401-9600 صباحا الاربعاء 6/29
601 الى الآخر ظهرا الأربعاء 6/29

Good Luck

Prof. Dr. ABDEL RAHMAN M. ELBADR

Assiut University	First term
Faculty of Pharmacy	2nd year Periodic. Exam
Pharm. Anal. Chem. Dept.	Date: 2/12/2011
Inst. & Appl. Pharm. Anal. (1)	Time: (1½ hours)
Name:	No.

I- Potentiometry & Conductometry (5 Marks)

a-Underline the incorrect word in the following statements and then correct it (1½ Marks)

1-Galvanic cell: in this cell the chemical energy is converted to electrical energy

2-The electrode at which reduction occurs is called anode.

3- NaCl is usually used in preparation of salt bridge.

4- The potential of indicator electrode is constant and insensitive to the composition of the analyte.

5- Equivalent conductance: it is the conductance of one molar of solute contained between two electrodes placed one cm apart.

6- H^+, Na^+ & C l^- ions behave the same in terms of conductance in solution

b-Write ,the name of indicator electrode which may be used for measuring the following in solution (1 Mark)

1-Hydrogen ions
2- Ferrous-ferric ions
3- lead ions
4-iodide ions

Dr. *Salwa Elshabouri*

c- Calculate the potential of the following cell (E^0_{cell}) (1 Mark)

Pb / Pb^{2+} // Cu^{2+} / Cu

Where $E^0_{Pb/Pb^{2+}} = -0.13$ V

$E^0_{Cu/CU^{2+}} = +0.34$ V

Is the reaction spontaneous? Why?

d- Draw and label a conductometric titration curve for strong acid with strong base. (1½ Marks)

[II] Spectrophotometry: (10 Marks)

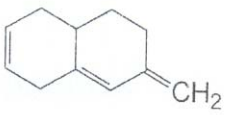
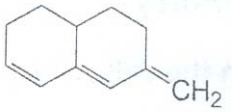
1- Compare between the following: (3 Marks)

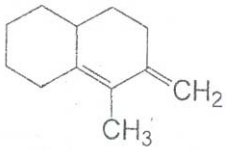
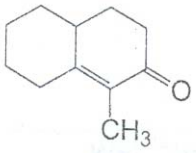
No	(A)	(B)
1	Chromophore	Auxochrome
2	Beer' law	Lamberts law
3	Standard calibration curve	Absorption curve

2- Calculate the wave number and frequency of a light beam with a wavelength of 550 nm. (2 Marks)

3-Draw a schematic diagram for single beam spectropjotometer (1 Mark)

4- Which compound in each of the following pairs is likely to absorb radiation at longer wavelength (Give reason): (2 Marks)

(A)  Or 

(B)  Or 

5-Select from set (A) the most suitable statement for each in set (B): (2 Marks)

(A)	
(1) Spactra of atoms	(2) Tungsten- halogen lamp
(3) Benzene	(4) Stray light
(5) Spectra of molecules	(6) Hypochromic effect
(7) Bathochromic shift	(8) Gratings
(9) Deuterium discharge lamp	(10) n-σ* transition
(11) Prisms	(12) Hyperchromic effect
(13) n- π* transition	(14) Hypsochromic shift
(15) Water	(16) Unmatched cells

( )Used as light source for measurements in UV-region

( ) Considered as Irregular instrumental deviation.

( ) Compound considered as good solvent for UV-measurements.

( ) The most red shifted electronic transition

( ) Shift to shorter wavelength.

( ) Appear as broad bands

( ) It is the increase in absorption intensity for an absorption band.

( ) It is the best type of monochromators

Faculty of Medicine

Microbiology& Immunology Department

Date: 10 -January-2012 **Time: 2 hours**

Microbiology Exam
For Pharmacy students

I) Enumerate only the following items: (7x5=35 marks)

a- Cross regulation between Thl & Th2
b- Positive & Negative selection of T -lymphocytes
c- Assay of antibiotic in body fluid
d- Effect of Temperature & PH on activity of Antimicrobial agents
e- Steps ofPCR
f- Difference between Exotoxin & Endotoxin
g- Difference between IgM & IgG

II) Define each of the following items: (1x 10=10 marks)

a-Carrier b- Hapten c- Antigen
d- Gene cloning e-Extinction time f-Conc. exponent
g- Viable count h- Chemotaxis i- Preservative
j- Clonal expansion

III) How can you make sterility test for the followings : (lx5 =5 marks)

a- Penicillin antibiotic b- Sulfa drugs
c- Paraffin oil d- Turbid compounds
e-Phenol

IV) Put true or False for the following statements: (lxl0 =10 marks)

1- Main action of bacterial cell membrane is osmotic barrier
2- Pili is shorter, thinner and numerous than flagella
3- Main source of carbon for Heterotrophs is C02
4- Plasmid is extrachromosomal DNA that carry genes of antibiotic resistance
5- IgG Antibody i.$, monomeric
6- NK cells kill tumor cell, graft cells viral infected cells
7 - Assay of vitamins & essential growth factor by agar cup diffusion, measure diameter of inhibition zone formed by different concentrations
8- MIC is the lowest dilution that inhibit the growth of bacteria
9- IgA is the only Antibody that can cross placenta
10- Assay of preservatives, viable count is measured each 15 seconds

V) Choose the most correct answer (Ix 10=10 marks) 1- The bacterial cell multiplication is usually by

a.Mitosis b.Meiosis c.Conjugation d.Binary fission

2-Cell-wall is

a.Thick in Gram positive than Gram negative
b.Thick in Gram negative than Gram positive
c.Equal in both
d.In Gram negative cell-wall is absent

3- Complement pathway that is initiated by Ag-Ab reaction:

a- Classical pathway b- Alternative pathway c-Lectin pathway d-All of them

4- Sterilization of culture media contain egg or serum can be done by:

a- Inspissation b- Autoclave c- Tyndillization d- Filteration

5- Microbial challenge test is used for assay of :

a- Disinfectant b- Antibiotic c- Preservative d-Antiseptic

6- Competence is required in :

a- Conjugation b- Transformation c. Transduction d- Transpoition

7- Substance that increase immune response against certain Antigen is called:

a- Hapten b-Immunogen c- Adjuvants d- Super-Ag

8- Transfer of DNA from one bacteria into another by temperate phage is called:

a- Generlaized transduction b-Specilized transduction
c-Conjugation d- Tranformation

9-Effect of organic matter on activity of antimicrobial agent:

a-Increase b-decrease c- no effect d- non of them

10- CD4 - T cell recognize:

a- Polysaccaride Ag b-Lipid Ag c- nucleic acid Ag d-peptide Ag

Good Luck

Oral Exam form 1-300: 10-1-2012 after exam at 3 p.m
From 301 to the end: 11-1 -2012 at 9 a.m

بسم الله الرحمن الرحيم
جامعة أسيوط – كلية الصيدلة - قسم الصيدلانيات
التشريعات الصيدلية للفرقة الثانية
زمن الامتحان: ساعة واحدة الدرجة الكلية:50 درجة التاريخ: 2012/1/18

ملاحظات: تتم الاجابة على كل الأسئلة – اقرأ الأسئلة جيدا قبل أن تبدأ فى الاجابة عليها – تتكون ورقة الاسئلة من أربع صفحات – مبين على كل جزء درجته

الجزء الأول (أ.د. سوزان شوقى طوس)

السؤال الأول: أكمل مايلى: (5 درجات)

أ- من الشروط الواجب توافرها لمنح ترخيص انشاء المكاتب العلمية الآتى: (3 درجات)

1.
2.
.3

ب- من محاذير تداول أدويةOTC:

1.
2.
3.
.4

الجزء الثانى (أ.د. احمد مصطفى السيد)

طبقا للقانون 127 لسنة 1955 بشأن مزاولة مهنة الصيدلة والإشتراطات الصحية الخاصة بإنشاء المؤسسات الصيدلية أجب على الأسئلة الآتية:

السؤال الثانى: ضع علامة (√) أمام العبارات الصحيحة وعلامة خطأ (×) أمام العبارات الخاطئة ثم أذكر السبب فى ذلك: (10 درجات)

( )1- يجب على الصيدلى الذى يزاول مهنة الصيدلة بجمهورية مصر العربية أن يكون ملما باللغة العربية قراءة وكتابة

( ) 2- يجب على صاحب ترخيص المؤسسة الصيدلية الحصول مقدما على موافقة وزارة الصحة على كل تغيير يريد اجراؤه فى المؤسسة الصيدلية وينفذ كافة الاشتراطات المطلوبة

( ) 3- لا يجوز استعمال المؤسسة الصيدلية لغير الغرض المخصص لها بموجب الترخيص المعطى لها

حتى لو كان نشاطا صيدليا آخر

( ) 4- يجب على الصيادلة تحت التمرين اخطار وزارة الصحة بتاريخ بدئهم العمل بالمؤسسات الصيدلية وكذلك اخطارها بمجرد تركهم العمل بها

( ) 5- لا يجوز للصيدلى تحضير أى تذكرة طبية مكتوبة بعبارات أو علامات مصطلح عليها مع كاتبها

السؤال الثالث: أذكر الحالات التى يجوز فيها: (6 درجات)

1- استثناء الصيدلى طالب الترخيص بانشاء صيدلية من أن يكون قد مضى على تخرجه سنة على الأقل قضاها فى مزاولة المهنة فى مؤسسة حكومية أو أهلية

2- للصيدلى صاحب الصيدلية العامة أن يبيع بالجملة أدوية للصيدليات الأخرى

3- للطبيب البشرى أو البيطرى الحصول على ترخيص بإنشاء صيدلية خاصة بعيادته

السؤال الرابع: أكمل الآتى: (6 درجات)

1- لا يجوز البدء فى تحضير المستحضرات الصيدلية الدستورية الا بعد اخطار وزارة الصحة بذلك وموافاتها ببيان

2- يحتوى الجدول الأول الملحق بالقانون 127 لسنة 1955 على

3- البيانات التى يجب أن تكتب على عبوات النباتات الطبية المعدة للبيع هى

السؤال الخامس: أذكر السبب فى الآتى: (3 درجات)

1- بالنسبة للمستحضرات الصيدلية الخاصة: لايجوز بأى حال من الأحوال استيراد أوعية تلك المستحضرات الفارغة أو غلافاتها الخالية من الأدوية أو بطاقاتها أو صنع شيء من ذلك

2- يجب أن لا تكون أرضية المحل المخصص لانشاء الصيدلية منخفضة عن مستوى الطريق العام أو الأرض المجاورة للمحل

3- يجب على مصانع الدواء أن تضع حيوانات التجارب اللازمة فى حظائر خاصة وبعيدة عن المكان المخصص للتحضيرات

الجزء الثالث (أ.د. فرجانى عبد الحميد محمد)

السؤال السادس: أجب على الأسئلة الآتية: (10 درجات)

1- عرف الجواهر المخدرة

2- أذكر أربع نباتات تمدنا بالجواهر المخدرة

3- أذكر الشروط الواجب توافرها عند قيد تذكرة طبية تحتوى على مواد مخدرة

4- أكتب نسب التسامح فى عهدة المواد المخدرة

الجزء الرابع (د. جيهان نبيل فتيح)

السؤال السابع: أكمل العبارات التالية: (10 درجات)

1- تنقسم الهيئات التأديبية التابعة للنقابة الى:

أ- ..... وتتكون من

.....

ب- ..... وتتكون من

.....

2- شروط صحة انعقاد الجمعية العمومية للنقابة هى:

أ- .....

ب- .....

3- شروط الطعن فى قرارات الجمعية العمومية للنقابة هى:

أ- .....

ب- .....

4- يتكون اتحاد نقابات المهن الطبية

من .....

ومقره .....

5- يحق لمن صدر قرار تأديبى باسقاط عضويته أن يطلب اعادة قيده فى جداول النقابة

بعد ..... من تاريخ القرار فاذا رفض المجلس طلبه، جاز له تجديده

بعد ..... من تاريخ الرفض.

مع أطيب التمنيات

Part (I), Potentiometry, Conductometry & Polarography (24 Marks)

Prof. Dr. Salwa Risk EI-Shabouri

(A) Choose the correct answer (5 Marks)

1- Glass electrode must be immersed in water for few hours before use;
- a- To make the glass membrane clean
- b-To prevent the glass membrane from breaking
- c- To hydrate the glass membrane and restore its activity

2-Alkaline error may be overcome by;
- a- Substitution of potassium for sodium in unknown and buffer solutions.
- b- Substitution of calcium for sodium in the unknown and buffer solutions
- c- Substitution of copper for sodium in the unknown and buffer solutions

3-Second derivative curve for potentiometric titration is the relation between
a- E &V b- Δ E & V c- Δ^2 E & V^2

4-Combination electrode consists of:
- a- Two indicator electrodes in one probe.
- b- One indicator electrode and one reference electrode in one probe
- c- Two indicator electrodes and one reference electrode in one probe.

5-Conductance is increased by;
- a- Decrease of temperature.
- b- Increase of temperature.
- c- No effect for temperature

6- The largest ionic mobility (Λ) for the positively charged ions is:
a- Na^+ b- Ag^+ c- H^+

7- Conductometry is used to measure;
- a-Ionic concentration of positively charged ions.
- b- Ionic concentration of negatively charged ions.
- e-Ionic concentration of a & b.

8- Whetastone bridge consists of;
- a- Three equal resistances and unknown cell
- b- Two known resistances and resistance consists of a series of calibrated resistances & unknown cell
- c- Two equal resistances & unknown cell & unknown resistance

9-Polarography can be used for the analysis of;
- a-Oxidizing substances.
- b-Reducing substances.

c- a & b.

10-In polarography, under complete polarization of DME, analyte moves to it by ;
a- Migration b- Convection c- Diffusion

(B) Mention the names of reference and indicator electrodes which are used in the Following Titrations: (2 Marks)

l-Acid-base titration (HCI with NaOH)

2-Redox titration (FeS04 with Ce(S04)2.

(C) Underline the incorrect word(s) in the following statements and then correct it (4 Marks)

l-In a galvanic cell, electrons flow from cathode to anode

2-Zinc/ copper galvanic cell is represented by short hand notation as follow
Zn^{+2} / Zn / / Cu / Cu^{+2}

3-The potential of a given cell is +1.12 V this means that the type of the cell is electrolytic.

4- Alkaline error, means that measured pH will be higher than the true pH value.

5- Quantatitive polarographic analysis is based on $E_{l/2}$.

6-ln polaragraphy, two electro active ions may be determined successively if their wave potentials differ by at least 0.1 V for single charged ions.

7- Conductometric titration cannot used for turbid and highly colored solutions.

8- Specific conductance (R) is the conductance of a cube of liquid two centimeters on a side, its unit is Ohm^{-1} Cm^{-l}.

(D) Give the reason (5 marks)
1- Platinum is used in preparation of electrodes of standard hydrogen electrode.

2- Large excess of KCl (saturated KCl) is used in preparation of saturated calomel electrode and silver / silver chloride electrode.

3-Presence of internal reference electrode in glass electrode

4-In conductometric titration the titrant must be from 20 to 100 times more concentrated than the solution being titrated and the latter should be as diluted as possible.

5- Use of dropping mercury electrode in polarography.

(E) Draw and label the following **(8 Marks)**

1- Saturated calomel electrode

2- A polarogram (polarographic wave).

3- Conductometric curve for titration of mixture of strong acid and weak acid with strong base.

Part (II), Spectrophotometry (25 Marks)

Prof. Dr. Abdel-Maaboud Ismail Mohamed.

(A) Compare between the following pairs: (6 Marks)

1-Deuterium discharge lamp and tungsten-halogen lamp as a source of light

radiation.
2- Interference filters and Gratings as wavelength selectors.
3- Phototubes and photomultiplier tubes as detectors.
4- Single-beam and double-beam spectrophotometers.

(B) Using the chemical equations, mention the spectrophotometric methods used for determination of: (3 Marks)

1- Fe(III) and Fe(II) salts.

2- Aromatic primary amine compounds.

3- Carbonyl compounds.

(C) Write short notes on: (4.5 Marks)

1-Absorption characteristics of monosubstituted benzene compounds.

2- Effect of pH on absorption spectra.

3- Advantages of spectrophotometric analysis.

(D) Encircle the correct answer: (5 Marks)

1- Spectra of molecules:
- Appear as sharp lines
- Appear only in the visible range of light
- Appear as broad bands
- Appear as straight lines

2- The wavelength of maximum absorption (λ_{max}) depends on:
-The molar concentration
- The probability of transition
-The chemical structure of compound
- The speed of light

3- Auxochromes are functional groups:
- Having n - π^* transitions
- That cannot confer colors on substances
- That confer colors on substances
- Which show σ - σ^* transitions only

4- Red shift occur due to:
- The high velocity of light
- Increase in absorption intensity of colors
- Decrease in the energy of transition
- Decrease in the probability of transition

5- Hypochromic effect means:
- Increase in the absorption intensity
- Hypsochromic shift
- Decrease in probability of transition
- Decrease in the absorption intensity

6- Its λ_{max} is <u>not affected</u> by change in pH value, a compound having:
- Phenolic OH group
- Aromatic amino group
- Ethylenic double bond
- Enone moiety

7- The B-band of benzene occurs at:
-264 nrn
-254 nm
-234nm
- 244nm

8- A compound considered as a good solvent for UV-measurements:
-Water
-Ethanol
-Benzene
-Chloroform

9- A type of transitions which is blue shifted upon increasing solvent polarity:
- n-π^*
-π-π^*
-σ-σ^*
- n - σ^*

10- Which of the following is considered the best type of wavelength selectors:
-Absorption filters
-gratings
-prisms
- Interference filters

(E) Draw the schematic diagram for: (3.5 Marks)

1- Double-beam spectrophotometer.

2- Photomultiplier tube

3- A monochromaic system.

(F) Solve the following problems: (3 Marks)

1- Calculate the frequency and wave number of a light beam of a wavelength= 610 nm

2- Calculate the wavelength and frequency of a molecule absorb energy equal to $5.0X10^{-13}$ erg.

3- A compound of Mol.wt 300, its absorbance is 0.600 in a 0.5 cm cell at 350 nm and its concentration is 50 μg/ml. Calculate its ε, $A^{1\%}$ and absorptivity.

Part (III), Fluorometry, atomic absorption and atomic emission

Dr. Mohamed Abdel-Galeel **(21 Marks)**

(A) Select from column (II) the correct scientific term that matches the

definitions in column (I) then write the matching number in the provided space. **(10 Marks)**

Column (I)	Matching number
a) Strongest spectral line corresponding to transition of the lowest ener level.	
b) Emitted radiation has longer wavelength than absorbed radiation because electrons emit radiation upon falling to a 2nd excited state.	
c) Decrease in fluorescence intensity by various substances (I^- and Br^-) .	
d) Spectroscope registering spectrum lines on a photographic film.	
e) An electron changes its spin from singlet state to triplet state.	
f) Source of excitation in atomic absorption spectrometer.	
g)Compound used to release the analyte free from a stable complex.	
h) The last (strongest) lines to remain on atomic spectrum upon successive dilutions.	
i) Emission of light from excited triplet state.	
j) Cation with lower ionization potential than the analyte.	

Column (II)
1- Intersystem crossing.
2-Inner-filter effect.
3- Resonance line.
4-RU lines.
5- Fluorescence.
6- Ionization suppressant.
7- Spectrograph.
8- Fluorescence quenching
9- Direct line fluorescence.
10- Spectrometer.
11- Electrodeless discharge lamp.
12- Line spectrum.
13-Phosphorescence.
14- Stepwise fluorescence.
15- Releasing agent.

(B) Complete the following (5 Marks)

1- Cold vapour AAS can be used for determination of .....

2-Plasma

is .....while ..... and ....

.... are examples of plasma excitation sources.

3- Fluorescence intensity ..... by increasing temperature

and .....by increasing solvent viscosity.

4- Atomic emission spectrography can be applied

for ..... and ..... While plasma excitation sources

are applied for .....and .....

4- Electrodeless discharge lamps (EDL) can produce .....than hollow cathode lamps (HCl). Therefore, EDL can be used for determination of metals

like ..... for which HCL are not used.

5- Chemiluminescence is ..... while Quantum yield is .....

(C) Using only labelled diagrams, illustrate the following (6 Marks)

1- Differences between Premix burner and Total consumption burner.

2- Differences between flame photometer, atomic absorption spectrometer and atomic emission spectrometer.

بسم الله الرحمن الرحيم

جامعة أسيوط – كلية الصيدلة - قسم الصيدلانيات

التشريعات الصيدلية للفرقة الثانية **(تخلفات)**

زمن الامتحان: ساعة واحدة الدرجة الكلية:50 درجة التاريخ: 2012/2/20

ملاحظات: تتم الاجابة على كل الأسئلة – اقرأ الأسئلة جيدا قبل أن تبدأ فى الاجابة عليها – تتكون ورقة الاسئلة من أربع صفحات – مبين على كل جزء درجته

الجزء الأول (أ.د. سوزان شوقى طوس)

السؤال الأول: أكمل مايلى: (5 درجات)

أ- من الشروط الواجب توافرها لمنح ترخيص انشاء المكاتب العلمية الآتى: (3 درجات)

1.

2.

.3

ب- من محاذير تداول أدويةOTC:

1.

2.

3.

.4

الجزء الثانى (أ.د. احمد مصطفى السيد)

طبقا للقانون 127 لسنة 1955 بشأن مزاولة مهنة الصيدلة والإشتراطات الصحية الخاصة بإنشاء المؤسسات الصيدلية أجب على الأسئلة الآتية:

السؤال الثانى: ضع علامة (√) أمام العبارات الصحيحة وعلامة خطأ (×) أمام العبارلت الخاطئة ثم أذكر السبب فى ذلك: (10 درجات)

( )1- يجب على الصيدلى الذى يزاول مهنة الصيدلة بجمهورية مصر العربية أن يكون ملما باللغة العربية قراءة وكتابة

( ) 2- يجب على صاحب ترخيص المؤسسة الصيدلية الحصول مقدما على موافقة وزارة الصحة على كل تغيير يريد اجراؤه فى المؤسسة الصيدلية وينفذ كافة الاشتراطات المطلوبة

( ) 3- لا يجوز استعمال المؤسسة الصيدلية لغير الغرض المخصص لها بموجب الترخيص المعطى لها حتى لو كان نشاطا صيدليا آخر

( ) 4- يجب على الصيادلة تحت التمرين اخطار وزارة الصحة بتاريخ بدئهم العمل بالمؤسسات الصيدلية وكذلك اخطارها بمجرد تركهم العمل بها

( ) 5- لا يجوز للصيدلى تحضير أى تذكرة طبية مكتوبة بعبارات أو علامات مصطلح عليها مع كاتبها

السؤال الثالث: أذكر الحالات التى يجوز فيها: (6 درجات)

1- استثناء الصيدلى طالب الترخيص بانشاء صيدلية من أن يكون قد مضى على تخرجه سنة على الأقل قضاها فى مزاولة المهنة فى مؤسسة حكومية أو أهلية

2- للصيدلى صاحب الصيدلية العامة أن يبيع بالجملة أدوية للصيدليات الأخرى

3- للطبيب البشرى أو البيطرى الحصول على ترخيص بإنشاء صيدلية خاصة بعيادته

السؤال الرابع: أكمل الآتى: (6 درجات)

1- لا يجوز البدء فى تحضير المستحضرات الصيدلية الدستورية الا بعد اخطار وزارة الصحة بذلك وموافاتها ببيان

2- يحتوى الجدول الأول الملحق بالقانون 127 لسنة 1955 على

3- البيانات التى يجب أن تكتب على عبوات النباتات الطبية المعدة للبيع هى

السؤال الخامس: أذكر السبب فى الآتى: (3 درجات)

1- بالنسبة للمستحضرات الصيدلية الخاصة: لايجوز بأى حال من الأحوال استيراد أوعية تلك المستحضرات

الفارغة أو غلافاتها الخالية من الأدوية أو بطاقاتها أو صنع شيء من ذلك

2- يجب أن لا تكون أرضية المحل المخصص لانشاء الصيدلية منخفضة عن مستوى الطريق العام أو الأرض المجاورة للمحل

3- يجب على مصانع الدواء أن تضع حيوانات التجارب اللازمة فى حظائر خاصة منعزلة وبعيدة عن المكان المخصص للتحضيرات

الجزء الثالث (أ.د. فرجانى عبد الحميد محمد)

السؤال السادس: أجب على الأسئلة الآتية: (10 درجات)

1- عرف الجواهر المخدرة

2- أذكر أربع نباتات تمدنا بالجواهر المخدرة

3- أذكر الشروط الواجب توافرها عند قيد تذكرة طبية تحتوى على مواد مخدرة

4- أكتب نسب التسامح فى عهدة المواد المخدرة

الجزء الرابع (د. جيهان نبيل فتيح)

السؤال السابع: أكمل العبارات التالية: (10 درجات)

1- تنقسم الهيئات التأديبية التابعة للنقابة الى:

أ- ..... وتتكون من

.....

ب- ..... وتتكون من

.....

2- شروط صحة انعقاد الجمعية العمومية للنقابة هى:

أ- .....

ب- .....

3- شروط الطعن فى قرارات الجمعية العمومية للنقابة هى:

أ- .....

ب- .....

4- يتكون اتحاد نقابات المهن الطبية

من .....

ومقره .....

5- يحق لمن صدر قرار تأديبى باسقاط عضويته أن يطلب اعادة قيده فى جداول النقابة

بعد ..... من تاريخ القرار فاذا رفض المجلس طلبه، جاز له تجديده

بعد ..... من تاريخ الرفض.

مع أطيب التمنيات

Department of Pharmaceutics
Faculty of Pharmacy
Assiut University

Date: 13-1-2011
Time allowed: 2 hours

Physical Pharmacy-II Final Exam.
2nd Year Pharmacy Students

Pages: 8 Total mark: 100
All Questions Should Be Answered

25

Part I Prof. Dr. Suzan Shawky

I- Denate (T) for the true statements and (F) for false ones: (13 marks)

( ) 1- The rate of a first order reaction depends on the concentration of the reactant, while its half-life does not.

( ) 2- In Arrhenius equation, E_a is the activation energy and its units are expressed in kilocalories.

( ) 3- The rate of photochemical reactions depends on the intensity and wavelength as well as on the temperature.

( ) 4- Increasing the concentration of an active ingredient hydrolyzing by zero order kinetics decreases the percentage decomposition.

( ) 5- Reactions involving ions of like charge, an increase in dielectric constant results in increase in the rate of the reaction.

( ) 6- The species of buffer components does not affect reaction rate.

( ) 7- Photochemical reactions do not depend on temperature for the activation of the molecule.

( ) 8- Tetracycline and riboflavin are not subjected to photo-oxidation.

( ) 9- suspensions are considered a case of zero order kinetics.

( ) 10- The constant K appearing in the rate law associated with a single step of the reaction is called overall rate constant.

( ) 11- Heterogenous catalysis occurs when the catalyst and reactants form one phase in the mixture.

( ) 12- Promoters are substances increase the activity of a catalyst.

( ) 13- In zero order reaction, the half-life is proportional to the initial concentration.

II- Give reason(s) (illustrate your answer with equations): (12 marks)

1- The same drug may exhibit different order under various conditions.

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2- Ionic strength affects rate constant of ionic reaction.

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Part II Prof. Dr. Ahmad Mostafa **25**

1. Indicate whether each of the following statements is true (√) or false (X) and mention why: (9 marks)

( )A-For ophthalmic use, pilocarpine is rapidly hydrolyzed in acid solution. Accordingly, it is advisable to buffer the system at a higher pH to minimize drug hydrolysis

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( )B-Inhibition of hydrolysis of benzocaine in aqueous solution is achieved by the addition of caffeine

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( )C-It is not favorable to add tocopherols as antioxidants to the animal fats

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2.<u>Give ONE example of drugs exposed to the following degradation routes</u>: (6 marks)

A-Physical dehydration processes

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B- Drug-drug incomepatibility

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C- Hydration

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3.<u>Give **the reason(s) for**</u>**:** (10 marks)

A- The melting time of aminophylline suppositories, prepared from various bases, increased from 20 min to over an hour after weeks storage at 22C

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B-Up to 50% drug loss can occur after nitroglycerin is stored in polyvinyl

chloride bags for 7 days at room temperature

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C-Accelerated stability analysis can not be used for pharmaceutical products containing suspending agents such as metylcellulose.

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D- Racemization is of interest in drug stability

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Part III أ.د. فرجانى عبد الحميد

Part III (Prof. Dr. Fegany Mohammed)

A) Put (T) for the true statement and (F) for the false statement for each of the following, If your answer is false (F), Write the correct one. Write your answer ONLY,in'the table. (10 Marks) ",

1- In ophthalmic suspensions, only water-insoluble drugs are used and show

more prolonged duration than ophthalmic solutions.

2- Ophthalmic inserts are generally used for treatment of chronic diseases

3- Nasal sprays are less effective than nasal drops

4- Ideal suppository bases should show low iodine value and low hydroxyl index.

5- All fatty (oleaginous) suppository bases are subjected to rancidity.

6- Water-soluble lubricants are used for water-soluble suppository bases.

7- Ideal suppository base should show high water number.

8-Nasl preparations are best used for long period (5-10) days.

9- Penetration power of ointments depends mainly on physicochemical characteristics of the ointment base.

10- Drug absorption from Suppositories by passes the first pass effect.

Answer table

1	2	3	4	5	6	7	8	9	10

B) Give reason (s) for each of the **following:** **(12 Marks)**

1- Addition of bees wax to cocoa butter suppositories.

2- Nasal preparations should not be used for prolonged time.

3- Addition of surfactants to cocoa butter suppositories

4- Absence of Polymorphism in synthetic fatty bases.

5- Use of suppository for certain types of drugs.

6- Addition of cetyl ester Wax to certain types of suppository bases.

7- Mold lubrication is important in preparation of certain suppositories.

8- Use of carbamide peroxide in cerumon-removing preparations.

9- Suppository dose is (0.5-2) times the oral dose. **(3 Marks)**

10-In evaluation of suppositories, melting range has been used rather than melting point

25

Part IV د. جيهان نبيل

A- Complete the following sentences: (10 marks)

1- Types of inclusion complexes include:

a- ..... b- .....

c- ..... c- .....

2- Types of metal ion complexes include:

a- ..... b- .....

c- ..... c- .....

3- A chelating agent is defined as ....., e.g .....

4- ..... can be used as an electrode in pH determination and it belongs to .....complexes.

5- Cyclodextrin is complexed with vitamin A to .....

6- Methods of complex analysis include:

a- ..... b- .....

7- Examples of antibiotics depending on complexation for producing their effect include:

a- ..... b- .....

8- Dimercaprol (BAL) is used as .....

And it acts through .....

9- Job's Method for complex analysis depends on the following principle:

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10- The solubility method for complex analysis depends on the following principle: .....

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<u>B- Write briefly on the following:</u> **(15 marks)**

1- The caracterestics of the ashesive layer in TDDSs.

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2- Design objectives of TDDSs.

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3- Types of monolithic TDDSs.

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GOOD LUCK

سوف يجرى امتحان الشفوى بالقسم بعد انتهاء امتحان النظرى مباشرة

Faculty of Medicine

Microbiology& Immunology Department

Date: 23 -February-2012 **Time: 2 hours**

Microbiology Exam
For Pharmacy students

I) Enumerate only the following items:

a- Difference between Type I and Type II hypersensitivity

b- Gram +ve cell wall and Gm-ve cell wall
c- Assay of antibiotic in body fluid
d- Effect of organic matter & surfactant on activity of Antimicrobial agents
e- Gene transfer inside the bacteria
f- Difference between Exotoxin & Endotoxin
g- One method for evaluation of disinfectant
h- Difference between T-lymphocytes &B-lymphocytes
I - Phagocytosis
j- Classical pathway of the complement

11) Define each of the following items :

a- Carrier	b-adjuvants	c-Antigen
d- Gene cloning	e-Jnhibition zone	f- MIC
g- Total count	h- Bioremediation	i-Antiseptic

j- Anaphylactic shock

III) Put true or false for the following statements- :

1- Thioglycholate media is suitable for growth of bacteria
2- Phenol is highly inactivated by dilution
3- Aerobic bacteria lacks catalase and superoxide dismutase enzymes
4- Change in fermentation condition leads to different products by the use of the same microorganisms
5- Plasmids are essential structure of bacteria that carry essential genes
6-Exotoixn is heat labile substance that have non specific action
7- Viable count is the number of living bacteria
8- PCR is abbreviation of polymerase chain reaction
9-Conjugation mainly occurs in Gm-ve bacteria due to presence of sex pili
10- surface active agents act by disruption of bacteria cell membrane

Good Luck

Faculty of Medicine

Microbiology& Immunology Department

Date: 2 -6-2012 Time: 2 hours

Final Microbiology Exam

For Pharmacy students

I) Enumerate the following items: (15x4= 60 marks)

a- 3 microorganism caused food poisoning, mention type of food poising

b- Two virus cause hepatocellular carcinoma, difference between them

c- Difference between ETEC & EHEC

d- Virulence factors of B.anthracis

e- 2 Neurotoxin released by 2 different microorganism, disease caused by each of them

f- 3 drugs used in treatment of Viral infections, mechanism of each one

g- 2 Rodent borne disease, name of microorganism of each of them

h- Difference between S.typhi & S.typhimurium

i- Difference between Sabin and Salk vaccine

j- Toxigenic diseases of Strept pyogens

k- 3 Venereal diseases, causative agent, main virulence factor for each of them

l- Difference between Trachoma and Inclusion conjunctivitis

m- Toxigenicity tests used for detection of diphtheria toxin

n- Difference between Soft sore & Cold sore

O- Ring worm, causative agent, transmission and diagnosis

II) Put true or False for the following statements ; (lx5=5marks)

1- B.C.G is a living attenuated vaccine used for prophylaxis of typhoid fever
2- Major virulence factor of M.tuberculosis is reiease of bacteria toxins
3- Virus lacks ribosome, so it is obligate intracellular microorganism
4- Fungi reproduce by binary fission
5- Antigenic shift a major variation that cause pandemics of measles virus

III)Choose the correct answer (lx5=5marks)

1- All of the following m.o cause milk-born disease **except**:
a- M.bovis b-Br.abortus c-S.enteriditis d- Pneumococci

2- Which of the following bacteria cause septicemia
a- V.cholera b-Shigella dysentriae c-ETEC d-S.paratyphi A

3- Which of the following Antigen present in Hepatitis B vaccine
a- HBcAg b-HBsAg c-HBeAg d- All of them

4- Oral thrush is caused by:
a- Dermatophytes b-Asperigillius c-Candida albicans d-Non of them

5-Cultivation of virus can be done on all of the followings except:
a-Egg embryo b- Tissue culture c- Lab animal d- Sabroud's dextrose agar

Good Luck

Assiut University
Faculty of Pharmacy
Dept. of Pharm. Organic Chemistry
Pharm. Organic Chemistry Exam.

2nd Year Pharmacy
Final Semester Exam
June 7, 2012
Time allowed 3 h

Illustrate your answers by chemical equations and reaction mechanisms whenever possible

الامتحانات الشفهية عقب الامتحان النظرى مباشرة لجميع الطلبة

This booklet is composed of 8 pages

Answers should be in the specified places

Section A (60 min, 23 points)

I- Assign the following by true (T) or false (F) or complete whenever needed: (3 points)

a) Nitration and sulphonation of isoquinoline produce mainly the 5-derivative ( ).

b) The unshared pair of electrons of N atom of pyridine is involved in the aromatic π-system. ( )

c) 2- or 4-Hydroxypyridine ring present in equilibrium with the ketoform ( ).

Give the resonance structure.

.....

.....

d)Pyridine is very unreactive to SE reactions due to:

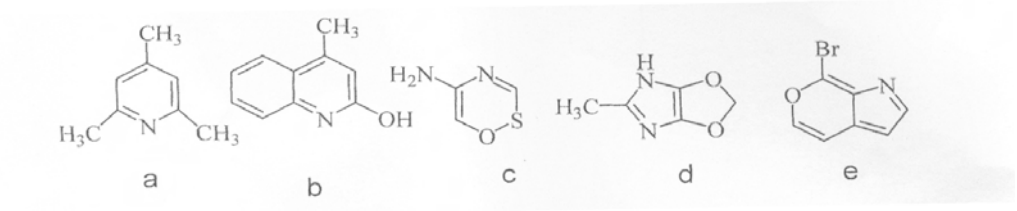
i) .....

.....

ii) .....

.....

II- Using the chemical structures below, answer the following questions: (20 points)



1) Give reaction name for synthesis of compound (a) and write the mechanism of the reaction:

2) Give the reaction product(s) resulting from reaction of (a) with benzaldehyde in presence of NaOH.

See the next page

3) Give the reaction product(s) resulting from heating (a) with KMnO4/NaOH followed by acidification with HCl.

4)Give the chemical structure of the product(s) resulting from heating products obtained in (3).

5) Compound (b) could be prepared by reaction of the starting materials .....
.....throug
a chemical reaction named as .....
Write equations of the reaction:

6) Give the reaction product(s) resulting from reaction of isoquinoline with sodium in liquid ammonia.

See the next page

7) Give the reaction product(s) resulting from reaction of (b) with $KMnO_4$ in acid medium.

8) Assign the IUPAC nomenclature of the previously given chemical structure (c-e).

See the next page

Section B (23.5 points, 60 minutes)

23.5

Heterocyclic Compounds cont. (15.5 point, 40 minutes)

1- Complete the following or underline the correct answer: (2.5 points)

a) N-subsituted imidazole have lower melting points than the unsubstituted compounds due to

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b) Pyrazole is much weaker base than imidazole due to----------

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c) Boiling point for imidazole is higher than pyrazole due to

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d) Nitration offuran is best carried out using-.....and sulphonation by .....

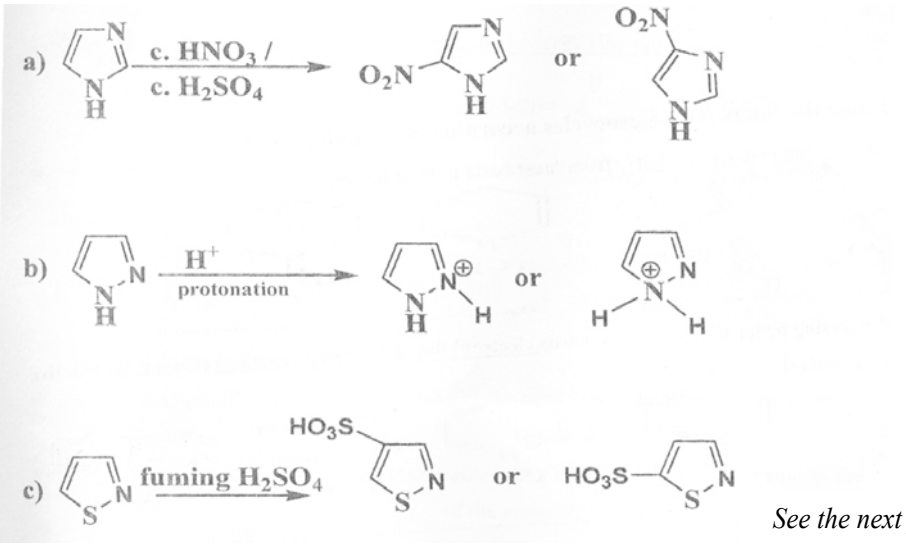
e) Which statement below is *incorrect*?

A) Pyrazine is a diazine. B) 4-Methylimidazole and 5-methylimidazole are tautomers.

C)In imidazole, each N atom contributes one electron to the π-system.

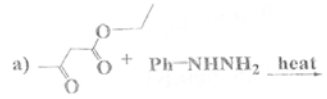
D)Pyrimidine and pyrazine are isomers.

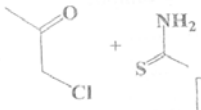
II- Encircle the major product in each case and briefly explain your choice: (3 points):



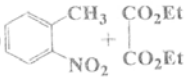
See the next page

III- Complete the following equations giving the final organic product (s): (5 points

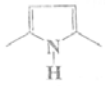
a)  Ph–NHNH$_2$ heat ..... taut. ..... CH_3I .....

b)  benzene / heat .....

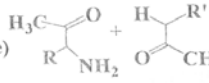
Reaction name =

c)  1- EtONa / 2- Zn/AcOH .....

Reaction name

d)  $CHCl_3$/ KOH .....

Reaction name =

e)  base .....

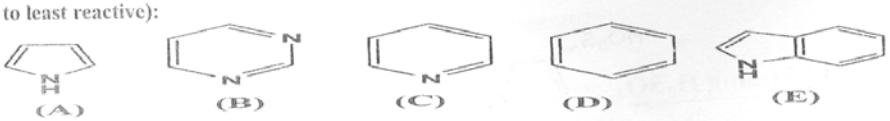
Reaction name

IV- Arrange the following heterocycles according to: (2 points):

1) The decreasing order of basicity (from most basic to least basic):

.....

2) The decreasing order of reactivity towards electrophilic substitution reactions (from most reactive to least reactive):



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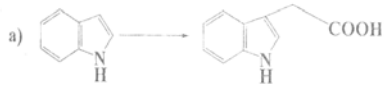
See the next page

V- Outline all the synthetic steps to perform the following transformations (without mechanism): (3 points)

a) 

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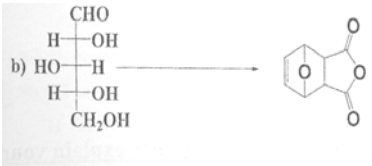
b) 

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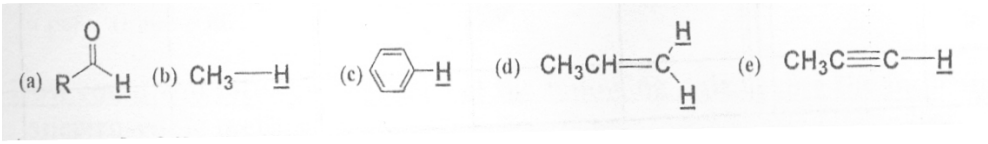
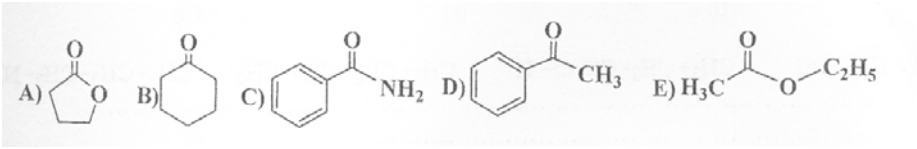
IR spectroscopy (8 points, 20 minutes)

I- Complete the following OR underline the correct answer: (5 points)

1. Which of the following C-H bonds has the highest energy vibration?



2- Arrange the following carbonyl stretching frequencies in decreased 'υ values (from high 'υ to low):



.....

3- The region of the IR spectrum which contains the most complex vibrations (600-1400 cm^{-1}) is called the _____ region of the spectrum.

4- In order for a vibration mode to be observable in the IR, the vibration must change the _____ of the molecule.

See the next page

5- Which has a lower characteristic stretching frequency, the C-H or C-D bond? Explain briefly.

.....

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6- Theoretical group frequencies can be calculated from ..... law which has the following formula: 'υ=

7- The IR spectrum of a compound with molecular formula C_4H_8O shows no absorption near 1700 cm^{-1} or 3400 cm^{-1}. What can you deduce about its structure?

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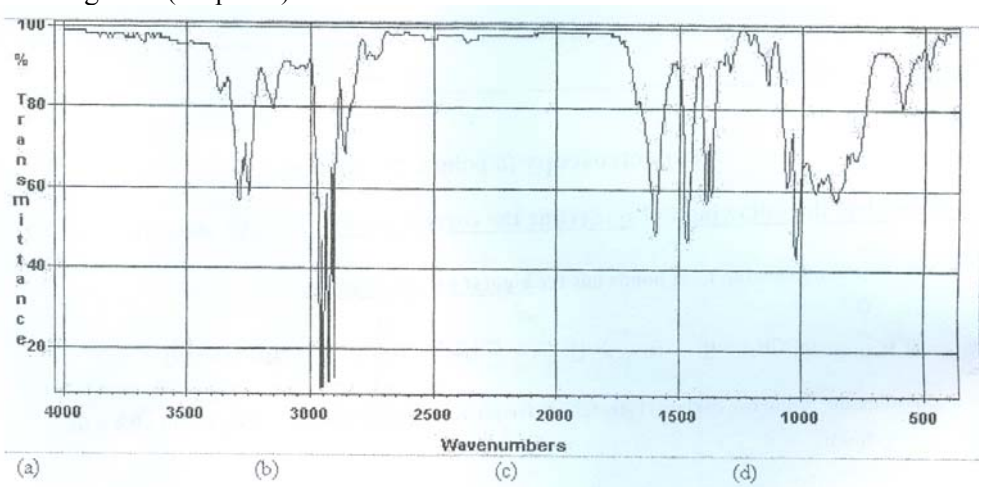
II- Decide which structure is the best fit for the IR spectrum, and briefly explain your reasoning. (1.5 points)



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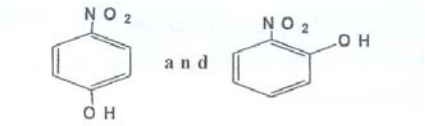
.....

III- Indicate how the following pair of compounds could be distinguished using IR (1.5 points)



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.....
.....
.....

Section C (60 min, 23.5 points)

I. Complete the following sentences or mark if it is true or false: (7.5 marks)

1) Chlorobenzene shows a prominent peak at m/z =..... Due to loss of .....while benzyl chloride shows a prominent peak at m/z = ... due to loss of .....

2) *p*-Xylene show a prominent peak at m/z = ... Known as .....

3) Signal intensity in ^{13}C-NMR is a good impression for number of carbons but it is not in case of ^{1}H-NMR. ( )

4) M+1 ions in case of CI Ms undergo less fragmentation. ( )

5) The methyl ester of aliphatic acid unbranched at α carbon gives strong peak at m/z = 74 due to .....

6) Acetylenic protons appear at up-field region while olefinic protons appear at downfield in ^{1}H-NMR due to ..... effect.

7) Compounds contain Cl show 2 peaks in Ms spectrum, the difference between their m/z values is .....the relative length of them is .....

8) The relative length of triplet signal in ^{1}H-NMR is 1:1:1. ( )

9) The most characteristic (sometimes the base) in case of straight-chain monocarboxylic acid is a peak at m/z=60 ( )

II, How could you differentiate each of the following pairs using the indicated spectroscopic method: (5 marks)

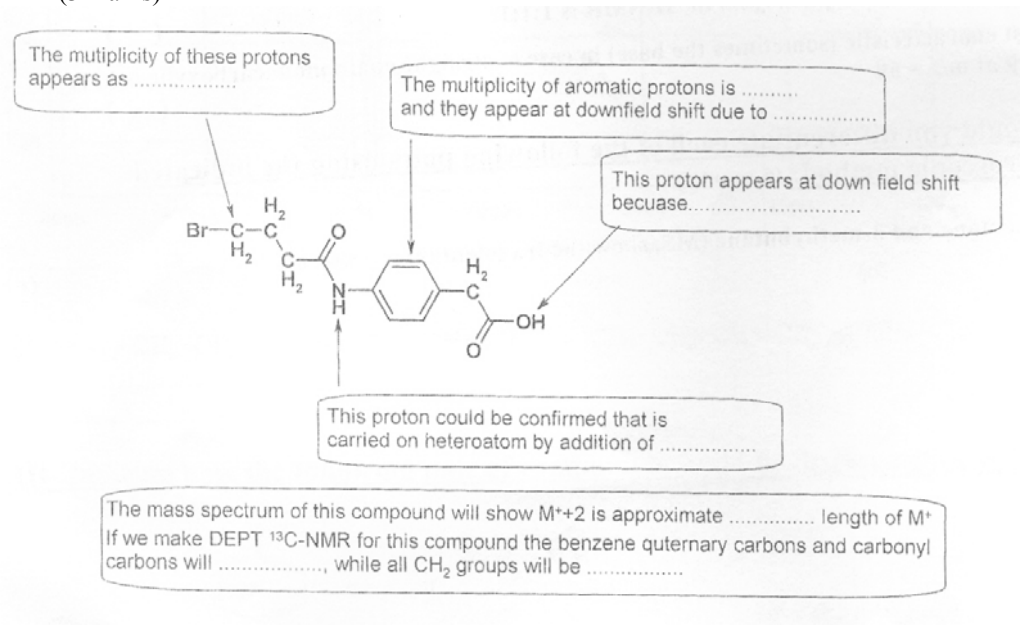
a) Neopentane and 2-methybutane (MS, show the fragmentation pattern).

See the next page

b) Ethyl acetate and methyl propionate (^{1}H-NMR)

III. Give short account on cyclohexene reto-Diels- Alder reaction in Ms (illustrate your answer with equation), (2 marks).

IV. Look carefully to the illustrated compound and answer the questions related to it (3 marks)



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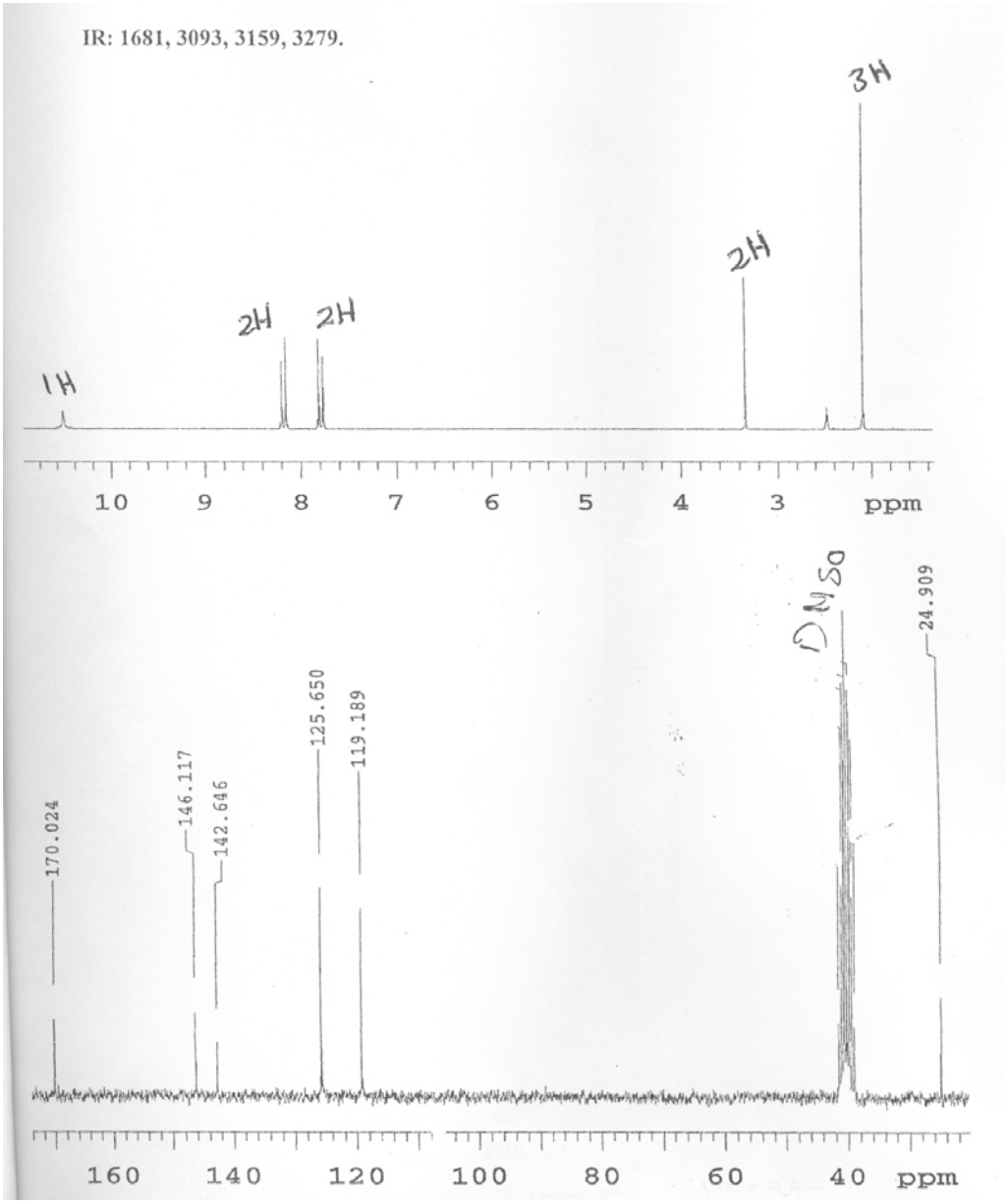
V. ^{1}H-NMR and ^{13}C-NMR spectral data for a compound $C_8H_{10}N_2O$ are given below, in stepwise manner, propose its chemical structure. (6 marks)



Good Luck

المشاركون فى التدريس: أ.د./ عبد الحميد نجيب د./ سامية جلال د./ علاء عرفات

Department of Pharmaceutics Date: 11/6/2012
Faculty of Pharmacy Time allowed: 2 h
Assiut university

Pharmaceutics-l Final Exam.
2nd Year Pharmacy Students

Pages: 8 Total mark: 70

All Questions should be answered

Part I Dr. Suzan Shawky

I- Compare between the following pairs: (6 marks)

18

1- Hypodermic tablets	Dispensing tablets
2- soft gelatin capsules	Hard gelatin capsules
3- Lubricant	Glidant
4- Surface active agents	Viscosity modifying agents
5- Oral tablets	Per oral tablets
6- sugar coating	Film coating

II- Denote (T) for the true statements and (F) for false ones: **(12 marks)**

( ) 1- Disintegrants are omitted in effervescent tablets.

( ) 2- Implanted pellets consist of small tablets of compressed drug usually with excipients.

( ) 3- Ideal enteric coating materials should be permeable to gastric juices.

( ) 4- Colorants have been used in both sugar coating and film coating to provide elegance and product distinction.

( ) 5- Opaquant extenders are often used to provide covering power to the coating solution.

( ) 6- Bloom or dull film developing on the surface of the tablet coat occurs when products are processed under dry conditions.

( ) 7- Powders that exhibit high angles of repose will require the addition of glidant to reduce particle-particle cohesion.

( ) 8- Flaking is easy breaking of tablets.

( ) 9- Sweating is a defect usually indicates incompatibilities between ingredients in the film concerning tablet manufacture.

( ) 10- Capsules are not a convenient method by which liquids may be orally administered as unit dosage form.

( ) 11- Control of the viscosity of gelatin solution is important to regulate the thickness of capsule.

( ) 12- Among the general properties of capsule fills is that the particle size distribution of the powder blend is both; monomodel and exhibits low polydispersity.

Part II Dr. Ahmed Moustafa

I- Indicate whether each of the following statements is true (√) or false (x) and mention the reason(s): (10 marks)

( ) 1- It is possible to change polymorphic form without altering crystal habit and equally to change habit while maintaining the same polymorphic form; the two parameters are independent.

( ) 2- Unit processing such as mixing, milling and tab letting can not change the biopharmaceutical properties of the drug.

( ) 3- The greater the hydration in the crystal, the lower is the solubility and dissolution rate in the aqueous media.

( ) 4- Conditions during crystallization of the drug will not contribute to changes in drug powder flowability.

( ) 5- A finely divided powder that is poorly wetted will have a limited interface with the liquid.

II- Complete the following: (5 marks)

1- In preformulation studies, it may be desirable to use drug partition coefficient in: (3 marks)

i.....
.....

ii.....
.....

ii.....
.....

2- There are few preformulation tests that are truly product specific. In preformulation studies for formulation of oral liquids, it is necessary to perform the tests that relate specifically to a desired dosage form such as: (2 marks)

i.....and
.....for solutions.

ii.....and
.....for suspensions.

Part III (Prof. Dr. Fegany Mohammed)

22

A) Put (T) for the true statement and (F) for the false statement for each of the following, If your answer is false (F), Write the correct one. (8 Marks)

1- Ophthalmic solutions show longer duration than ophthalmic suspensions.

2- Ophthalmic inserts are generally used for treatment of acute diseases

3- Nasal sprays are less effective than nasal drops

4- Ideal suppository bases should show low acid and iodine values and high hydroxyl index.

5- Water soluble suppository bases may be subjected to rancidity.

6- Water-soluble lubricants are used for water-insoluble suppository bases.

7- Ideal suppository base should show high water number.

8- Nasal preparations should not be used for prolonged time.

9- Tween 61 (5-10%) may be added to cocoa butter suppositories to prevent adherence to mould.

10- Suppository dose is (0.5-2) times the oral dose.

11- Comphor at 2 per cent and coal tar at 2 to lOpeI' cent are used as an Antipruritic agents.

12- Trichloracetic acid is a strong Keratolytic agents.

13- Vaginal tablets are commonly formulated to contain starch as the base.

14- Nosing results from the working of the suppository mass at high temperature and consequent lower viscosity.

15- Blooming means the water coating of suppository surface.

16- Absorption ointment bases show marked systemic effect than water soluble bases

Answer table

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

B) Write shortly on each of the following <u>Giving examples whenever possible</u>:

1- Possible avenues of penetration through the skin? (2 Marks)

2. Advantages of vaginal inserts over vaginal suppositories? (2 Marks)

3- Composition of evacuation enemas solutions? (2 Marks)

4- Quality control tests of suppositories? (4 Marks)

5- Advantages of ophthalmic inserts? (2 marks)

6- Advantages of synthetic suppository bases? (2 marks)

7- Disadvantages of poly ethylene glycol suppository bases? (2 marks)

15

Part IV Dr. Gihan Fetih

I- Choose the most correct answer: (Write your answers in the given table)

(12 marks)

1	2	3	4	5	6	7	8	9	10	11	12

1- Kaolin in face powder formulations is:
a) used for its high covering power b) used to increase transparency
c) the basic or bulk ingredient d) used to improve powder mixing

2- Spermaceti is added to the basic ingredients cream formulations in case of cleansing creams to:
a) give harder consistency b) give softer consistency
c) increase stability of cream d) b & c

3- The binding ability of compact face powder depends on:
a)the proper balance between ingredients
b)using a high percentage of talc and an optimum compression force
c)the used binder and optimum compression force d) a & b

4- Using insufficient quantity of borax in cold cream formulation results in:
a.) precipitation of sharp crystals b) hard cream
c) yellowish or off-white cream d) dull grainy cream

5- Sulfated fatty aIcohols used in shampoo formulations should:
a) have a high degree of sulfation to obtain good detergency
b) have a law degree of sulfation to be non-irritant
c) be 100% sulfated to obtain maximum detergent effect
d) have a chain length of more than 18 carbon atoms to produce good foam

6- The most acceptable chain length of sulfated fatty alcohols used in shampoos is:
a) 14-16 carbons b) 16-18 carbons
c) 8-10 carbons d) all the above is acceptable

7-1iquefying cleansing creams are:
a) soaps having the consistency of creams b) w/o emulsions
c) o/w emulsions d) mixtures of oils and waxes

8- For demineralization of enamel, all the following is true <u>except</u>:
a) means dissolving of calcium and phosphorous from the enamel
b) it is increased by the action of saliva
e) caused by lactic acid produced by anaerobic bacteria in the mouth
d) it increases in case of accumulation of plaque

9 Fatty acid alkaloylamides are added to shampoo formulations:
a) as conditioning agents b) as detergents
c) as foam builders d) non of the above

10- Fluoride fights dental caries through:
a) incorporation into hydroxypatite b) suppressing the activity of bacteria
c) increasing rate of remineralization d) all of the above

11- Xylitol is used as sweetening agent in chewing gum because:
a) it stimulates the production of saliva
b) it neutralizes the acid produced by bacteria
c) it causes the bacteria lose their ability to stick to teeth
d)all of the above

12- The role of alcohol in mouth washes formulations is:
a) acts as a carrier for flavor b) solubilizes other ingredients
c) contributes to the antibacterial activity d) all of the above

II- Denote (√) for true statements and (X) for false ones and justify your answer: (3 marks)

[ ] 1- Halitosis is the inflammation of tooth pockets due to accumulation of plaque.
.....

[ ] 2 - Superfatting agents are added to shampoos as conditioning agents.
.....

[ ] 3- Sugarless chewing gum helps reducing the incidence of tooth decay through changing the pH in the oral cavity.
.....

[ ] 4- The most common surfactant used in dentifrices is sodium lauryl sufate .
.....

[ ] 5- Mouth washes contain many of the constituents as toothpastes except for abrasives and thickening agents.
.....

[ ] 6- Breathanol is commonly used as an abrasive in toothpastes .
.....

GOOD LUCK

يعقد امتحان الشفوى باقسم بعد النظرى مباشرة

Assiut University | Final examination
Faculty of Pharmacy | Instrum.& Appl. Pharm. Anal. 2
Pharm. Anal. Chem. Dept. | June 15, 2012
Second Year | Time Allowed: 3 hours

1- Chromatography A (Theoretical): *Prof.Dr.Pakinaz Khashaba*

(15 Marks)

A- Choose the best answer: (2 Marks)

1- Which of the following statement is not true?

a-For symmetric peaks A_S =1.0 b- For tailed peaks A_S >1.0

c-For fronted peaks A_S) 1.0 d- b, and c only.

2- In HPLC, the "HP" means:

a. Hewlett-Packard. b. High pressure

c. High performance d- High purity

3- Smaller plate heights mean:

a. Better separation. b. Poor separation.

c. Lower numbers of theoretical plates. d. Both (a) and (c) are correct.

4- When separating the following two samples:

(1) $CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_3$ and

(2) $CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_2COOH$ using HPLC with reversed phase column, sample (1) has the:

a. longer retention time because it has a higher molecular weigh

b. shorter retention time because !t has a higher molecular weigh

c. longer retention time because it is non-polar

d. shorter retention time because it is non-polar

B- Consider the following three samples:

1- $OH-CH_2-CH_2-OH$(ethylene glycol), 2- C_6H_{14} (hexane) 3- $C_6H_5\ CH_3$(toluene)

Where toluene has a polarity that is in between the two other compounds.

a- Predict the order of elution of these compounds in a normal phase column. (1 Mark)

b- For a given mobile phase, retention time of ethylene glycol is 5.0 minutes. Will the retention time increase or decrease by increasing the polarity of the mobile phase? (1 Mark)

C- Compare between the followings:

1- Adsorption and partition chromatography giving example (4 Mark)

2- Capacity factor and retardation factor (3 Mark)

D- Mention briefly the followings: (4 Mark)

1- Applications of ion exchange chromatography:

2 Tailing factor:

II. Chromatography B (Application): *Prof. Dr. Michael El-Kommos*

(15 Marks)

(a) Using your knowledge of chromatographic techniques, specify one stationary phase and one mobile phase for each of the following processes ,then select the most suitable detector (Each item ¼ Mark)

Chromatographic Technique	Nature of Compounds	Stationary phase	Mobile Phase	Detector
GSC	Polyhalogenated compounds			
GLC	Amino alcohols			
Normal phase LSC	Polar & strong UV-absorbing			
Reverse phase LSC	Non-polar & fluorescent			
Normal phase LLC	Polar & easily oxidized			
Reverse phase LLC	Non polar & have clear fragmentation pattern			

(b) Give scientific term for: (Each item ½ Mark)

1, Differential migration of charged species in an electrolyte solution under the influence of an applied potential gradient.

(.....)

2. Temperature, above which it is impossible to liquefy a gas, no matter how great a pressure is applied.

(.....)

3. A device, placed between the injection port of a gas chromatograph and column.

(.....)

A type of elution in HPLC, in which the polarity of the mobile phase is increased after certain time increments. (.....)

(c) Sketch a gas chromatograph, labeling the different parts clearly. (3½ Marks)

(d)Complete the foIlowings (Each item 1 Mark)

1.Carboxylic acids are silylated by treatment with .....

2.The advantage of supercritical fluids as mobile phases compared with HPLC is that

.....

.....

3. In high performance capillary electrophoresis, the potentials applied across the capillary is in the range.....

4. The technique of densitometry depends upon measuring .....

.....of compounds directly on TLC plates after visualization

5. Substance added to a chromatographed mixture to compensate for the effects of minor variations in separation parameters on peak size is known as .....

III - Water analysis: *Dr/ Nolta Nahedj Atia* (25 Marks)

(a) Select from list (A) the correct statement for each in list (B) (5 Marks)

(A)

1- Nitrite
2- Thioglycollic acid
3- Monochloramine
4- Permanent hardness
5- Part per billion (ppb)
6- Soda reagent
7- Soap solution
8- 300 mg/L
9- Organic matter of plant origin
10- part per million (ppm).
11- Temporary hardness
12- Barbiturates
13- Nitrate
14-Thorium chloranilate complex
15- Apomorphine
16- 5 mg/L
17- Organic matter of animal origin

(B)

( ) Require water for injection free from carbon dioxide
( ) Is routinely used as a measurement unit for toxic and organic compounds
( ) Mainly due to calcium and magnesium chlorides and sulphates.
( ) A mixture of equal volumes of 0.1 N NaOH and 0.1 N Na2C03.
( ) The optimum amount of oxygen required by most aquatic organisms
( ) Requires about 30 min as interaction time with standard KMn04 solution
( ) Is the most dangerous form of nitrogen in water
( ) used for determination of fluoride content in water
( ) The maximum accepted amount of TDS in water sample
( ) More stable than free residual chlorine but less effective as disinfectants

(b) Complete the followings: (10 Marks)

(1) Plumbosim is ....., and ....., ... , ...are the main causes of plumbosolvency

(2) ..... has cathartic effect on humans at concentration of .....

(3) When nitrate gets into an infant's blood stream causes ..... and it can be determined colorimetrically using .....

(4) A pH of ..... will allow the greatest diversity of life for all organisms
(5) TDS is determined by .....
(6) The sanitary significance of H2S in water is .....
.....
(7) Sources of water turbidity are..... , ...
.....and it can be determined by ..... or .....
(8) Sources of acidity in water are ..... , ...
(9) .....is the most commonly used coagulant in water purification
(10) The main advantages of using chlorine as disinfectant are
....., ...

(C) By equations only illustrate how to determine the followings in a given water sample: (10 Marks)

(1) Dissolved oxygen (DO) in the presences of nitrite interference

(2) Polyphosphates

(3) Free and combined chlorine residuals

(4) Copper ions

(5) Iron (III) and Iron (II)

IV- Oils and Fats: *Prof.Dr.Kamla Emara* (15 Marks)

Complete the followings:

1-Rancid oil can be detected by ..... in the advanced stage of rancidity (1 Mark)

2- Two general characters of fatty acids are: (2 Marks)

a- .....

b- .....

3- The Reichert-Polenske-Kirschner values can be used for the determination of – ..... (1 Mark)

4- Two components of unsaponifiable part of oils and fats are: (2Marks)

a- .....

b- .....

5- The saponification -value is defined as ..... (2 Marks)

.....

.....

6- The vegetable oils are classified into: (3 Marks)

a- .....

b- .....

c- .....

7- Two types of rancidity of oils and fats are: (2 Marks)

a- .....

b- .....

8- Hydrogenated oil can be detected by ..... (1 Marks)

9- ..... is an example of drying oil. (1 Marks)

University of Assiut **23rd June 2012**
Faculty of Medicine **Time allowed: 1.5 hours**

Second Year Pharmacy Students
Pathology

Answer the following questions:

1- Define granuloma, list its types then discuss the histopathology, effects and clinical significance. (10 marks)
2- Causes, pathogenesis and types of oedema. (10 marks)
3- Mention types of repair and list factors affecting repair.(5 marks)
4- Compare and contrast the difference between benign and malignant tumours. (10 marks)
5- Complications of bilharzial fibrosis of the liver. (5 marks)

Prof. Howayda Ismail Hassan

Good Luck

Oral examination
From 2001-2450 24/6/2012
From 2451- 25/6/2012

Assiut University **Date: 23/6/ 2012**
Faculty of Medicine **Time: 1.5 hs.**
Department of Parasitology

PARASITOLOGY EXAMINATION FOR THE SECOND YEAR OF FACULTY OF PHARMACY SECOND TERM

Answer the following questions: (10 marks for each):

1- Define with examples:
Commensalism - ectopatasite - Definitive host - Halzoon - Verminous pneumoma.

2- Mention intermediate host and infective stage of the following parasites:
Taenia saginata - *Echinococcus granulosus* - *Schistosema haematobium* - *Heterophyes heterophyes* - *Fasciola gigantica.*

3- A patient suffering from severe oedema of lower limbs similar to limbs of an elephant:
- What is the most probably causing parasite?
- What is the vector of this parasite?
- Mention and draw the diagnostic stage of this parasite?
- How can you control this parasite?

4- Complete:
- Amoebic dysentery is caused by ..... and it infective stage is .....
- Steatorrhoea (fatty diarroea) is caused by ..... and its habitat is .....
- Acute sleeping sickness is caused by .....and its vectoris .....
- Benign tertian malaria is caused by ..... and its vector is .....
- ..... is transmitted from male to female by sexual intercourse and its infective stage is .....

أ.د./ عبد الله عبد السميع
رئيس قسم الطفيليات

الامتحان الشفوى:
- من 1:300 بعد التحريرى مباشرة 6/23
- من 301:600 الساعة التاسعة صباحا يوم 6/24
-من 601: الآخر الساعة الثانية عشر ظهرا يوم 6/24