

DEPARTMENT OF PHARMACEUTICAL AND MEDICINAL CHEMISTRY  
COLLEGE OF PHARMACY, d  
AFE BABALOLA UNIVERSITY  
2021/2022 Session, Second Semester

PCH 202: Inorganic Pharmaceutical Chemistry

Matric. No. /Seat No.: 29/11/2021/179.....

TIME ALLOWED: 3 Hour

ATTEMPT FIVE QUESTIONS ONLY

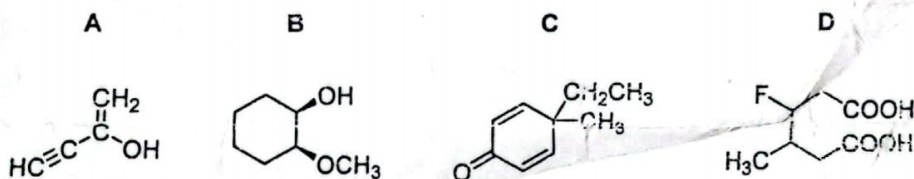
10<sup>th</sup> JUNE, 2022

1.

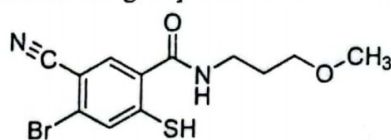
- a) Write short notes on the different types of titration.
- b) Concentration of glucose ( $C_6H_{12}O_6$ ) in normal blood is approximately 90 mg per 100 mL. What is the molarity of the glucose solution in blood?
- c) A concentration of 0.100M sodium hydroxide solution is needed in an experimental procedure. Given a sample of sodium hydroxide pellets, describe how you will prepare 500mL of the solution.
- d) *Differentiate between a primary and secondary standard. Spk of importance reference of a primary standard.*

2.

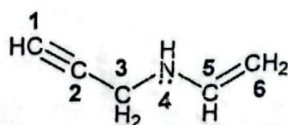
- a) Provide the IUPAC names for the structures below.



- b) Circle and name any five different functional groups on the structure below.



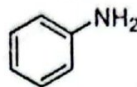
- c) Describe two types of bond cleavages that can occur in the following structure, R:X
- d) Using the structure below, fill out the table about the hybridization of the non-hydrogen atoms in the structure below.



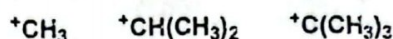
Atom	Hybridization state (e.g. sp <sup>3</sup> )	Geometry	Bond angle (e.g. 90°)
C1			
C2			
C3			
C5			
C6			

3.

- a) Using examples, state the difference between ionic and covalent bonding.
- b) List all the polar effects that are at work in aniline shown below. Describe how each of these effects will polarize (i.e. induce a separation of charge in) the molecule.



- c) With the aid of diagrams, briefly explain why a single Lewis structure is inadequate in showing resonance in benzene and  $\text{NO}_3^-$ .
- d) From the highest to the least, arrange the three carbocations below based on how stable they are. From your new arrangement, explain why the carbocation you placed in the center is less stable than the carbocation on the left; and more stable than the carbocation on the right.



4.

- a) Using appropriate examples and diagram show the differences between a pi bond and a sigma bond.
- b) Briefly describe the following with appropriate examples:
  - i. Homolytic cleavage
  - ii. Free radicals
- c) Using appropriate examples compare and contrast the pattern of chemical bond formation of a Group IV element and how a group VII element would form bonds.
- d) Briefly describe the different types of chemical bonds that exist.

5.

- a) The valence bond theory explains different concepts including the **differential electronegativity of carbon atom**. What does this term (in bold) mean?
- b) Discuss citing appropriate examples what you understand by conjugated system.
- c) Briefly describe the following with appropriate examples:
  - i. Heterolytic cleavage
  - ii. Electronegativity
- d) What physical properties would you expect for compounds with ionic bonds and how would these differ from the properties of compounds with covalent bonds?

6.

- a) Briefly explain the different types of elements in the periodic table.
- b) State three general chemical reactions undergone by Group IIA elements. Write a balanced equation of reaction for these reactions.
- c) Citing relevant example prove that atomic radius increases down the group and decreases across a given period in the periodic table.
- d) Explain the rationale behind the combination of dried Aluminium hydroxide and Magnesium hydroxide in Gestid<sup>®</sup> suspension.





DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY  
COLLEGE OF PHARMACY  
AFE BABALOLA UNIVERSITY, ADO EKITI

200 LEVEL PHARM D. SECOND SEMESTER EXAMINATION 2021/2022 SESSION

COURSE: PCT 202 (Pharmaceutical Preparations and Calculations)

DATE: Monday May 30, 2022 TIME: 2.00 pm – 5.00 pm (3 hr)

Matric No. 201MHS11118

There are four sections in this question paper, Section A (True or False Answer), Section B (MCQ), Section C (Short Answer Questions) and Section D (Essay Questions). You are to answer the questions as specified under each section.

SECTION C (Short Answer Questions)

Instructions:

- Answer all questions in Section C in the answer booklet provided
- Answer each question on a fresh page of the answer booklet
- Each question carries 4 marks.

1. Describe the method of preparing aqueous solutions.
2. State the advantages of pharmaceutical solution as a dosage form.

3.  $R_x$

Benzalkonium chloride solution 240 ml

Make a solution such that 10 ml diluted to a liter equals a 1:5000 w/v solution.

Sig: 10 ml diluted to a liter for external use.

- i. How many milliliters of a 17% w/v stock solution of benzalkonium chloride should be used in preparing the prescription?
  - ii. List the types of Allegation.
4. Discuss Capsules as oral solid dosage forms and enumerate five (5) properties that make them desirable in clinical use.
  5. Give one example of a two component system with one phase and find the degree of freedom of each example, and discuss its implication.
  6. Discuss sublimation and its application in pharmacy

PLEASE TURN OVER TO PAGE 8

## SECTION D (Essay Questions)

### Instructions:

- Answer ANY THREE (3) QUESTIONS in Section D in the answer booklet provided
- Answer each question on a fresh page of the answer booklet
- Each question carries 12 marks.

1. (a) Preparation of medicated elixir and give three examples of medicated elixir  
(b) Incompatibilities in elixir preparation.
2. (a) As a part of a clinical study, you were asked to prepare a modification of a standard 22 g package of a 2% w/w mupirocin ointment by adding the needed quantity of mupirocin powder to prepare a 3% w/w mupirocin ointment. How many milligrams of mupirocin powder are required?  
  
(b) A pharmacist receives an order for 60 ml of a suspension containing cortisone acetate 1.5 mg/ml. She had on hand a 360 ml bottle of suspension containing cortisone acetate 10 mg/5ml, and a diluent of sorbitol solution. Calculate the quantities of ingredients used.  
(Solve by allegation and method of proportionality)
3. (a) What are pharmaceutical tablets?  
(b) What are the merits and demerits of tablets when used as oral dosage form?
4. Differentiate between hypertonic, hypotonic and isotonic solution and describe what happens when a cell is placed in each.





**DEPARTMENT OF ANATOMY,  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
AFE-BABALOLA UNIVERSITY ADO-EKITI (ABUAD), EKITI STATE, NIGERIA**



252

**COURSE: Neuroanatomy (ANA 202) 2<sup>nd</sup> Semester Examination**

**INSTRUCTIONS: Answer any two (2) Questions from Each Section. Time: 2 hrs**

**Section A**

**Q1.** Write an essay on the basic organization of nervous system.

**Q2.** Describe the neuron and its morphological classifications.

**Q3a.** Briefly explain neural tube formation.

**b.** Mention at least five derivatives of Neural crest cells

**Section B**

**Q4.** Write short note on Cerebrospinal fluid in relation to ventricular system of brain

**Q5.** Describe the anatomy of spinal pathways. Add note on the functions of spinal cord

**Q6.** Enumerate on the layers of the meninges and its function

*cmhs\_abuad ...adekeyeao\_Chukwub @ana252/06062022*



20/Mrs. S. I. K. 8

**AFE BABALOLA UNIVERSITY ADO-EKITI  
COLLEGE OF MEDICINE & HEALTH SCIENCES  
DEPARTMENT OF MEDICAL BIOCHEMISTRY**

**COURSE: MEDICAL BIOCHEMISTRY II**

**COURSE CODE: BCH 204**

**DATE: 6<sup>TH</sup> JUNE, 2022**

**TIME ALLOWED: 2HRS**

**INSTRUCTION: Answer any four questions**

**QUESTION ONE**

- (a) Define isoenzymes and zymogen with examples
- (b) List the types of enzyme inhibition
- (c) List five (5) enzymes of clinical importance and their significance

**QUESTION TWO**

- (a) What do you understand by the term "substrate level phosphorylation"? Show the reaction points at which substrate level phosphorylation occurs in glycolysis.
- (b) How many ATPs are produced in **ONE** complete TCA cycle reactions? (Show how you arrived at your answer)

**QUESTION THREE**

- (a) Describe the urea cycle
- (b) List five (5) significance of urea cycle
- (c) Describe the regulation of urea cycle

**QUESTION FOUR**

- (a) Write a note on digestion and absorption of lipids
- (b) Give an overview of fatty acid oxidation.

**QUESTION FIVE**

- (a) List Seven (7) Macro minerals and Ten (10) Micro minerals you know.
- (b) Write concisely on vitamin B1, and vitamin A with emphasis on their active forms, sources, functions and deficiency manifestations





201/2022/112

**AFE BABALOLA UNIVERSITY**  
**ADO-EKITI (ABUAD)**  
KM 8.5, AFE BABALOLA WAY,  
ADO-EKITI, EKITI STATE, NIGERIA  
PMB 5454 ADO-EKITI

**2021/2022 SECOND SEMESTER EXAMINATIONS**  
**COLLEGE OF MEDICINE AND HEALTH SCIENCES**  
**DEPARTMENT OF PHYSIOLOGY**

**PHS 220: INTRODUCTORY PHYSIOLOGY II- Nervous System & Special Senses (for Pharmacy students)**

**TIME ALLOWED: 3 hours**

**INSTRUCTION: Answer *Three* questions in all.**

1. Elucidate the organisation and functions of the autonomic nervous system
2. Enumerate the organisation (*including areas*) of the cerebral cortex and their functions.
3. What are the functions of the different hypothalamic nuclei?
4. Discuss Synaptic Transmission
5. Write short notes on any **three** of the following:
  - (i) Brain waves
  - (ii) Perception of pain and its pathway
  - (iii) Hearing and balance
  - (iv) Spinal Reflexes
  - (v) Functions of the Cerebellum

1) Accessory (Chapter 3.12) 12/11/2021. Ubenzo

**DEPARTMENT OF HUMAN ANATOMY  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
FIRST SEMESTER EXAMINATIONS (2020/2021 SESSION)**

**COURSE CODE:** ANA 252

**DATE:** Friday, 18 June 2021

**COURSE TITLE:** Human Anatomy II

**TIME ALLOWED:** 120 Minutes

**INSTRUCTION:** Answer four (4) questions in all, Two (2) from each section. Each section should be answered in a SEPARATE BOOKLET.

*1) Dura mater - Dense collagenous connective tissue*  
*Dura mater - Perforates outer (small)*  
*\ Meningeal inner (bV)*

**SECTION A**

*\* Arachnoid - Connective tissue that covers the brain and spinal cord.*

1. Write on the FOUR COMPONENTS of the diencephalon (20 Marks).
2. Discuss the brainstem, its functions and also add a note on the disease conditions you know (20 Marks).
3. Give a general overview of the human heart (20 Marks).

*Spinal cord - Pivotal by spinal nerves*  
*Four a long time tube along the spinal cord*

**SECTION B**

- ✓ 1a. Write on the CELLULAR ORGANISATION of the nervous system highlighting the different cell types and their functions (15 Marks).
- 1b. Comment on the protective coverings of the central nervous system and their clinical significance (5 Marks). *foramen cecum*
- 2a. EXTENSIVELY describe the anatomy of the cerebellum and comment on its applied anatomy (15 Marks).
- ✓ 2b. Briefly explain what synapses are and their role in drug metabolism (5 Marks).
- 3a. With the aid of diagram(s), write on DESCENDING AND ASCENDING TRACTS of the spinal cord, their examples and distinguishing features (10 Marks).
- ✗ 3b. In a tabular form, list all the cranial nerves, highlighting the type, functions and disorders (10 Marks).





**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**

KM 8.5, AFE BABALOLA WAY,  
ADO-EKITI, EKITI STATE, NIGERIA.  
P.M.B 5454 ADO-EKITI.

**COLLEGE OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF PHYSIOLOGY  
SECOND SEMESTER B.SC EXAMINATION  
2020/2021 SESSION**

**COURSE CODE PHS 220:**

**COURSE TITLE: NEURO PHYSIOLOGY AND SPECIAL SENSES**

**INSTRUCTIONS:** Answer any five (5) Questions at least two from each section

**Time Allowed: 2.5 Hours. Date: 23/06/2021**

*per. decto*  
*cr*

**SECTION A**

1. Discuss the corticospinal tract using the following subheadings: origin, course and site of crossover, destination, functions
2. Enumerate the metabolic cardiovascular effect of adrenergic system stimulation
3. Briefly discuss the classification of memory and write short note on memory engram

**SECTION B**

4. Describe the auditory pathway with an illustrative diagram. Indicate the effects of lesions at different level of the pathway
5. (i) Discuss the situation and Structure of Taste Buds.  
(ii) Discuss the Gustatory pathways. (iii) List five (5) different types of Taste modalities.
6. (a) What are Errors of Refraction. List the types and describe their corrections.  
(b) write briefly on visual acuity.



**DEPARTMENT OF PHARMACEUTICAL CHEMISTRY**  
**FACULTY OF PHARMACY**

**SECOND SEMESTER EXAMINATION (2020/2021 SESSION)**

**COURSE:** PCH 208 (Pharmaceutical Chemistry II)      **Level:** 200 (PHARM.D)

**Date:** 25<sup>th</sup> June 2021

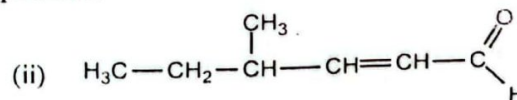
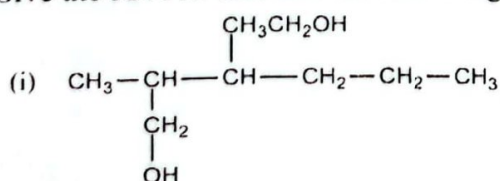
**Time Allowed:** 2 hours (10:00AM - 12:00PM)

**Instructions:** Answer only four questions in this section

**SECTION B**

*Answer any four (4) questions*

1. State the following thermodynamic laws and indicate their significances:  
(i) Hess's law of constant heat summation      (ii) Kirchhoff's law  
iii) Clausius-Clapeyron law
2. Discuss the nature of drug molecules at different pHs of body compartments.
3. (a) With named examples, briefly discuss the factors affecting the rate of deterioration/decomposition of a pharmaceutical product.  
(b) What is the activity after 2 hours of a solution of  $^{99m}\text{Tc}$  with half-life of 6 hours with initial activity of 5 mci?
4. (a) Explain types of radiation stating their different characteristics.  
(b) Define the following with illustrations  
i. Collision theory  
ii. Transition-state theory
5. a) Give the IUPAC name of the following compounds:



Draw the structural formula of the compounds below:

(iii) 4-ethyl-2,3-dimethyloctane

(iv) Hex-3-en-5-yne

(v) 3-chloro-6-hydroxy-5-methyl-3-hexen-2-one

b) Write short notes on the following homologous series:

(i) Ethers

(ii) Alkyl groups

(iii) Aliphatic aldehydes

6. a) With relevant examples, explain the different types of structural isomerism.  
b) State four factors that affect a covalent bond.





**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**

KM. 8.5, AFE BABALOLA WAY,  
ADO-EKITI, EKITI STATE, NIGERIA.  
P.M.B 5454 ADO-EKITI.

**COLLEGE OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF PHYSIOLOGY  
SECOND SEMESTER EXAMINATION  
2020/2021 SESSION**

**COURSE CODE PHS 218:**

**COURSE TITLE: Renal, Gastro-intestinal and Endocrine Physiology**

**INSTRUCTIONS: Answer any five (5) Questions**

**Time Allowed: 2.5 Hours. Date: 21/06/2021**

1. Explain the mechanism involved in the formation of concentrated urine formation ✓
2. Discuss the juxtaglomerular apparatus of the kidneys ✓
3. Write on the digestion of lipids ✓
- ~~3~~ 4. Explain any two out of these reflexes:  
(i) Vomiting reflex (ii) Gastrocolic reflex (iii) Deglutition reflex
5. Highlight the hormones of the pituitary gland and write on the systemic effects of any two of the highlighted hormones ✓
6. Discuss the Physiological changes during pregnancy ✓

DEPARTMENT OF PHARMACEUTICAL AND MEDICINAL CHEMISTRY  
COLLEGE OF PHARMACY,  
AFE BABALOLA UNIVERSITY

2021/2022 Session  
First Semester Examination  
PCH 201

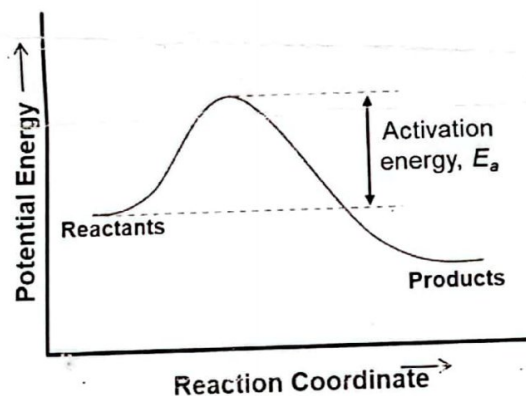
TIME ALLOWED: 3 Hours

4<sup>th</sup> February, 2022

ANSWER QUESTION 1 AND ANY THREE (3) OTHER QUESTIONS.

**NOTE: Question 1 is compulsory.**

1. (a) Increase in temperature and the addition of catalysts both increase the rate of chemical reactions. With the help of the figure below, describe the difference in the way these two factors overcome the activation energy barrier of a chemical reaction in order to speed it up.



- (b) A solution of 0.05M acid with pK<sub>a</sub> 6.10 is mixed with an equal volume of 0.1M of sodium salt. What is the pH of the final mixture?
- (c) With respect to predicting the spontaneity/feasibility of chemical reactions and other thermodynamic processes (e.g. drug-receptor interaction) briefly discuss which of the three laws of thermodynamics (i.e. First, Second and Third laws of thermodynamics).
2. In the saponification of ethyl acetate at 25 °C, the molar concentration of the ester remaining after 75 min was 0.00448 M. The initial concentrations of ester and of sodium hydroxide were each 0.01 M.
- Write out the equation that expresses the rate law for the reaction.
  - Calculate the second-order rate constant,  $k_2$  and the shelf-life,  $t_{90}$ , of the reaction.
  - If the base is present in such a large excess so that its concentration does not affect the rate of the reaction (i.e. the reaction is zero-order with respect to the base), what will be the rate constant,  $k$ , and half-life,  $t_{1/2}$ , under this circumstance.



3. (a) Discuss (citing appropriate examples) the importance of buffers in pharmaceutical preparations.  
 (b) Using a buffer solution of  $\text{CH}_3\text{COOH}$  and  $\text{CH}_3\text{COONa}$  as example explain clearly how buffers resist changes in pH value on the addition of small amounts of strong acid or base.
4. (a) Calculate the enthalpy change when dichloromethane gas dissociates to form carbon atom, hydrogen atoms and chlorine atoms all of which are in gaseous form:  $\Delta H_f^\circ$  in  $\text{kJ/mol}^{-1}$  for  $\text{CH}_2\text{Cl}_2(\text{g})$ ,  $\text{C}(\text{g})$ ,  $\text{H}(\text{g})$ , and  $\text{Cl}(\text{g})$  are  $-1162.4$ ,  $715.0$ ,  $218.0$  and  $121.3$  respectively.  
 (b) Determine  $\Delta H^\circ$  for the reaction indicated below. The standard enthalpies of combustion for propane, graphite and hydrogen are respectively  $-2219.9$  kJ,  $-393.5$  kJ and  $-285.8$  kJ.

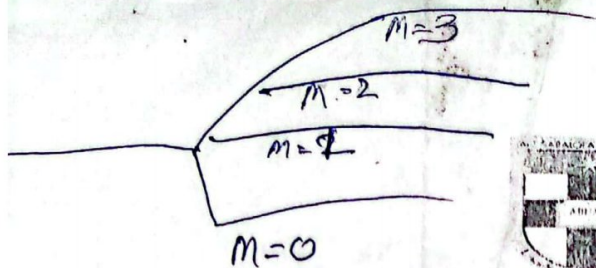


$$\Delta H = -1103.8$$

5. (a) The  $\text{pK}_a$  of the basic drug codeine is  $7.9$ . Show in which of two compartments of the body (stomach and small intestine) the drug will be better absorbed if the pH of stomach and small intestine are  $1.4$  and  $7.4$  respectively.  
 (b) Show by proving that the ionic product of water is  $14$ .

1. (a) Using a buffer solution of  $\text{CH}_3\text{COOH}$  and  $\text{CH}_3\text{COONa}$  as an example explain how buffers resist changes in pH value on the addition of small amounts of strong acid or base.  
(b) Show that the ionic product of water is  $10^{-14}$ .
2. The  $\text{pK}_a$  of the acidic drug aspirin is 3.4. Show which compartment of the body the drug will be better absorbed if the pH of stomach and intestine are 1.4 and 7.4 respectively.
3. What is the pH of a buffered solution of 0.5 M ammonia and 0.5 M ammonium chloride when, enough hydrochloric acid corresponding to make 0.15 M HCl is added? The  $\text{pK}_b$  of ammonia is 4.75.





**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**  
Km 8 State Road, Ado-Ekiti, Ekiti State, Nigeria  
P.M.B. 1454, ADO-EKITI

**DEPARTMENT OF PHARMACEUTICAL CHEMISTRY  
FACULTY OF PHARMACY**

**FIRST SEMESTER (PHARM.D) EXAMINATION 2020/2021 SESSION**

**COURSE CODE: PCH 201 (Pharmaceutical Chemistry I)**

**Instructions: Answer two questions each in Sections B and C**

**Date: 5<sup>th</sup> March 2021**

**Time Allowed: 2 hours (10:00am - 12:00noon)**

**SECTION B**

*Answer two questions in this section*

- (a) State Bohr's theories and discuss the shortcomings of the theories  
(b) Show that the following operators are linear (i)  $\nabla$  (ii)  $\nabla^2$  (iii)  $\frac{d^2}{dx^2}$
- Verify if (i)  $\psi = e^{ax}$  (ii)  $\psi = \cos ax$  (iii)  $\psi = x^3$  are eigen functions of the operators  $\frac{d}{dx}$  and  $\frac{d^2}{dx^2}$  and write down their eigen values.
- (a) What is the maximum number of electrons in a g-orbital, represent these in energy level diagram.  
(b) Discuss the importance of sequestering agents and give suitable examples.

**SECTION C**

*Answer two questions in this section*

- (a) Define the following terms (i) Valency (ii) Electronegativity (iii) Periodic law  
(b) Explain the rationale behind the combination of Dried aluminium hydroxide and Magnesium hydroxide in Gestid<sup>®</sup> suspension.  
(c) Electronegativity decreases down the group and increases across a given period in the periodic table. Explain
- (a) Explain the formation of coordinate covalent bond in carbon monoxide molecule  
(b) With a balanced equation of reaction, give three general chemical reactions undergone by Group IIA elements.  
(c) (i) Write the electronic configuration of the elements with atomic numbers 29 and 15.  
Determine the number of paired and unpaired electrons in both elements
- (a) What is a primary standard (b) Outline the different types of titration (c) State four rules that should be observed in designing a successful titration  
(d) Calculate the molarity of a solution prepared by dissolving 11.5g of solid NaOH in enough water to make 1.50L of solution.

## PHARMACEUTICAL CHEMISTRY

### PCH 201 Tutorial

1. Discuss the contributions of the following to the development of Atomic structure: Plank, Thompson, Rutherford, Bohr and Shrödinger.
2. Write down the Bohr's frequency condition and draw a diagram to indicate the series from different workers.
3. State Bohr's theories and discuss the shortcomings of the theories.
4. Show that the following operators are linear
  - (i)  $\nabla$
  - (ii)  $\nabla^2$
  - (iii)  $P_x = \frac{\hbar}{i} \frac{d}{dx}$
  - (iv)  $\frac{d^2}{dx^2}$
5. Verify if (i)  $\psi = e^{-ax}$  (ii)  $\psi = \sin ax$  (iii)  $\psi = x^2$  are eigen functions of the operators  $d/dx$  and  $d^2/dx^2$ , write down their eigen value.
6. Derive the Shrödinger's equation for hydrogen atom.
7. What is the maximum number of electrons in f-orbitals, represent these in energy diagram.
8. Discuss the factors influencing the formation of complex ions and coordination compounds
9. Discuss the importance of sequestering agents and try to give suitable examples.





**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**  
KM 8.5 AFE BABALOLA WAY, ADO-EKITI, EKITI STATE, NIGERIA  
P.M.B. 5456, ADO-EKITI

**DEPARTMENT OF PHARMACOGNOSY  
FACULTY OF PHARMACY**

**FIRST SEMESTER (PHARM.D) EXAMINATION 2020/2021 SESSION**

**COURSE: PCG 201 (Introduction to Pharmacognosy) Level: 200**

**Date: 18<sup>th</sup> February 2021**

**Time Allowed: 3 hours (2:00 - 5:00PM)**

**INSTRUCTIONS:**

1. Answer ALL questions in Section A and any three (3) in Section B
2. Answer all the questions in your answer booklet
3. Write your Matriculation number in the space provided in your answer booklet

**SECTION A**

*two major*

1. .... and .... are from *Catharanthus roseus* plant.
2. Pharmacopoeias are prepared for the purpose of .....
3. Medicinal plants can be collected from .....source and ..... source.
4. Stomatal number varies with the age of the plant leaf. **True/False** .....
5. Stomatal index is highly constant for a given species **True/False** .....
6. Vein Islet number and Stomatal index can be used to distinguish two species of Alexandrian senna and Tinnevely senna. **True/False** .....
7. The structure of the epidermis and stomata are of first importance in the identification of leaves of a plant. **True/False** .....
8. Give seven (7) areas or discipline where you think Pharmacognosy may show relevance and indicate evidence. *Pharmacy, Microbiology, Biochemistry, Botany, Medicine, Pharmacology, Biotechnology*
9. Give the relevance of anatomy and physiology to the study of crude drugs. *can be use to study or examine the internal organization*
10. Give two chemical constituents and medicinal uses each for *Rauwolfia vomitoria* and *Zingiber officinale*. *in process of crude drugs, in order to understand how it works.*  
*Zingiber officinale. — Zingiberaceae*
11. Give the parts used and family of (10) above.
12. Give the botanical definition of barks. *Barks consist of all the tissues outside the cambium*
13. Give and describe five types of fractures in barks.
14. Using definite chemical reagents only, show how you can identify the following in a given plant cell:  
(i) cellulose (ii) mucilaginous (iii) cutinized (iv) lignified (v) suberised wall

15. The dry leaf of *Azadirachta indica* belongs to family Meliaceae. It is a leaf drug with strong bitter taste. It is popularly called Neem or Dongoyaro.
16. The species "indica" has no starch granules in its powder, but has calcium oxalate crystals or rosettes. **True/False**.
17. Give five chemical constituents of *Azadirachta indica*.
18. The two major medicinal uses of *Azadirachta indica* are used of macean and leaf antiseptic for the use of insecticide.
19. Mesophyll of senna leaf consists of upper and lower..... layers
20. Name the common chemical structure of senna and give three examples of the chemical constituents of senna leaf.
21. Give two medicinal uses of senna leaf
22. Give the full meaning of the following Quantitative microscopical parameters: VIN, VTN, SI, SN and PR.  
Vein Islet Number  
Veinlet Termination Number  
Stomatal Number  
Stomatal Index  
Plasolade Ratio
23. Describe how VTN and PR in (22) are measured.  
a technique used to measure object [not sure]
24. Define Micrometry and give its relevance in microscopy.
25. Mention briefly the scope of Pharmacognosy as a discipline. answer in No. 8

## SECTION B

Answer ANY three (3) questions

1. (a) Define the term "Pharmacognosy"  
 (b) Discuss briefly five (5) different ways of classifying vegetable drugs.
2. (a) Explain briefly the following terms with adequate examples:  
 (i) Flower (ii) Fruits (iii) Seed  
 (b) What are the sources of (a) above?  
 (c) Indicate the medicinal uses of (a) above.
3. (a) Draw a fully labelled plant cell.  
 (b) State the function of four (4) very important parts of the cell.
4. (a) (i) Give the definition (ii) macroscopy (iii) chemical constituents and (iv) medicinal uses of the following drugs: *Catharanthus roseus*, *Azadirachta indica*, Senna leaf, *Rauwolfia vomitoria* and *Zingiber officinale*.

sennoside A

aetheregonano

Do you know it?





**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**  
WOT 12 AFE BABALOLA WOT, ADO-EKITI, OYO STATE, NIGERIA  
P. M. B. 1074, 460, 4601

**DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY  
COLLEGE OF PHARMACY**

**200 LEVEL PHARM D. FIRST SEMESTER EXAMINATION 2021/2022 SESSION**

**COURSE: PCT 201 (INTRODUCTION TO PHARMACEUTICS I)**

**DATE: 9<sup>th</sup> February, 2022.**

**TIME: 9.00am – 12noon**

**SECTION A**

**INSTRUCTIONS: Answer all questions.**

1. a. Write briefly on six ethical procedures that must be adopted in a typical dispensing laboratory.  
b. Interpret the following prescriptions;
  - i. Propranolol HCl 10 mg: tab ii stat, tab i q.i.d ac et hs  $\times 2/52$
  - ii. Procrit 150 units/kg SC stat. TIW  $\times 4$  wks. Patients weight 60 kg
  - iii. Ciprofloxacin HCl 200 mg IV q 8 h  $\times 5/7$
  - iv. M. et. ft. cap Duloxetine HCl 30 mg; i cap q d  $\times 1/52$ , then i cap b.i.d  $\times 1/12$
2. Define Dosage form and discuss its importance.

**SECTION B**

**INSTRUCTIONS: Answer any four (4) questions only.**

1. Describe the relationship between the different disciplines that make up pharmacy.
2. What are the advantages of liquid dosage form compared with solid dosage forms?
3. a. Write briefly on four factors that influence dosages.  
b. Enumerate what you would do in the laboratory to enhance the solution rate of a solid drug product.
4. a. List the merits of solid drug size reduction in the preparation of pharmaceuticals.  
b. Outline five reasons why pharmaceuticals are labelled.
5. Write briefly on the following;
  - a. Pharmaceutical Dispensing
  - b. Pharmaceutical Excipients
  - c. Prescription
  - d. Size Separation



**AFE  
BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)**  
ABUAD, ADO-EKITI, ODO ONI, EKITI STATE, NIGERIA  
P.M.B. 5454, ADO-EKITI

**DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY  
FACULTY OF PHARMACY**

**FIRST SEMESTER PHARM D. EXAMINATION 2020/2021 SESSION:**

**200 LEVEL**

**COURSE: PCT 201 (INTRODUCTION TO PHARMACEUTICS)**

**DATE: 19<sup>th</sup> February, 2021**

**TIME: 3 hours (9.00am – 12noon)**

**SECTION A: Multiple Choice Question**

**Instructions: Answer all questions. Answer all the questions in your answer booklet.**

1. The medications in a typical prescription can be prescribed as
  - a. Special formula
  - b. Proprietary product
  - c. Official Preparation
  - d. All of the above
2. The following are appropriate sources of information to the Dispenser except
  - a. The Codex
  - b. Poison book
  - c. Textbooks
  - d. Drug tariff
3. The following are all contents of a prescription except
  - a. Medications
  - b. Instructions
  - c. Packaging
  - d. Patients Information
4. Filgrastin prefilled syringes contains 480 mcg of active constituent in each 0.8 mL. The equivalent concentration is
  - a. 0.6%
  - b. 0.384 mg/mL
  - c. 0.06%
  - d. 0.6 g/mL
5.  $\mathcal{R}_x$  Ketorolac Ophthalmic solution 0.5%  
Disp. 5 mL  
Sig: one drop q.i.d prn allergic conjunctivitis  
How many mg of the active constituent would be present in each drop of the ophthalmic solution if the dropper service delivers 20 drops per mL?
  - a. 0.25 mg
  - b. 25 mg
  - c. 0.025 mg
  - d. 1.25 mg
6. Dispensing requires an extensive knowledge of
  - a. Stability, Dosage, Incompatibility
  - b. Stability, Prescription, Labelling
  - c. Labelling, Packaging, Chemist
  - d. Incompatibility, Poison, Dosage
7. Common equipment's in dispensing laboratory includes;
  - a. Water baths, Stirrer, Knife
  - b. Mortar, Weighing Balances, Spatulas
  - c. Weighing Balances, Heater, Bucket
  - d. Containers, Bags, Spatulas
8. A good Dispenser must be well informed about the packaging protocols for each preparation.  
**True/False**







1a. Interpret the following prescription contents:

- a. M. ft. ung.    b. Ft. sup. no xii    c. M. ft. cap. d.t.d. no xxiv    d. Caps. I q.i.d. p.c. et h.s.  
 e. Gtt. ii rt. eye q. a.m.    f. Admin. Prochlorperazine 10 mg im q. 3 h. prn  
 g. Theophylline: 3 mg/kg q 8 h x 7 d    h. Ambien 10 mg p.o. q. h.s. x 5d

1b. Write the following in Latin abbreviations

- b. Take two tablets immediately, then take one tablet every 6 hours for 7 days  
 i. Take 20 mg of simvastatin every evening

2. A pharmacist received the following prescription but does not have hydrocortisone powder on hand. However, the pharmacist does have an injection containing 100 mg of hydrocortisone per millilitre of injection. A search of the literature indicates that the injection has a specific gravity of 1.5.

**Rx** Hydrocortisone 1.5%  
 Cold cream q.s. ad 30 g

- a. How many grams of hydrocortisone are needed to fill the prescription?  
 b. How many millilitres of the hydrocortisone injection would provide the correct amount of hydrocortisone?  
 c. How many grams of cold cream are required?  
 d. Express 1:3300 and 1:250 as per cent strength.  
 e. Express 2.5% and 0.6% as ratio strength.

*Grams of cold cream required =*  

$$\frac{150}{30} = 5 \text{ mg}$$

3. List and briefly explain ten (10) guides to Good Practice requirements in Dispensing.

4. What parameters must be looked for in solving problems associated with dilution of concentrate? From a 1 in 500 solution of phenyl mercuric nitrate, prepare 200 mL of a 1 in 1000 solution.

### SECTION C: Long Essay Question. 15 marks each

Instructions: Answer only two (2) questions

5a. Discuss five (5) characteristics of a good label and five (5) contents of a good label.

\* What quantity of an 8% w/w progesterone gel must be mixed with 1.45 g of a 4% w/w progesterone gel to prepare a 5.5% w/w gel.

6a. Explain the term 'Prescription' and discuss in details the contents of a prescription.

7. As a Pharmacy Student, describe five (5) measuring techniques you would employ in the laboratory when preparing Paracetamol syrup to ensure good product.

8a. The act of pharmaceutical dispensing requires extensive knowledge/skills. Mention and explain five (5) areas of vast mastery required to ensure good Dispensing practice. *Stability*

\* Discuss the errors encountered in measurement of volume in pharmaceutical Dispensing.

9. If a veterinary liniment contains 30% v/v of dimethyl sulfoxide, how many millilitres of the liniment can be prepared from 1 lb of dimethyl sulfoxide? (Specific gravity 1.10; 1 pound = 454g)

8a. Define explicitly the term 'Pharmaceutical Dispensing'.

b. A Pharmacist receives a prescription for 60 g of 0.75% w/w Bexarotene gel. What quantity of each of 1% w/w Bexarotene gel and gel base must be used? (Solve by methods of proportionality and allegation method)

c. How would you compound 250 g of a lotion containing 10% calamine from a preparation containing 20% of calamine and another containing 5% calamine? (Solve by methods of proportionality and allegation method)





**AFE BABALOLA UNIVERSITY ADO-EKITI  
COLLEGE OF MEDICINE & HEALTH SCIENCES  
DEPARTMENT OF MEDICAL BIOCHEMISTRY**

**COURSE CODE:** BCH 201

**DATE:** 31<sup>st</sup> January, 2022

**COURSE TITLE:** MEDICAL BIOCHEMISTRY I

**TIME ALLOWED:** 1 HOUR: 30 MINUTES

**INSTRUCTIONS:** Answer any four questions.

**QUESTION ONE**

- (a) What is the relationship between pH and pKa at equimolar amount of conjugate base and conjugate acid?
- (b) Describe the mechanism of bicarbonate buffers
- (c) Calculate the ratio of the concentrations of acetate and acetic acid required in a buffer system of pH 5.30. The pKa of acetic acid is 4.76.

**QUESTION TWO**

- (a) Give the functions of the following cell organelles:
  - (i) Lysosomes (ii) Golgi complex (iii) Endoplasmic reticulum (iv) Peroxisome
- (b) Discuss the various transport mechanisms across the cell

**QUESTION THREE**

- (a) Classify monosaccharides with suitable examples
- (b) Draw the open and the ring structure of glucose
- (c) List the types of isomerism found in carbohydrates.

**QUESTION FOUR**

- (a) Give five (5) functional classifications of Proteins
- (b) Discuss five (5) importance of amino acid.
- (c) List three properties of amino acids

**QUESTION FIVE**

- (a) Write notes on the following: (i) Fatty acid (ii) Triacylglycerol (iii) Phospholipids
- (b) List the four major classes of Lipoproteins
- (c) Give three examples of amphipathic lipids



**AFE BABALOLA UNIVERSITY ADO-EKITI**  
**COLLEGE OF MEDICINE & HEALTH SCIENCES**  
**DEPARTMENT OF MEDICAL BIOCHEMISTRY**

COURSE CODE: BCH 201

DATE: 22<sup>nd</sup> February, 2021

INSTRUCTIONS: Answer ANY five questions.

COURSE TITLE: MEDICAL BIOCHEMISTRY I

TIME ALLOWED: 2 HOURS

**QUESTION ONE**

- (a) Give the Bronsted Lowry definition of an acid and a base.
- (b) What do you understand by the term "buffering capacity?"
- (c) What is the best buffering range for a conjugate pair?
- (d) Calculate the ratio of the concentrations of acetate and acetic acid required in a buffer system of pH 5.30. The pKa of acetic acid is 4.76

**QUESTION TWO**

- (a) Give the functions of the following cell organelles:  
(i) endoplasmic reticulum (ii) peroxisome (iii) mitochondrion (iv) cell membrane
- (b) Briefly describe the fluid mosaic model of cell membrane
- (c) Explain in details, the various transport mechanisms across the biological cell.

**QUESTION THREE**

Explain in details the types of isomerism found in Carbohydrates.

**QUESTION FOUR**

- (a) List two examples each of the following amino acid classification: (i) sulphur containing amino acids (ii) basic amino acids (iii) aromatic amino acids (iv) aliphatic amino acids
- (b) Write short notes on the following: (i) optical properties of amino acid (ii) amphoteric properties of amino acid (iii) isoelectric pH of an amino acid (iv) peptide bond formation of amino acid
- (c) List the different levels of structural organization of proteins and explain any of them

**QUESTION FIVE**

- (a) Draw a well numbered diagram of: (i) Adenosine (ii) Cytidine
- (b) Itemize the structural subunits of a nucleotide
- (c) Write a note on phosphodiester linkage in nucleic acid chemistry

**QUESTION SIX**

- (a) Define lipids and list five of their functions
- (b) Give the definition of different classes of lipids with two examples in each class

Acid can be defined as a substance that can donate a proton while base is a substance that can accept a proton.

Buffering capacity is defined as the amount of acid or base a buffer solution can absorb or withstand before there is a change in the pH of the solution.



**DEPARTMENT OF ANATOMY  
COLLEGE OF MEDICINE AND HEALTH SCIENCES**

**FIRST SEMESTER EXAMINATION 2021/2022 SESSION**

**COURSE CODE:** ANA 253 (HISTOLOGY FOR PHARMACY)

**INSTRUCTION:** Answer any two questions from each Section A and attempt ALL questions from Section B.

**TIME ALLOWED:** 1hrs 30mins.

**SECTION A:**

1. Briefly define apoptosis and list 5 morphological features of a cell undergoing this process.
- 2a. Give a brief microscopic account of epithelium found in the following structure:  
i. heart ii. Trachea iii. Stomach iv. Urinary bladder v. Skin
- b. Mention five functions of epithelia tissue with a known example of organ each
3. Write an essay on the histoarchitectural design of the structural and functional unit of a 16 years old medical student.

**SECTION B:**

1. Briefly explain the histology of Oesophagus
2. Discuss the classification of exocrine gland

**BEST OF LUCK!!!!**

20/MAY/18



AFE BABALOLA  
UNIVERSITY  
ADO-EKITI (ABUAD)  
KM. 8.5, AFE BABALOLA WAY,  
ADO-EKITI, EKITI STATE, NIGERIA.  
P.M.B 5422 ADO-EKITI

2021/2022 FIRST SEMESTER EXAMINATIONS  
COLLEGE OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF PHYSIOLOGY

PHS 211: Introductory Physiology for Pharmacy Students

**GENERAL INSTRUCTIONS:** Attempt questions from both sections. Each Section carries 30marks and should be answered in separate booklets.

**TIME ALLOWED: 3 hours**

**SECTION 1**

**INSTRUCTION:** Answer two questions from this section.

1. Discuss the **Four** major events occurring in a Cardiac Cycle with the aid of a well-labelled diagram.
2. (a) Using a Spirogram, define Pulmonary Volumes and Capacities. (b) Explain the **uses** and the **measurements** of Pulmonary Volumes and Capacities, including the **factors** affecting them.
3. What is Cardiac output? Elucidate the measurement, regulation and control of cardiac output.

**SECTION 2**

Answer **FIVE (5)** questions. Each Question carries equal marks.

- 1 (a) Define Blood. (b) Give normal value of blood Volume. (c) What are the colours of the blood and why? (d) What is the pH of the blood? (e) What is the Specific gravity of the blood?

2. (a) What is the composition of the Blood? (b) Enumerate the functions of the blood.

3. (a) What is the normal shape of the blood. What are advantages of this normal shape? (b) What is the normal life span of the blood? (c) Why is DNA absent in Red Blood Cells (RBC)? (d) What are the functions of the RBCs? (e) What are the functions of Haemoglobin? List different types of Haemoglobin.

4. (a) Define Anaemia. (bi) Give the Morphological classification. (bii) Give the Aetiological classification. (biii) Give the Nutritional classification. (c) What is Sickle Cell Anaemia? (d) How can Sickle Cell Disease be prevented in our society? (e) What are the Structural and Functional differences between Red Blood Cells and the White Blood Cells?

- (5) (a) What are the two (2) main systems of blood groups? (b) In a TABULAR form, Name

the Blood four (4) main blood groups with their Agglutinins and Agglutinogens. (c) Who is a Universal donor and Recipient? Give reasons for your answers. (d) in the Mendelian fashion, list the Six (6) possible phenotypes with the corresponding blood groups. (e) What is ISOAGGLUTINATION?

- (6) (a) What are the common Rhesus blood groups? (b) What is the DIFFERENCE between ABO and Rhesus Blood groups? (c) What is Rhesus incompatibility? (d) What is Erythroblastosis Foetalis OR Hydrops Icterus Gravis Neonatorum? (e) What are the features of (d) above?

- (7) (a) What is Blood Transfusions? (b) What are the indications for Blood Transfusion? (c) What are the Precautions before and during Blood transfusions? (d) List five (5) Hazards of Blood Transfusion?

- (8) Discuss the Characteristics of Blood Cells in Normal and Diseased conditions



**BCH 201TEST 20<sup>th</sup> January, 2022**

**INSTRUCTION:** Answer all questions

**Time allowed:** 30 minutes

1. Write short note on the following:
  - (i) primary active transport (ii) secondary active transport (iii) symport (iv) antiport
- 2a. What is the relationship between pH and pKa at equimolar amount of conjugate base and acid?
- 2b. State the factors controlling buffering capacity
- 3a. State three (3) functions of carbohydrates
- 3b. List the types of isomerism found in carbohydrates.
4. List five biological functions of protein.
- 5a. what are the factors affecting the solubility of fatty acids in water?
- 5 b. Explain the meaning of amphipathic nature found in some lipids.

AFE BABALOLA UNIVERSITY, ADO-EKITI.

FOREIGN LANGUAGES UNIT

AFE 203: LANGUAGE ACQUISITION II (FRENCH)

FIRST SEMESTER 2020/2021 SESSION CONTINUOUS ASSESSMENT

Name: .....

College: ..... Dept.: .....

Matric no.: .....

Date: .....

Répondez à toutes les questions (Answer ALL questions) Time Allowed: 30 minutes

1. Complétez les phrases suivantes avec la forme correcte des verbes entre parenthèses.

(Complete the following with the appropriate form of the verbs in brackets)

- a) Il ..... au cinéma ce weekend. (aller)
- b) Vous ..... à la maison. (rester)
- c) Je ..... de l'argent. (vouloir)
- d) Le médecin et l'infirmière ..... à l'hôpital. (travailler)
- e) Ils ..... Français. (être)
- f) Emmanuel ..... étudiant d'ABUAD. (être)
- g) Vous ..... deux sœurs ? (avoir)
- h) Tu ..... la télévision. (regarder)
- i) John et Peter ..... la lessive. (faire)
- j) Je ..... la meilleure réponse. (choisir)

2. Conjuguez les verbes suivants au présent de l'indicatif. (Conjugate the following verbs in present tense)

Parler	Manger	Réussir

Acheter	Vouloir