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P.M.B. 5454, ADO-EKITI

**DEPARTMENT OF PHARMACOGNOSY  
COLLEGE OF PHARMACY  
1ST SEMESTER TEST 2022/2023 SESSION**

**Course: PCG 201**

**Course Title: Introduction to Pharmacognosy**

**Level: 200**

**Time Allowed: 30 minutes**

**Date: 17th January 2023**

**INSTRUCTIONS:**

1. Answer ALL questions
2. Answer all the questions in the space provided
3. Circle the right option in the multiple-choice questions, Underline the right answer in the TRUE/FALSE questions.
4. Write your Matriculation number on your question paper

1. The production and exudation of gum by an injured/diseased tree is called Gummosis
2. Tragacanth is gotten from Leguminous plant / Ashagals spp
3. The major chemical constituent of Tragacanth are tragacanthin, which is soluble in water, and bassorin, which is insoluble in water.
4. The best grade of tragacanth is called positan gum, while the lower grades are called hog tragacanth
5. The major constituent of Acacia gum is starch / Arabin 1/2
6. Psyllium is gotten from the plant Plantago ovina
7. One of the following is not a known adulterant of Tragacanth gum  
(A) Acacia    (B) Sterculia    (C) Myrrh    (D) Chitral
8. In the chemical test with iodine solution, acacia gum gives a few blue spots.  
**TRUE/FALSE**
9. Tragacanth is pre-formed in the plant and exudes slowly after injury. **TRUE/FALSE**
10. Psyllium is used in the preparation of lozenges and denture fixtures. **TRUE/FALSE**
11. Drug evaluation may be defined as the determination of identity, quality, purity.  
**TRUE/FALSE**
12. Organoleptic evaluation means the study of drugs using organ of senses.  
**TRUE/FALSE**

Kylem

~~stomata~~ ~~toxins~~  
~~from~~ ~~resolution~~

13. Examples of features searched for under the microscope are ..... and .....  
14. What is VIN? ~~Very In~~ ~~No~~  
15. What is VTN? ~~Very Tense~~ ~~No~~  
16. Solubility and Viscosity are methods of ~~physical~~ evaluation  
17. Microscopical evaluation is useful for only powdered crude drugs. TRUE/FALSE  
18. Adulteration means a process of addition of impure, cheap and filthy substances to genuine drug in order to get more recognition. TRUE/FALSE  
19. The moisture content of a drug will be responsible for decomposition of crude drugs. TRUE/FALSE  
20. Unintentional adulteration may be due to careless collection. TRUE/FALSE  
21. Glyceraldehyde is the least possible sugar unit, TRUE OR FALSE  
22. The order of monomeric units in ~~lactose~~ is glucose + galactose, TRUE OR FALSE  
23. D-Glucitol (sorbitol), industrially important as an artificial sweetener, is synthetically obtained from the exhaustive catalytic hydrogenation of ~~Acacia~~ ~~D-glucose~~  
24. L-arabinose is to L-series of sugars, as D-arabinose is to ~~D-series~~  
25. Mannose is a C-2 epimer of glucose, as ~~galactose~~ is a C-4 epimer.  
26. Pyranose ring formation in carbohydrates usually occurs between ~~Carbon 1~~ and ~~Carbon 5~~ while Furanose cyclization involves ~~Carbon 1~~ and ~~Carbon 5~~  
27. ~~Chair formation~~ is the most stable conformation of all naturally occurring pyranoses  
28. What is the point of the catalytic action of maltase in hydrolyzing maltose to its component monomers? ~~4~~ ~~glycosidic bond~~  
29. Filter paper is the most convenient laboratory source of pure cellulose TRUE OR FALSE.

All theory

20/30

Org. purifying crude drugs  
B.M.  
Desc. (for 1/2 M)  
Diff. oils.



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COLLEGE OF PHARMACY

DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY

200 LEVEL PHARM D. MID-SEMESTER TEST FIRST SEMESTER 2022/2023 SESSION

COURSE: PCT 211 (DISPENSING PRACTICAL I)

GROUP: 2A

DATE: Tuesday December 13, 2022

TIME: 9.30am – 11.30am

VENUE: PCT. Lab

MATRIC NO..

Answer ALL Questions in Sections A and B

SECTION A

INSTRUCTIONS<sup>A3</sup>: Preparation of product is required in this section. The attention of the Examiner must be drawn to any **poison** detected and the **poison book** duly signed afterwards. All calculations, table of quantities used, quantities dispensed, type of container, label, auxiliary label and specimen label must be clearly shown on the answer booklet. **The method of preparation and comment should only be given where required.**

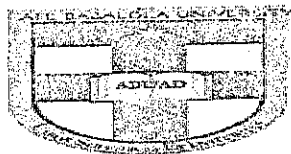
1. Send 50 ml of 1 in 250 potassium permanganate solution to Hospital ward A with a direction to use as cleansing application to for ulcers.

You are to make use of 1% w/v stock solution of potassium permanganate.

SECTION B

INSTRUCTIONS: Preparation of products is not required in this section. All calculations, table of quantities used, quantities dispensed, type of container, label, auxiliary label and specimen label must be clearly shown on the answer booklet. **The method of preparation and comment should only be given where required.**

2. Rx Prepare Ammonium Chloride and Morphine Mixture PC<sub>x</sub> 1979. Send 220 ml to Bek Caleb.  
Label: 15 ml p.r.n.  
• State the indication for this preparation:
3. Chris John, a ten year old child with dislocated elbow is to take 10 mg Codeine phosphate nocte for one week. Prepare and send the required number of powders with each powder weighing 200 mg and label appropriately. You are to make use of lactose as diluent.  
• State the method of preparation



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College of Pharmacy  
Department of Pharmaceutics and Pharmaceutical Technology

PCT 201 Test

2022/2023 Session, First Semester

Friday 25 November, 2022 Time Allowed: 25 Min.

Answer all questions as stated in each section

MATRIC NUMBER: \_\_\_\_\_

Section A1: MCQ Circle the correct answer

14  
20

1. The methods of mixing pharmaceutical powders include;

- A. Levigation
- B. Trituration
- C. Tumbling
- ☒ D. All of the above

2. The success of weighing operations is dependent on

- ☒ A. Thorough knowledge of the balance
- B. Performing a specific task on balance
- C. Brand of the weighing balance
- D. Determining weight of a substance

If a dispensing balance is used to weigh 0, 250 g substances and incurred 4% permissible error in the process (use for question 3, 4 & 5)

3. What is the sensitivity reciprocal of the balance in mg?

- A. 0.01 g
- ☒ B. 10 mg
- C. 1 mg
- D. 0.001 g

4. How would you reduce the permissible error of the balance to 2.5%?

- A. By weighing 40 mg material
- ☒ B. By weighing 400 mg material
- C. By weighing 4000 mg material
- D. None of the above

MATRIC NUMBER: \_\_\_\_\_

5. Why would it not be appropriate to weigh 0.15 g on the said balance?
- A. Its bigger than weighable amount
  - B. It will incur lesser error than the permissible error
  - C. It's too small to be weighed
  - ☒ D. It will incur higher error than the permissible error
6. The proper care of electronic balance include the following except;
- A. Clean the pan before and after weighing
  - B. Keep on a stable surface
  - ☒ C. Close the drawer while weighing
  - D. Use a weighing vessel
7. The choice of a weighing balance for a weighing task depends on
- ☒ A. Sensitivity
  - B. Precision
  - C. Permissible error
  - D. Taring
8. Likely errors to be encountered in the use of a dispensing balance includes;
- ☒ A. Calibration error, rough surfaces and spoilage
  - B. Debris on pan, greasy surface and random errors
  - ☒ C. Handling material with hand, leveling error and calibration error
  - D. Debris on pan, calibration error and stable surface
9. Size reduction is important in pharmaceutical preparation because;
- A. It aids mixing
  - B. It enhances absorption
  - C. It aids suspension
  - ☒ D. All of the above
10. The weighing technique peculiar to analytical balance is
- A. Place the balance in a convenient position
  - ☒ B. Close the drawer
  - C. Check that the balance is set at zero
  - D. Clean the pan

Section A2: Write True or False against the questions

1. Commminution is a process of reducing drug particles into coarse and large particles. .... *false*
2. The powders should ~~not~~ be forced through the sieve while sifting to avoid distorting the aperture. .... *true*
3. Weighing balances with lower sensitivity reciprocal are less sensitive than those with higher values. .... *false*
4. Weighing by difference is easy and less susceptible to error. .... *true* / *false*
5. Levigation is employed in preparation of ointments and suspensions. .... *true*

6. MATRIC NUMBER: \_\_\_\_\_

Section A3: Fill-in the Correct Answer

1. The method of mixing potent substances is called Trituration
2. The relationship between least weighable amount on a balance and the acceptable error is given as Minimum weighable amount =  $\frac{\text{sensitivity}}{\% \text{ error permissible}}$
- \* 3. In preparation of oral solution, filtration may be necessary because It has to be fine/homogenous with
4. Suitable weighing vessel for semi solid material is ointment slab / grease proof paper
5. Size reduction on a large scale is achieved by (Attrition, Compression, Impact & Combined Impact)

Section B1: MCQ Circle the correct answer

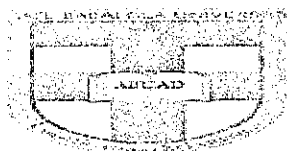
1. Sensitivity of a balance is:  
A. The amount of weight that will cause the pointer to reflect  
B. The weight that is measurable  
☒ C. The amount of weight that will cause the pointer to deflect  
D. The weight that cannot be measured
2. Two different beam balances used for dispensing purposes are:  
A. Beam scale class X and class Y  
☒ B. Beam scale class B and class C  
C. Beam scale class P and class Q  
D. Beam scale class D and class E
3. The act of trituration that involves gradual addition of the powder mass is:  
A. Addition dilution  
B. Single up technique  
C. Algebra dilution  
☒ D. Geometric dilution/double up technique
4. The three types of measuring systems are:  
☒ A. Metric, Apothecary and Avoirdupois system  
B. Linear, non linear and obtuse system  
C. Granular, geometric and dilution system  
D. Apothecary, Dawson and Metric system

Section B2: Write True or False against the questions

1. Analytical balance is used where extreme sensitivity is not required ..... False
2. Percentage error is the amount of permissible error tolerated in a single weighing operation and most compendia state it as  $\pm 70\%$ . ..... False

Section B3: Fill-in the Correct Answer

1. The process of determining definite weight and mass is called weighing.
2. Capacity is the heaviest load that can be measured on the weighing scale.



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College of Pharmacy  
Department of Pharmaceutics and Pharmaceutical Technology

PCT 201 Test 2  
2022/2023 Session, First Semester  
Friday December 9, 2022 Time Allowed: 45 Min.  
Answer all questions as stated in each section

39  
49

MATRIC NUMBER: \_\_\_\_\_

Section A1: MCQ Circle the correct answer

1. The following may not be on the prescription sheet

- A. Name of patient
- B. Gender
- C. Date
- ☒ D. None of the above

2. Which of these is not part of the dispensing procedure

- ☒ A. Ensure that the prescription has the name and signature of the prescriber.
- B. Ensure that the prescription is dated and has the name of the patient.
- C. Check the name of the prescribed drug against that of the container.
- D. None of the above

3. For a Pharmacist to dispense a controlled substance, the prescription must include;

- A. Date of issue
- B. Quantity prescribed
- C. Drug name
- ☒ D. All of the above

4. The official textbook BP means

- A. British Pharmacy
- B. Britain Pharmacopeia
- ☒ C. British Pharmacopeia
- D. British Pharmaceutics

5. Which of these names is correctly written as official name of a product

- A. NaCl, PCx
- B. Sodium Chloride Solution PCx
- C. Sodium Chloride 0.9%w/v
- ☒ D. Sodium Chloride Solution PCx1979

**MATRIC NUMBER:**

6. The current Pharmaceutical Codex being used in the laboratory is of

- ☐ A. Tenth Edition
- ☒ B. Eleventh Edition
- ☐ C. Twelfth Edition
- ☐ D. Fifteenth Edition

7. Magistral formula is a medical product prepared in a pharmacy for;

- ☐ A. Large scale dispensing
- ☐ B. Industrial marketing
- ☒ C. An individual patient
- ☐ D. None of the above

8. Which of these statements is not correct about drug information

- ☐ A. Ensure proper use of drugs
- ☐ B. Improve cost of drug management
- ☐ C. Reduces drug-related problems
- ☒ D. None of the above

9. Which of these is not <sup>tertiary</sup> primary sources of drug information

- ☐ A. Drug Compendia
- ☒ B. Drug Formularies
- ☒ C. Index Medicus
- ☐ D. Drug Bulletins

10. One of these statements is not correct about tertiary sources of drug information

- ☐ A. Best starting point to drug information queries
- ☐ B. Time-efficient to use
- ☒ C. Information may be out of date
- ☒ D. None of the above

**Section A2: Write True or False against the questions**

- 1. Incorrect dosage and dosage form can cause dispensing error ..... True ✓
- 2. Only Pharmacists are to dispense controlled drugs ..... True ✓
- 3. Non-prescription drugs are also called Over-The-Counter drugs ..... True ✓
- 4. OTC drugs require prescription before dispensing ..... False ✓
- 5. Controlled drugs are also called scheduled drugs ..... True ✓



## 6. MATRIC NUMBER:

### Section A3: Fill-in the Correct Answer

1. Dispensing is one of the vital elements of the rational *use of medication*
2. A Pharmacist acts with *ethics* and *honesty & integrity* in professional relationships
3. Prescription is an authorisation by a *medical practitioner*
4. The details of the controlled drug dispensed must be entered in *Poison book*
5. The Magistral formula is similar to *in-prescription*

### Section B1: MCQ Circle the correct answer

1. Which of the following is the advantage of measuring cylinder?  
☒ a. It is suitable for precise measurements  
b. The wide mouth leads to faster evaporation/vaporization  
c. It can be used in the stirring or heating process  
☒ d. It can hold liquid volume when strict accuracy is required
2. All of these are advantages of measuring cylinders except  
a. It has a wide range of volume  
b. It can be used to minimize measurement errors by choosing an appropriate size  
☒ c. It is suitable for solution storage  
d. It has a spout that makes pouring easy
3. Factors that alter the shape of meniscus cause errors in measurement. Therefore, a greasy measure is  
a. Uncertain to determine  
☒ b. Poorly wetted  
c. Has its tolerance reduced  
d. Certain to determine
4. In order to determine the true meniscus, which of these should be done?  
a. Hold the measure against a plain black surface  
☒ b. Arrange a strip of black paper such that its upper edge is not visible immediately below the surface of the liquid  
☒ c. Hold a finger horizontally below the graduation line  
d. Choose a measure of appropriate size and calibrate accordingly
5. The error in transferring a liquid from a measure to minimized by  
a. Raising the measure to eye level when measuring  
☒ b. Choosing the right kind of measure for liquid transfer  
c. Holding the measure on the bench to minimize parallax error  
☒ d. Rinsing out the residue with some of the liquid to be measured
6. Measuring by difference is done using  
a. Beaker only  
b. Measuring cylinder and pipette  
☒ c. Pipette only  
d. Pipette and beaker

$$\frac{6}{12}$$

**MATRIC NUMBER:** \_\_\_\_\_

**Section B2: Write True or False against the questions**

1. Meniscus is the curvature, either convex or concave, often observed when liquids are placed into container True ✓
2. The degree to which the result of a measurement conforms to the correct value or standard is known as accuracy True ✓
3. The quality of being exact in measurement refers to precision of the measurement False ✓

**Section B3: Fill-in the Correct Answer**

1. Volumes under 1ml should be measured using graduated ✓
  2. Ordinary tests are very sensitive to touch ✓
  3. It is recommended that colored liquids should be measured by upper meniscus ✓
- ~~~~~

**Section C1: MCQ Circle the correct answer**

1. Emulsion should have which of these auxiliary labels?
  - a. For externally use only
  - ☒ b. Shake the bottle ✓
  - c. Not to be swallowed in large quantity
  - d. Not to be taken by mouth
2. \_\_\_\_\_ are not to be swallowed in large quantity
  - a. Mouthwash
  - ☒ b. Gargles ✓
  - c. Dusting powder
  - d. Oral suspension
3. Information given on the label should be \_\_\_\_\_
  - a. Accurate
  - b. Legible
  - c. Intelligible
  - ☒ d. All of the above ✓
4. Which of the following information is not required on the label?
  - a. The name of the preparation
  - b. The quantity of the preparation
  - c. The name of the patient
  - ☒ d. None of the above ✓

5  
—  
7

**Section C2: Write True or False against the questions**

1. Labelling is not always a legal requirement False ✓
2. Adequate and relevant information should always be on the <sup>label</sup> True ✓

**Section C3: Fill-in the Correct Answer**

1. Two essential details of the contents of a container may be Label ✓ and packaging ✓

2. A clear and complete instruction on how to take or use pharmaceutical product includes name X and address X

**MATRIC NUMBER:** \_\_\_\_\_

**Section D1: MCQ Circle the correct answer**

The main reason why prescriptions should be checked and verified before dispensing is

- a. For accuracy and completeness
- ☒ b. To prevent error
- c. To counsel the patient
- d. To monitor the patient's drug therapy

2. Which is not a required step in the management of a prescription?

- a. Receiving the prescription
- b. Billing of prescription
- c. Filling prescription
- ☒ d. Counselling

3. Which of the following is a component of a prescription

- a. Name
- b. Signature
- c. Dosage
- ☒ d. All of the above

4. How would interpret i cap bid. x <sup>1</sup>/<sub>52</sub>

- a. 1 cap three time daily for one week
- ☒ b. 1 cap two time daily for one week
- c. 1 cap three time daily for one month
- d. 1 cap two time daily for one month

7  
8

**Section D2: Write True or False against the questions**

- 1. The order of the movement of a prescription is Physician > Patient > Pharmacist ..... False
- 2. The symbol - Rx is also known as inscription ..... False

**Section D3: Fill-in the Correct Answer**

- 1. A prescription is an order for the supply of drugs
- 2. The Pharmacist is entrusted with the legal responsibility of filling and dispensing restricted prescription order



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

**FIRST SEMESTER EXAMINATION 2022/2023 SESSION**

**COURSE CODE: ANA 253**

**COURSE TITLE: ANATOMY FOR PHARMACY II**

**INSTRUCTION: Answer two (2) questions from each Section**

**TIME ALLOWED: 1Hour 30mins**

**SECTION A**

- 1a. Explain the structural organization of human body
- b. Highlight the types of Muscle tissue you know with example
- ✓ 2. With a typical diagram, describe a nerve cell and comment on Wallerian Degeneration
- ✓ 3. Describe the morphological classification of neuron and add note on Neurotransmitter

**SECTION B**

- ✓ 4a. Describe stratified epithelia tissues with the aid of a schematic diagram and two (2) examples each.
- b. Write short note on bone as an example of connective tissue
- 5a. Write briefly on the following:
  - i. Areola connective tissue ii. Cartilage iii. Tendon
- b. Using a well label diagram, succinctly discuss blood as a connective tissue
- ✓ 6a. Describe squamous epithelia tissues
- b. Enumerate on the advantages of connective and epithelial tissues to human body

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DEPARTMENT OF PHARMACEUTICAL AND MEDICINAL CHEMISTRY

COLLEGE OF PHARMACY,

AFE BABALOLA UNIVERSITY

2022/2023 Session, First Semester Examination

PCH 201: Physical Pharmaceutical Chemistry

30<sup>th</sup> JANUARY, 2023

Matric. Number:...

Time allowed: Three hours

ATTEMPT QUESTION 1 AND ANY FOUR (4) OTHER QUESTIONS.

**NOTE: Question 1 is compulsory.**

**Question 1.**

- (a) Briefly discuss the roles of chemistry in pharmacy practice (7 marks)
- (b) Briefly explain any two applications of reaction kinetics to a pharmacist. (7 marks)
- (c) Explain the importance of buffers in pharmaceutical preparations. (7 marks)
- (d) Write short notes on the different aspects of chemistry encountered in pharmacy. (7 marks)

**Question 2.**

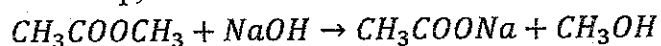
- (a) Write notes on the terms  $K_a$  and  $K_b$  as related to acid and base? (6 marks)
- (b) What is the pH of a buffer solution of 2.21 grams of solid sodium benzoate ( $C_6H_5COONa$ ) dissolved in 1.00 L and 0.100 M benzoic acid ( $C_6H_5COOH$ ). ( $pK_a$  of  $C_6H_5COOH = 4.19$ ; Molar mass of  $C_6H_5COONa = 122.2$  g/mol). (6 marks)
- (c) Outline the requirements necessary before the preparation of a buffer solution. (6 marks)

**Question 3.**

- (a) Calculate the pH of a solution of 0.5M  $Mg(OH)_2$  solution (6 marks)
- (b) Determine the pH of a solution prepared by dissolving 4.00 g of NaOH in 1.00L of solution. [Molar mass of NaOH = 40  $gmol^{-1}$ ] (6 marks)
- (c) Using a buffer solution of ammonia ( $NH_3$ ) and ammonium chloride ( $NH_4Cl$ ) as example explain clearly how buffers resist changes in pH value on the addition of small amounts of strong acid or base. (6 marks)

**Question 4.**

- (a) With the aid of a relevant diagram, describe the effect of a catalyst on the activation energy of a reaction. (6 marks)
- (b) What does *pseudo-order* mean? Given that sodium hydroxide is present in such a large excess that only a small amount is used up, what is the order of the reaction below?



(6 marks)

(c)

- i. What is accelerated stability and stress testing?
- ii. Describe how reaction kinetics is relevant to accelerated stability testing.

(6 marks)

**Question 5.**

- (a) Briefly explain any 5 factors that affect the rate of chemical reactions. (6 marks)
- (b) Erythromycin A is an antibiotic that is particularly prone to degradation under various conditions. As a production pharmacist, state one dosage form you will prepare the antibiotic in for use in a 6-month old baby. State two measures you will take to ensure your drug product is stable. (6 marks)
- (c) The hydrolysis of atropine base was found to be first order with respect to the base. The degradation constant,  $k$ , at 40 °C was  $0.016 \text{ sec}^{-1}$ . If the activation energy,  $E_a$ , is 7.7 kcal/mole, what is the Arrhenius factor,  $A$ ? (Note:  $R=8.314 \text{ Jmol}^{-1}\text{K}^{-1}$ ;  $1 \text{ kcal} = 4.814 \text{ kJ}$ .) (6 marks)

**Question 6.**

- (a) What is collision theory? Based on this theory, what type of collision is required for a reaction to proceed? (6 marks)
- (b) How will you distinguish general acid-base catalysis from specific acid-base catalysis? (6 marks)
- (c) Show the equilibrium expression for the dissociation of the following in water:
- $\text{CH}_3\text{COOH}$
  - $\text{NH}_3$
- (6 marks)

DEPARTMENT OF PHARMACEUTICAL AND MEDICINAL CHEMISTRY  
COLLEGE OF PHARMACY  
AFE BABALOLA UNIVERSITY  
2022/2023 Session, First Semester

PCH 201: Physical Pharmaceutical Chemistry (PRACTICAL EXAMINATION)

TIME ALLOWED: 3 Hours

28<sup>th</sup> JANUARY, 2023

GROUP C

Matric. Number: .....

1. [Total: 40 marks]

- a. Weigh sample X (0.2000 – 0.2200 g) into a conical flask. Add 25.00 mL of distilled water. Add 2 drops of Y to the solution in the conical flask. Titrate the solution against sample Z in the burette. Carry out a duplicate titration using the second sample ~~X~~ weighed. Record both weights of sample ~~X~~ and titre values in a tabular form. Given that 0.019418 g Sample ~~X~~ = 1mL sample Z solution, answer the following questions.
- b. Determine the factor for sample ~~Z~~
- c. State the colour change observed at the endpoint.
- d. State four precautions taken to ensure accurate results
- e. What is the “factor” of a solution?
- f. Why are solutions standardized?

2. [Total: 20 marks]

- a. What is a redox reaction?
- b. Given a sufficient amount of benzoic acid in a weighing bottle, describe in a stepwise manner how you will weigh out 0.2400 – 0.2500 g of the compound using the weighing by difference approach.
- c. Mention four precautions you would take in (b) above.
- d. Explain how you will calibrate a weighing balance.



**DEPARTMENT OF PHARMACEUTICS AND PHARMACEUTICAL TECHNOLOGY  
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**200 LEVEL PHARM D. FIRST SEMESTER EXAMINATION 2022/2023 SESSION**

**COURSE: PCT 201(Introduction to Pharmaceutics)**

**DATE: Monday January 23, 2023 TIME: 2.00 pm – 5.00 pm (3 hr)**

Matric No.

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

**SECTION B (Short Answer Questions)**

**Instructions:**

- Answer all questions in Section B in the answer booklet provided
- Answer each question on a fresh page of the answer booklet
- Each question carries 5 marks.

1. Describe a medical prescription
2. Briefly explain the following terminologies:  
a) Tare, b) Geometric dilution, c) Metric system, d) Sensitivity reciprocal, e) Household measures
3. Itemize the contents of correct dispensing procedure
4. Weighing is one of the most significant steps needed in almost all type of pharmaceutical preparations. Briefly explain the steps you would take to ensure success of any weighing operation.
5. Enumerate five (5) techniques you would use to limit error and enhance accuracy and precision in the measurement of liquid ingredients in the dispensing laboratory.
6. a) What are the components of a complete direction on a product label?  
b) Give ONE (1) example of an unambiguous instruction that can be on a product label.

**PLEASE TURN OVER TO PAGE 7**



## SECTION C (Essay Questions)

### Instructions:

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

- ✓ 1(a). What does it mean for a prescription to be complete, accurate and appropriate?
- ✓ 1(b). Explain briefly the steps in dispensing of medicines
- ✓ 2(a). What are the benefits of drug information sources in dispensing?
- 2(b). Itemize the advantages of tertiary source of drug information.
- 3(a). As a dispensing pharmacist charged with making pharmaceutical solutions, explain briefly four steps you would adopt to enhance the solubility of your active ingredient.
- 3(b). Balance A is used to weigh 0.450 g of lactose. If the SR of Balance B is five times that of balance A, calculate in milligram the SR of Balance A, the minimum weighable quantity for balance B and the permissible error for weighing 600 mg on Balance B.
- ✓ 4(a) Make a free-hand sketch of a glass beaker and discuss its use in the dispensing laboratory. What are its advantages and disadvantages as a measuring device?
- 4(b) What are the advantages of measuring cylinder over the conical measure?



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**COLLEGE OF PHARMACY**

**DEPARTMENT OF PHARMACOGNOSY AND NATURAL PRODUCTS**

**FIRST EXAMINATION 2022/2023 SESSION**

**INTRODUCTION TO PHARMACOGNOSY**

**UNIT: 2**

**COURSE: PCG 201**

**Level: 200**

**Date: 10/02/2023**

**Time Allowed: 3 hours (9am-12noon)**

**INSTRUCTIONS:**

1. Answer **TEN QUESTIONS** with at least **ONE QUESTION** in each section.
2. Answer all the questions in your answer booklet
3. Write your Matriculation number in the space provided in your answer booklet

**SECTION ONE**

1. Discuss "Pharmacognosy" in terms of:
  - a. Definitions
  - b. Scope
  - c. Related subjects
- ✓ 2. Discuss briefly five (5) different ways of classifying vegetable drugs

**SECTION TWO**

- ✓ 1. a.(i) Draw a well labelled plant cell  
(ii). State the functions of at least five plant cell organelles  
  
b. Differentiate between dark and light phases of Photosynthesis.  
(Include structures of compounds when needed)
- ✓ 2. a.(i) Draw a well labelled binocular microscope  
(ii) Differentiate between plant and animal cells  
  
b.(i) Define Photosynthesis  
(ii) State three relevance of Photosynthesis to human wellbeing

**SECTION THREE**

- ✓ 1. a. Explain the term organized crude drugs.  
b. Outline the methods of natural vegetative propagation by stem with suitable examples.
2. Outline simple tests that can be used for the identification of crude drugs citing at least two examples for each test.

#### SECTION FOUR ✓

- ✓1. A Nursing Mother was advised to withdraw Milk and Milk products from the Diet of her Child. As a Pharmacist, explain concisely the likely pathological condition of the Child and validate your answer with the structure of the culprit sugar implicated in the pathogenesis of the Child's condition.
- ✓2. A high molecular weight substance, A, found in most Plants, on partial hydrolysis in  $H_3O^+/H_2O$  yields, B. Substance, B, which is obtained in one stage of the conversion of A to ethanol under the action of enzyme, diastase, gives two monomers of C. Complete hydrolysis of A and B gives a colourless substance, C, found in nature as the most abundant monomeric sugar.
  - a. Identify substances A, B, C, stating your line of reasoning,
  - b. State the type and numeric orientation of glycosidic bond(s) in A, and B.
  - c. Draw the structure of the most stable conformation of C.

#### SECTION FIVE ✓

1. (a) In a tabular form, highlight the differences between organized and unorganized crude drug (4marks)  
  
(b) In a tabular form, describe the following oils in terms of their botanical source, major constituents, and pharmaceutical uses.
  - Peppermint oil
  - Ginger oil
  - Olive oil
  - Theobroma oil (6marks)
- ✓2. (a) In a tabular form, highlight the differences between gums and mucilage (4marks)  
  
(b) In a tabular form, describe the following gums in terms of their botanical source, major constituents, and pharmaceutical uses.
  - Tragacanth
  - Acacia gum (6marks)

#### SECTION SIX ✓

- ✓1. a. Simply define the term 'Evaluation of Crude Drugs' while also stating its various methods. (2marks)  
b. Discuss the method of evaluating the moisture content of a crude drug. (8marks)
- ✓2. a. Medicinal plant dealers have discovered the high-tech methods in creating adulteration of such high quality. The onus lies on the Pharmacist to differentiate between adulterated and authentic products. How? (4marks)  
b. Give three reasons why adulteration of crude drugs occurs intentionally and unintentionally (with examples for each reason). (6 marks)