



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

COLLEGE OF PHARMACY
Department of Social & Administrative Pharmacy

Second Semester Examination 2021/2022 Academic Session
Course: ICT302: ICT in pharmacy I Exam date: Thur 10/06/22 9am – 12noon

Instructions:

- Write your **Matriculation Number** on all pages of your answer sheet and **Question papers**
- Question papers and answer sheets must be safely kept with you and should not be allowed to be copied by any person sitting near you
- Answer any **FOUR (4)** questions in this section
- All questions should be answered in the Answer Booklet.
- All questions carry equal marks.

SECTION B (ESSAY QUESTIONS, 36 MARKS)

- Define Computer Hardware [$\frac{1}{2}$ mark]
 - List 10 peripheral devices you know categorizing them into 5 input devices, and 5 output devices [5 marks]
 - List and explain 5 factors to consider when purchasing a personal computer [$3\frac{1}{2}$ marks]
- Write short notes on the classification of computers based on size and capacity giving one example of each class [6 marks]
 - What is a computer storage device? [$\frac{1}{2}$ mark]
 - Highlight 5 tips on how to care for a CD/DVD [$2\frac{1}{2}$ mark]
- What do you mean by "Operating System" (OS) and "Application software (AS)". Explain how these are different from programming software [3 marks].
 - Give three examples each of OS and AS [3 marks].
 - Differentiate between System software and Application software [3 marks].
- Define Open Source software and differentiate it from Commercial software [3 marks].
 - Give three examples of Open Source software and three examples of Commercial software [3 marks].
 - Describe the uses of MS Word that has made it popular in offices, classrooms and businesses [3 marks].
- Describe the features of MS Excel and how the software can be used with MS Word to produce multiple letters from a single letter written in MS Word [9 marks].
- Define Electronic Database and give 3 examples of databases software commonly used in creating electronic databases [3 marks].
 - Describe the properties (structure) of Tables in electronic databases [3 marks].
 - List the uses of databases? [3 marks].

DEPARTMENT OF PHARMACEUTICAL AND MEDICINAL CHEMISTRY
COLLEGE OF PHARMACY, a
AFE BABALOLA UNIVERSITY
2021/2022 Session, Second Semester
PCH 302: Pharmaceutical Analysis I

TIME ALLOWED: 3 Hours

23rd MAY, 2022

Matric. Number:.....

Seat. Number:.....

ATTEMPT ANY FIVE QUESTIONS

1.

- At 298K, the transport number of sodium ion for a solution of sodium chloride is 0.395 and the molar conductivity at infinite dilution for the NaCl solution is $1.264 \times 10^{-2} \text{ Sm}^2/\text{mol}$. Calculate the molar conductivity at infinite dilution for chloride ion.
- Highlight the advantages of conductimetric titration over traditional titrimetric methods employed in the assay of pharmaceutical compounds.
- At 18°C, the molar conductivity of sodium chloride at infinite dilution is $1.09 \times 10^{-2} \text{ Sm}^2\text{mol}^{-1}$, whereas the corresponding figure for hydrochloric acid is $3.29 \times 10^{-2} \text{ Sm}^2\text{mol}^{-1}$. What interpretation(s) can you place on the difference in the two values?
- A solution containing 6.66g of ethanoic acid per dm^3 has an electrolytic conductivity of $5.21 \times 10^{-2} \text{ Sm}^{-1}$ at 25°C. The molar conductivity of the acid at infinite dilution at this temperature is $3.91 \times 10^{-2} \text{ Sm}^2\text{mol}^{-1}$. Calculate the degree of dissociation. (molar mass for ethanoic acid = 60.052 g/mol; $1 \text{ mol}/\text{dm}^3 = 1000 \text{ mol}/\text{m}^3$)

2.

- The electrolytic conductivity of 0.016 M ethanoic acid at 18°C is 0.0196 Sm^{-1} . The molar conductivities at infinite dilution of the $\text{H}^+(\text{aq})$ and CH_3COO^- ions at 18°C are 3.15×10^{-2} and $0.35 \times 10^{-2} \text{ Sm}^2\text{mol}^{-1}$, respectively. Calculate the degree of dissociation of the ethanoic acid. (molar mass for ethanoic acid = 60.052 g/mol; $1 \text{ mol}/\text{dm}^3 = 1000 \text{ mol}/\text{m}^3$)
- Briefly discuss the factors that affect ionic conductivity of analytes in conductimetric titrations.
- What do you understand by the term *electroneutrality* and how can it be overcome in a typical electrochemical cell?
- At 298K, the transport number of sodium ion for a solution of sodium chloride is 0.395 and the molar conductivity at infinite dilution for the NaCl solution is $1.264 \times 10^{-2} \text{ Sm}^2/\text{mol}$. Calculate the molar conductivity at infinite dilution for potassium ion. [Molar conductivity for potassium chloride at infinite dilution is $1.498 \times 10^{-2} \text{ Sm}^2/\text{mol}$].

3.

- List any five different sources that may serve as impurities to a pharmaceutical product.
- Following the synthesis of acetylsalicylic acid from salicylic acid, recrystallization may be employed to obtain the pure product.
 - Name a likely impurity from this synthesis.
 - List three principles to consider in selecting an appropriate method for removing impurities.
 - Based on the three principles listed in (ii) above, describe why recrystallization is a relevant method to separate acetylsalicylic acid from this impurity.
- Briefly describe any five methods of removing impurities that are different from recrystallization.
- How will you separate a mixture of water, sodium chloride and sand?

4.

- Using calcium as an example, explain the principles that guide a limit test.
- While aspirin tablets are listed in the BP 2019, vyvgart injection is not listed. For each product, name ONE type of monograph that will be the most relevant to obtain some official requirement about the product/dosage form and state what type of information you will obtain from this monograph.
- As a pharmacist, list any five measures you will take and/or instructions you will give to a patient, to ensure proper storage conditions for chlorpromazine oral suspension.
- List any five goals of pharmaceutical analysis.

5.

- A 50.00 mL aliquot of 0.100 M Hydrochloric acid (HCl) is titrated with 0.200 M Sodium hydroxide (NaOH). Calculate the pH of the solution at equivalence point and after the addition of 0.00, 10.00 and 30.00 mL of the base.
- State the advantages and limitations of titrimetry in pharmaceutical analysis.

Volume (mL) of Titrant	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00
pH	1.00	1.14	1.30	1.51	1.85	7.00	12.50	12.37	12.52	12.62	12.70

- The table above shows the data for titration of 50.00 mL of 0.100 M HCl with 0.0500 M NaOH. Construct a titration curve. On this curve, indicate and label the equivalence point.
- State the methods for finding the end point in acid-base titration.

6.

- Calculate the silver ion concentration in terms of pAg during the titration of 50.00 mL of 0.050 M NaCl with 0.100 M AgNO₃ after the addition of the following volumes of reagent: ($K_{sp} \text{ AgCl} = 1.0 \times 10^{-10}$)
 - in the pre equivalence point region at 10.00 mL of titrant
 - at the equivalence point
 - after the equivalence point at 35.00 mL of titrant
- Write notes on the following
 - Titration curves
 - Chelation
 - Precipitation reaction
- Differentiate between a primary and secondary standard? State four important requirements of standard solutions.
- Explain Volhard method for endpoint determination in precipitation titration.

AFE BABALOLA UNIVERSITY ADO-EKITI (ABUAD)
COLLEGE OF PHARMACY
DEPARTMENT OF CLINICAL PHARMACY AND PUBLIC HEALTH.
SECOND SEMESTER EXAMINATION 2021/ 2022 SESSION

COURSE CODE: PCL 302

COURSE TITLE: HEALTH PSYCHOLOGY

TIME ALLOWED: 3 HOURS

UNIT: 1

INSTRUCTION: ANSWER ANY THREE(3) QUESTIONS.

1. Explain the concepts of Health, Disease and Illness with relevant examples.
(20 marks).
2. Health psychology has been described as the understanding of psychological influences on health-related processes. Discuss with special reference to the meaning, aims and emergence of health psychology.
(20 marks).
- 3a. Identify and explain the major theories of disease and illness. (10 marks).
- b. Discuss Talcot-Parson's Sick role behaviour. (10 marks).
- 4a. Identify any five principles guiding psychologist according to American Psychological Association (APA) Code of Conduct. (5 marks). *Age, sex, nutrition, genetics, lifestyle*
- b. Describe the major factors affecting illness behaviour. (10 marks)
- c. Highlight the five stages of illness behaviour. (5 marks).
- 5a. What is aggression and describe how aggressive tendencies are acquired.
(10 marks).
- b. Discuss any two major theories of aggression. (10 marks).

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

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

PCT 302
COURSE: PCT 304 (Pharmaceutical Pharmaceutics II)

DATE: Wednesday June 8, 2022 TIME: 9.00 am – 12.00 noon (3 hr)

Matric No.

There are four sections in this question paper, Section A (True or False Questions), 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. Define the word "Thixotropy" as related to rheology and diagrammatically illustrate the thixotropy in pseudoplastic, plastic and dilatant materials.
 2. What are the uses of plastic excipients in the formulation of pharmaceutical suspension?
 3. Explain briefly the flow characteristics of a fluid through a pipe.
 4. Describe the forces that are required to make fluid flow through a channel
 5. Single point viscometers can be used to determine the viscosity of Newtonian fluids. What are the objections in extending this method to non-Newtonian fluids?

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. Discuss the different types of time-independent non-Newtonian flow behaviours -
 2. Discuss the pharmaceutical applications of Rheology
 3. (a) Discuss two reasons why the velocity of fluid at the center of a pipe is more than at the surface
(b) A fluid moves through a tube at 10 m/s, the tube has a transverse area of 0.3 m^2 . If the density of the fluid is $\rho = 1.5 \text{ grams/m}^3$, what is the amount of mass flowing through the tube?
 4. Discuss the determination of non-Newtonian viscosity and cite TWO viscometers which can be utilized for this purpose in a pharmaceutical research laboratory where dispersed systems are being formulated. Give appropriate schematic diagrams where required.



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DEPARTMENT OF PHARMACOLOGY & TOXICOLOGY

COLLEGE OF PHARMACY

SECOND SEMESTER 2021/2022 SESSION EXAMINATION

PCO 302 (THEORY)

INSTRUCTIONS: There are two sections (Sections A & B) in all, answer **ONLY ONE** question in section A and answer **ALL** questions in section B. Answer three (3) questions in total.

TIME: 1½ hr

SECTION A

[Q1]

A) Describe the pharmacology of loop diuretics (10 mks)

[Q2]

A) Guanethidine belongs to what class of adrenergic neuron blockers? (1 mk)

B) Describe the action of guanethidine based on the route and speed of administration (2 mks)

C) The mechanism of action of guanethidine can be described under four headings, list three (3 mks)

D) What is the difference between adrenergic receptor blockers and adrenergic neuron blockers? (4 mks)

[Q3]

A) In not more than two (2) words, define asthma (2 mks)

B) List two respiratory diseases (2 mks)

C) In a tabular form, show the differences between extrinsic asthma and intrinsic asthma (6 mks)



COLLEGE OF PHARMACY

DEPARTMENT OF PHARMACOGNOSY

SECOND SEMESTER EXAMINATION 2021/2022 SESSION

PCG 302 – PHARMACOGNOSY II UNIT: 3 TIME: 3 HOURS

INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A AND PICK ANY 5 IN SECTION B

SECTION A

1. Other words used interchangeably with traditional medicine areor *Herbal medicine*
2. Common fumigants used for storage of crude drugs are and *Methyl bromide* and *Carbon disulphide*
3. Concoction is a hot preparation while decoction is a cold preparation. TRUE/FALSE
4. Flowers and drugs with volatile principles are dried in what manner? *Reduced Method*
5. is an aqueous preparation made by decoction
6. *Chemical* determines the drying method to be employed for a crude drug. *conditions*
7. Traditional healers whose specialise in the use of herbs and animal products are called Herbalist TRUE/FALSE
8. Colophony in powdered form is preserved nicely as compared to its big mass which gets oxidized upon storage. TRUE/FALSE
9. When crude drugs absorb moisture, it makes them susceptible to... *growth of microorganisms*
10. Tray drying is a type of *Artificial* drying
11. Who is traditional healer? *Traditional healers are herbalist who specialise in the use of herbs and other natural products eg clay to treat ailments.*
12. The famous *Historia Plantarum* was produced by
13. *De Materia Medica* was a great work of
14. developed the Doctrine of Signatures
15. How is a decoction prepared?
16. *Calcium chloride* ~~CaCl₂~~ is used for colour preservation of herbarium specimen *Mercuric chloride*
17. *Lead* ~~Potassium dichromate~~ *Lead* is used for poisoning herbarium specimen. *(PCP)*
18. In the pressing of herbarium specimen, which of the following is false?
 - a. Specimens should be carefully placed in the right-hand side of the pressing sheets. F
 - b. If specimens are large enough, they should be bend giving them shape of V, N or W shape. T

c. The bundles should be uniform in thickness in the middle and on the sides.

d. Specimens should be kept one above the other.

19. In the collection of herbarium specimen, plant specimen should be sterile.

TRUE/FALSE

20. Herbaceous small plant specimen should be collected with roots or other underground parts. TRUE/FALSE

21. It is advisable to mount two specimens on each herbarium sheet. TRUE/FALSE

22. Direct/participant observation is a highly reliable data collection means which depends on the ability to pay attention to details. TRUE/FALSE

23. Ethnobotany... is the study of the inter-relations between human and plants.

24. In 1803,....., identified by Frederick Serturmer, became one of the first drugs to be isolated from a plant.

25. In 1899, the first semi-synthetic pure drug aspirin, based on a natural product salicin isolated from was introduced by Bayer.

26. *Aframomum melegueta* is a perennial herb and used in the treatment of coughs and malaria. TRUE/FALSE

27. Alligator Pepper..... is the common name of *Aframomum melegueta* and Atare..... in Yoruba.

28. *Curcuma longa* has Tumeric..... as its common name.

29. An active constituent in *Curcuma longa* is called Curcumin.....

30. *Cymbopogon citratus* is commonly known as Lemon grass.....

31. *Cymbopogon citratus* is of the Family Poaceae..... (a) Crassulaceae (b) Meliaceae (c) Asteraceae (d) Poaceae

32. *Mentha piperita* is used for the following: (a) Mouth wash (b) Stomach ache (c) Chest pains (d) All of the above

33. *Thaumatococcus daniellii* is commonly called Miracle fruit berry

34. *Thaumatococcus daniellii* is a natural source of an intensely sweet protein which is of interest in the development of sweeteners and called Thaumatococin.....

35. A weed commonly known as PWD weed or coat buttons is known with the Botanical name Tridax procumbens.....

36. Toxicological study is an important parameter for crude drug standardization. TRUE/FALSE

37. Phytopharmaceuticals are obtained from animal and plant sources. TRUE/FALSE

38. There is a resurgent interest in the use of medicinal plants for the treatment of various human pathological conditions. TRUE/FALSE

39. Chromatographic techniques coupled with appropriate detection method is a veritable tool for high-throughput screening (HTS) of plant metabolites. TRUE/FALSE

40. Chromatography is the name of the technique used for the separation of complex mixtures, Chromatograph is the general name of the equipment, while Chromatogram is the result obtained from the equipment. True or False

41. Cercaria are produced into fresh water by an water snail, which serve as an intermediate _____ TRUE/FALSE
42. Hair, feathers and house dust can all be regarded as allergens _____ TRUE/FALSE
43. Allergens can also be considered as immunogens _____ TRUE/FALSE
44. *Cannabis sativa* is a well-known mild hallucinogen in Africa _____ TRUE/FALSE
45. Lysergic acid derivatives are common examples of molluscicides _____ TRUE/FALSE
46. A sample for analysis must ensure representation,
47. In whole drugs, the macroscopical and sensory characters are usually for identification.
48. with high mucilage content easily becomes moist and mouldy
49. The procedure is the most extensively used chemical methods
50. Methods based on have been widely used for moisture determination

SECTION B

1. In the preparation of a herbal crude drug, there are procedures employed from start to finish. Discuss these procedures
2. Ethnobotany has contributed to proffering solutions as well as the development of drug for many diseases. In a tabular form, list 2 drugs each developed from medicinal plants for the following purposes, including the name and the botanical source.
 - a. Antihypertensive
 - b. Antimalaria
 - c. Anticancer
 - d. Analgesia
 - e. Cardiotonic
3. (a) In a tabular form, list the Botanical and common names with medicinal uses of ten (10) medicinal plants used in traditional/alternative medicines.

(b) Give meanings to the following terms (i) Emetic (ii) Amenorrhoea (iii) Vermifuge (iv) Diaphoretic (v) Antispasmodic (vi) Antipyretic (vii) Haemostatic (viii) Emenagogue (ix) Flatulence (x) Purgative
4. The following techniques are used in standardization, quality control and assurance of the metabolites profiling and fingerprinting of herbal medicines and other preparations, state the FULL MEANING of each technique.

a. HPLC-NMR-MS

b. SAX-HPLC *High planar Layer Chromatography*

c. HPLC-DAD

d. CE-DAD

e. GC-MS

f. MECC

g. RP-IP-HPLC

h. HPLC-ELSD *High Throughput Screening*

i. TLC *Thin Layer*

j. FFPC *Forced Flow Chromatography*

5. (a) Write short note on the following:

a. Allergy

b. Allergens

(b) List the types/classes of allergens

6. On the basis of quality control, give account of the following standards as it applies to the evaluation of crude drugs;

a. Foreign matter

b. Loss on Drying

c. Chemical methods

d. Extractive values



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

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

COURSE: PCT 304 (Pharmaceutical Pharmaceutics II)

DATE: Wednesday June 8, 2022 TIME: 9.00 am – 12.00 noon (3 hr)

Matric No.

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. Itemize the test methods for differentiating an oil-in-water emulsion from water-in-oil emulsion.
2. Why will you prefer Witepsol® to theobroma oil (cocoa butter) as a suppository base?
3. Define the Displacement Value of a drug in a suppository base. A medicated suppository weighing 2.40 g contains 30 % of the active drug. The weight of the unmedicated suppository is 1.92 g. What is the Displacement Value of the drug in the base?
4. According to Stoke's equation, predict the effects of an increase in the following properties of a coarse suspension on the sedimentation rate of the suspension:
- a) Particle size.
 - b) Particle density.
 - c) Viscosity of the medium in which the particles are dispersed.

Please turn over to page 7 for continuation of Section C and Section D

5. Rx

Light mineral oil 40 g
Emulsifying agent (required HLB 12) 6 g
Water to 100 g

Make an oil-in-water emulsion.

(If likely emulsifiers and their HLB numbers are; Tween 20 - 16.7, Tween 80 - 15, Span 80 - 4.3, Span 85 - 1.8)

- What is your choice of emulsifier for the preparation?
- Calculate the ratio of the emulsifiers to produce the required HLB value.

6. What are ointments?

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.

- Adelley's* * 1. Discuss the different physical instability that may occur in a formulated emulsion.
- Pallavi* * 2. a) Draw the potential energy curves for particle-particle interactions in suspensions. Explain the sedimentation behaviours of the two kinds of suspensions using these curves.
b) Briefly discuss the reason(s) why flocculated suspensions are preferred to deflocculated suspensions in pharmacy.
- Clifford* * 3. Discuss the significance and limitations of HLB system in Pharmacy
- Pharm classes* * 4. (a) Describe the method you will use to prepare an ointment containing a thermolabile ingredient
(b) Highlight the differences between ointments and pastes



AFE BABALOLA UNIVERSITY ADO-EKITI
COLLEGE OF MEDICINE & HEALTH SCIENCES
DEPARTMENT OF HUMAN ANATOMY



PATHOLOGY (PAT 401)

DATE: MONDAY 30TH JANUARY 2023

TIME ALLOWED: 150 Mins

INSTRUCTIONS: Answer Each Section in a Separate Booklet

SECTION A

ANSWER THREE QUESTIONS FROM THIS SECTION, QUESTION 1 IS COMPULSORY

1. State the causes of and general symptoms of infectious diseases.
(b) briefly explain the mode of contacts for infectious diseases.
2. Heart disease symptoms depend on the type of heart of heart disease, enumerate five causes and symptoms of heart arrhythmias.
(b) Enumerate and briefly explain five risk factors for heart disease
3. Human beings are subjected to a variety of metabolic diseases, as we are a complex set of structures that functions through quite a varied and intertwined metabolic processes. Most metabolic diseases have genetic basis while some are acquired in life. **Define and classify diabetes mellitus (DM).**
(b) The major organ of interest for DM is the pancreas, enumerate the five cells of the pancreas and the hormones the secret
4. Gout is an elevated level of serum uric acid and deposition of sodium urate crystals in joints and soft tissues around joints. **Briefly explain the classifications of gout and state the clinical features of Gout.**

SECTION B

ANSWER THREE QUESTIONS FROM THIS SECTION, QUESTION 1 IS COMPULSORY

- 1a. With the aid of appropriate diagram(s), describe the mechanistic hallmarks of cancer metastasis and comment on its pathways of spread.
- 1b. As a pharmacist, how would you tell a benign tumour from a malignant one?
- 2a. Cell injury equals tissue injury. Argue against or in favour of the statement.
- 2b. Describe the different mechanisms of cell injury.
- 3a. Inflammation is fundamentally the body's innate immune system response to cell injury with the original purpose of maintaining homeostasis. At what point is this no longer tenable? **Extensively discuss.**
- 3b. Vitamin D deficiency has been linked to the onset of different pathologies. Mention 10 other conditions linked to nutritional deficiency.
- 4a. Apoptosis is defined as programmed cell death. Elaborate on how it is different from necrosis.
- 4b. Comment on types of necrosis with examples.

GOOD LUCK!!!





**AFE
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P.M.B. 5454, ADO-EKITI

COLLEGE OF PHARMACY

Department of Clinical Pharmacy and Public Health

First Semester Examination 2022/2023 Academic Session

Course: PCL 403: Essentials of Nutrition **Exam date: Thursday, 2/2/23** **Time: 9 am - 12 noon**

Instructions:

- Write your **Matriculation Number** on all pages of your answer sheet and **Question papers**
- Question papers and answer sheets must be safely kept with you and should not be allowed to be copied by any person sitting near you
- Answer any **FOUR (4)** questions in this section
- All questions should be answered in the Answer Booklet provided
- All questions carry equal marks
- Endeavour to sign out before leaving the examination hall

SECTION B (ESSAY QUESTIONS, 80 MARKS)

- Succinctly differentiate between diet and nutrition [5 marks]
 - Describe the components of diet [5 marks]
 - Describe the nutrient requirements and distribution in humans, stating the consequences associated with deficiencies and excesses of each nutrient [10 marks] {ENO}
- Define malnutrition [3 marks]
 - Briefly explain the forms of malnutrition [4 marks]
 - Why is appropriate nutrition important? [5 marks]
 - Explain the importance of inter-professional ^{collaboration} in providing nutritional care for patients [8 marks] {ENO}
- Tabulate five of the various disease conditions that require essential and non-essential amino acids total parenteral nutrition with the amino acid requirement for each condition [10 marks]
 - State the functions for the use of total parenteral formulation that contain both essential and non-essential amino acid [10 marks] {EOA}
- Define Total Parenteral Nutrition [2 marks]
 - Concisely differentiate between partial parenteral nutrition and total parenteral nutrition [3 marks]
 - Explain nutritional support among critically ill patients [5 marks]
 - Differentiate between enteral and parenteral nutrition and state when either modes of nutrition support can be used? [10 marks] {POE & ENO}

- ✓ 5. Miss A, a 45 year old female, is a patient admitted into the critical care unit of your hospital. The patient was admitted after complaining of loss of appetite, weight loss and taste changes. There was also reported serum albumin levels of 6.5g/dL (normal range: 3.5-5.5g/dL) while total lymphocyte count was within normal levels. The patient's height was found to be 150 centimetres while the measured weight was 50kg. The waist circumference was measured and was documented to be 38 inches.
- a) As a clinical pharmacist, what would be the first thing you would do on meeting this patient [3 marks]
 - b) Identify and classify the parameters that can be used in assessing the nutrition in this patient [10 marks]
 - c) What is this patient's BMI? [3 marks]
 - d) Classify the patient's BMI and indicate the level of risk for co-morbidities based on her BMI [4 marks] {ENO}
6. A patient, QS, a 45 year old male, walks into your pharmacy looking pale and complains of not being able to eat properly for the past 6 months. He complains that he has been taking medications without any positive results and complains that he is almost giving up. He says that she recently moved into a vicinity where there is curfew and buying food is sometimes problematic.
- a) As a clinical pharmacist, what are the aspects of the patient history that you would inquire about? [5 marks]
 - b) Briefly explain the different aspects of patient history you know with examples [8 marks]
 - c) The patient was later diagnosed of malnutrition. Using your skills in nutritional assessment, what category of malnutrition would this patient be most likely diagnosed of [3 marks]
 - d) Concisely explain the other diagnostic criteria of malnutrition ^{categories} [4 marks] {ENO}

- a. Mononitration of 4-methylhydroxybenzene
- b. Bromination of 3-Methylaminobenzene
- c. Hydroxylation of benzene and subsequent methylation of the product.

6. Showing the reaction(s), give the product(s) (with IUPAC name) obtained by:
- a. Using appropriate examples present what you understand by the term Frankland reagents.
 - b. Describe the formation of primary, secondary, and tertiary alcohols using Grignard reagents (Support with chemical equations).
 - c. Explain the reason for increased polarity of C-Li bond compared to C-Mg bond.
- 7.
- a. When an Isoquinoline is oxidized under alkaline condition what is/are the product(s) of the reaction?
 - b. State the properties of two-membered ring Heterocyclic compounds
 - c. What product(s) would you expect from the reaction below? Provide the name(s) of the resulting product(s).

