



W1-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

UNIVERSITY EXAMINATION 2016/2017

BACHELOR OF PHARMACY

FOURTH YEAR, SECOND SEMESTER EXAMINATION

PHA 2407 B: PHARMACEUTICS V B

**DATE: MAY 2017**

**TIME: THREE HOURS**

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A (60 MARKS)**

**AND ANY TWO QUESTIONS FROM SECTION B (40 MARKS).**

***ILLUSTRATE YOUR ANSWERS WITH DIAGRAMS/ STRUCTURES WHERE APPROPRIATE.***

---

**Total Time 3 Hours**

**Section A: SHORT ANSWER QUESTIONS (SAQ)**

**60 marks**

**Note: All questions to be attempted.**

**Each question carries 5 marks.**

**Question 1:**

Explain the origin of drugs and differentiate between active pharmaceutical ingredients and Excipients.

**Question 2:**

Define incompatibility and classify it. Provide suitable examples.

**Question 3:**

Define degradation and list the key routes of degradation?

**Question 4:**

Explain Photo stability studies.

**Question 5:**

Define and explain Preformulation studies and its importance.

**Question 6:**

Define expiry date and explain the desired characteristics to be maintained in a dosage form till the expiry date.

**Question 7:** Explain granulation and the mechanisms of binding.

**Question 8:** Explain degradation and give 5 types of degradation seen during development of dosage forms with examples.

**Question 9:**

- a. What are order of reactions? 1 mark.
- b. Define and differentiate between any 3 orders of degradation. 4 marks.

**Question 10:**

- a. What is ICH and the advantages of ICH? 2 marks
- b. Write the classification of climatic regions as prescribed by ICH. 3 marks

**Question 11:**

- a. Define Coating. 1 mark
- b. Discuss the advantages and disadvantages of film coating. 4 marks

	KwT	RH
Temperate zone	21	45%
Mediterranean zone	25	60%
Tropical	30	75%
Desert	30	70%

**Question 12:**

- a. Define and differentiate between performance and design qualification. 4 marks.
- b. Enumerate the advantages of URS. 1 mark.

**Section B: LONG ANSWER QUESTIONS (LAQ)**

**40 marks**

**Note: Answer any 2 Questions. Each question carries 20 Marks**

**Question: 13**

“While you are on trimester vacation in your upcountry home, one of your relative explains how he has been using a specific herb for treating joint pains for a number of years.”

Decide your course of action on making this herb a potential analgesic using the techniques you have learnt.

**Question: 14**

- a. One of your friend wants to procure a new equipment for his Laboratory. Advise him the steps to be taken to avoid disappointment of a non-functional equipment later.

- a. Mention the factors you would consider and steps to be taken to develop a hygroscopic and photodegradable API into an Injectable dosage form.

**Question: 15**

a. Define Tablets and explain the salient features of Tablets, Types and steps to develop a orally administrable dosage for a acid degradable API. 14 marks.

b. Explain impurity profiling in API's and their dosage form with consequences if not done. 6 marks.

Preparation & validation  
Performance design

Product dev

Equipment validation  
↓  
Qual. Mfg

light resistant packaging  
Excipients that prevent photolysis