



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN APPLIED CHEMISTRY (INDUSTRIAL OPTION)

BTAC 12S SEPT 2012

ACH 4405

Industrial Pharmaceutics

END OF SEMESTER EXAMINATION

SERIES:MAY 2016

TIME:2 HOURS

DATE:

## Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of FIVE questions. Attempt Question one compulsory and any other two question

**Do not write on the question paper.**

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## *Paper one*

### ***QUESTION ONE***

A. Outline :-

- i. how Brownian motion prevent sedimentation
- ii. causes of creaming in pharmaceutical Emulsion

**4 marks**

**4 marks**

B. Define the following terms(i) Elixirs (ii) Collodions

**4 marks**

C. State

- i. Advantages and Disadvantages of soft capsules
- ii. importance of dosageforms

**5 marks**

**4 marks**

D. Explain briefly Sterilization by filtration

**3 marks**

E. Define mechanism of four types of Parenteral sustained release systems

**6 marks**

## **QUESTION TWO**

- A. Define the following terms(i) Intraosseous infusion (ii)Aerosols **4 marks**
- B.** Define different mechanism of structured vehicles in suspension **4 marks**
- C. Discuss different Factors to be consider when choosing oral route **4 marks**
- D. Outline different
  - i. Mode of Action of preservatives as used in pharmaceuticals **4 marks**
  - ii. Characteristic of Parenteral dosage form **4 marks**

## **QUESTION THREE**

- A. Define Otic Solutions **2 marks**
- B. Explain briefly how you will determine the following quality control test
  - i. Type of Emulsion
  - ii. rate of tablet dissolution **10 marks**
- B. Outline four methods of assessing Mixing Effectiveness **4 marks**
- C. Discuss the applications hydrophilic-lipophilic balance in formulation of emulsion **4 marks**

## **QUESTION FOUR**

- A. Differentiate between Dispersible and effervescent tablets **4 marks**
- B. define mechanism of Ionizing and Non Ionizing Radiation as a method of Sterilization **4Mrks**
- C. Discuss breifly :-
  - i. different theories of disintegration **4marks**
  - ii. The Diffusion layer model of Dissolution **4marks**
  - iii. mechanism of biodegradable sustain release systems **4 marks**

## **QUESTION FIVE**

- A. Differentiate between mechanism of Moist heat and dry heat **4 marks**
- B. Define (i)Ophthalmic drops (ii) Suppositories (iii) Topical semi-solid dosage **5 marks**
- C. Outline different Factors affecting intergranule bond strength (Hardness) **5marks**
- D. Define the uses of the following pharmaceutical ingredients
  - i. Flavouring agens
  - ii.** Isotonicity modifiers
  - iii.** Emulsifying agents **6 marks**