



# KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS  
2016/2017 ACADEMIC YEAR

THIRD YEAR FIRST SEMESTER  
SPECIAL/SUPPLEMENTARY EXAMINATIONS  
FOR THE DEGREE OF B.ED (SCIENCE)

**COURSE CODE:** SCH 334

**COURSE TITLE:** MEDICINAL CHEMISTRY

**DURATION:** 2 HOURS

**DATE:** FRIDAY 26<sup>TH</sup> SEPTEMBER 2017 **TIME:** 3 – 5PM

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## INSTRUCTIONS TO CANDIDATES

- Answer **QUESTION ONE** (Compulsory) and any other two (2) Questions.
- Indicate **answered questions** on the front cover.
- Start every question on a new page and make sure question's number is written on each page.

This paper consists of 3 printed pages. Please Turn Over



1. a) Outline the factors which influence the development of new drugs. (5mks)
- b) Differentiate among the following:-
  - i. Pharmaceutical phase (3mks)
  - ii. Pharmacokinetic phase (3mks)
  - iii. Pharmacodynamics phase(3mks)
  - iv. Cardiovascular drugs (1mks)
  - v. Chemotherapy of cancer (2mks)
- c) Write short notes on the following:- (4mks)
  - i. Soft drugs
  - ii. Soft analogs
- d) State and briefly explain the theories of drug activity. (4mks)
- e) Discuss the movement of drugs across the membranes occur? (3mks)
- f) State and explain the factors which affect drug absorption? (4mks)
- g) What are produgs? (1mk)

### SECTION B

2. a) Drugs are administered through various routes. Briefly describe how each of the route works.
  - (i) Oral route (3mks)
  - (ii) Subcutaneous and intramuscular (3mks)
  - (iii) Tropical sites (3mks)
- b) Explain how drugs are excreted and eliminated from the body.
  - (i) Excretion (3mks)
  - (ii) Elimination (3mks)
- c) Differentiate among the following
  - i. Radiotherapy (2mk)
  - ii. Photochemotherapy(2mks)
  - iii. Gene therapy (2 mks)
3. a) If a drug is to be used for a long time, it's generally advantageous to modify it. Explain briefly how it is done in the following ways
  - (i) prolonging absorption (4mks)
  - (ii) increasing plasma protein binding(3mks)
  - (iii)retarding renal excretion (3mks)
- b) Write short notes on the following:-
  - i. Pharmacodynamics. (5mks)
  - ii. Drug metabolism. (5mks)
- c) State any three classes of cardiovascular drugs (1<sup>1</sup>/<sub>2</sub> mks)
4. a) i) What is transformation? (2mks)

- ii) Briefly discuss the types of transformation. (8mks)
- b) Differentiate among the following:-
  - i. Antifungal drugs (3mks)
  - ii. Antifiral drugs (3mks)
- c) Discuss the two types of chemotherapy (4mks)