

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF DOCTORATE OF
PHILOSOPHY IN EDUCATION**

EDCI 904: HISTORY AND PHILOSOPHY OF SCIENCE

STREAMS: PhD (PART TIME/ SB)

TIME: 3 HOURS

DAY/DATE: MONDAY 12/08/2019

8.30 A.M. – 11.30 A.M.

INSTRUCTIONS:

- **This paper consist of FIVE questions**
- **Answer ant THREE questions**
- **Do not write anything on this question paper**

- Q1. (a) What was the aim of science according to the philosopher scientist Francis Bacon (1561-1626). (5 marks)
- (b) Discuss the scientific developments that took place in the three stages of scientific revolution. (15 marks)
- Q2. (a) Discuss the contributions of Copernican Revolution to the development of modern science in the following areas:
(i) Astronomy
(ii) Physics
(iii) Natural philosophy (15 marks)
- (b) What is the relationship between philosophy and science? (5 marks)
- Q3. (a) Describe Isaac Newton's contributions in the development of mathematics and modern science. (10 marks)
- (b) Discuss the development in the history of science during the twentieth century. (10 marks)

Q4. (a) Explain the essence of a scientific explanation according to scientific classical theory. (10 marks)

(b) Consider the following scientific explanation:

told anyone
A Martian, after sometimes on the earth, observes that certain Fox, a 32 year old, healthy male has never gotten pregnant. Asking why this is the case, he is told that this is because the fox takes birth control pills and the chances of who takes birth control pills not getting pregnant are very high.

(i) Is the argument given deductive or inductive? (5 marks)

(ii) Does the explanation given constitute a correct scientific explanation? (5 marks)

Q5. (a) According to Karel Lambert (1992), the interest that philosophers have in science concerns three questions.

(i) What qualifies as science?

(ii) What counts as a good scientific explanations?

(iii) What is the ultimate purpose of science?

Explain the contribution of each question of interest in the development of science in the 17th Century. (15 marks)

(b) What is logical positivism? (5 marks)
