

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE**

BMED 455: RESEARCH ETHICS

STREAMS: BSC (BMED)

TIME: 2 HOURS

DAY/DATE: THURSDAY 11/04/2019

2.30 PM – 4.30 PM

INSTRUCTIONS:

Answer Question One and any other Two Questions

Question 1 (Compulsory) 30 marks

- (a) Outline five unique principles developed within the Helsinki Declaration. [5 marks]
- (b) Describe biomedical research ethics guidelines that came out in the Belmont Report of 1979. [5 marks]
- (c) Explain the importance of studying research ethics. [5 marks]
- (d) Maina is a graduate student working under the supervision of Dr. Kirk. Dr Kirk is conducting research on cancer and has gathered data from hundreds of cancer patients. Maina uses Dr. Kirk data to analyze a research question that he came up with on his own about prostate cancer. His question is his own idea, but is still based on what he learned about prostate cancer under Dr. Kirk. Maina's friend, Odhiambo, helped Maina design a statistical computer program for data analysis, but did not contribute in any other way to the research. When writing up his results, Dr. Kirk helped Maina write the methods section of his manuscript and reviewed his final results and conclusions, as well as the final draft of the entire manuscript. Explain how authorship should be decided in this case. [5 marks]
- (e) (i) Differentiate between beneficence and non-maleficence in biomedical research. [1 mark]

- (ii) Highlight the elements required for consent process to be valid in biomedical research. [4 marks]
- (f) Damaris is publishing her first article that builds on the research of a similar project she did three years prior with her colleague, Mutuma. In Damaris' current article she has placed a graph from the article she and Mutuma co-authored about their previous research. Mutuma created the original graph. Does Damaris have to site the previous article? Explain. [5 marks]

Question 2 (20 Marks)

- (a) Describe ten research guidelines outlined in the Nuremberg Code of ethical principles. [10 marks]
- (b) Discuss 'Research Authorship' and ethical guidelines surrounding authorship. [10 marks]

Question 3 (20 Marks)

- (a) Describe the structure and functions of research ethics committees. [10 marks]
- (b) (i) Define research misconduct. [1 mark]
- (ii) Outline the procedural guidelines for reporting and investigating research misconduct. [5 marks]
- (iii) Point out four regulations that applicants should follow to avoid conflict of interest and promote objectivity in research for which funding has been sought. [4 marks]

Question 4 (20 Marks)

- (a) Discuss 'Research Plagiarism' and ethical guidelines surrounding plagiarism. [10 marks]
- (b) Discuss the importance of animals in biomedical research and ethical issues regarding animal handling as outlined in The Animal Welfare Act. [10 marks]
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