TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF ENVIROMENT & HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR:

MASTER OF PUBLIC HEALTH

MPH/17S/YEAR 1/ SEMESTER 1
APH 5107: RESEARCH METHODS IN HEALTH

SPECIAL/ SUPPLIMENTARY EXAMINATIONS
SERIES: SEPTEMBER 2018
TIME: 3 HOURS

Instructions to Candidates
This paper consists of SIX questions
Answer question ONE (COMPULSORY) and any other THREE questions.
This paper consists of three printed pages.
Mobile phones are NOT allowed in the examination room

QUESTION ONE   (30 MARKS)

a)   Discuss main reasons why ecological studies are performed   (6 marks)

b)   Using a diagram, describe how smoking confounds the apparent relationship between
     coffee consumption and coronary heart disease   (8 marks)

c)   What would be the appropriate control group (or groups) for the following conditions
     (mention possible exclusions)   (8 marks)

d)   A sample design is a definite plan for obtaining a sample from a given population. Discuss
     characteristics of a good sample design   (8 marks)

QUESTION TWO   (30 MARKS)
In the last couple of years, the Kenyan media has been reporting a rise in the use of the 'after-morning pill' as a regular form of contraceptive among college women aged 19-24 years of age. A researcher is concerned that this may result in fertility problems in later life. There is no evidence to support her hypothesis but she sets out to conduct the research. She will compare fertility problems among college educated women aged 25-35 years of age who used the

'morning after pill' more than 10 times during their college years and those who never used the
'morning after pill' at all   (30 marks)

a. What is the research question?

b. What would be the null and alternative hypothesis?

c. Discuss characteristics of well stated hypothesis

QUESTION THREE   (30 MARKS)

a. Your lecturer has requested you to give a talk on the sources of literature review in research
    to new class of master of public health. Describe the content of your message to the
    students?   (15 marks)

b. After one year of course work, master of public health students will be expected to select
    research problems. Describe some of the factors the students must consider when selecting
    the research problems   (15 marks)

QUESTION FOUR   (30 MARKS)

a) If you are a proposal reviewer for a funding institution, discuss the criteria you would use
    to identify good proposals?   (14 marks)

b) Confounding is controlled either through study design or during the analysis of results.
    Discuss the methods used to control confounding   (16 marks)

QUESTION FIVE   (30 MARKS)

a) Discuss how confidentiality and privacy are observed in a study involving human study
    participants?   (16 marks)

b) Formulation of good research hypothesis hypothesis is guided by certain standards.
    Describe the characteristics of a good hypothesis   (14 marks)

QUESTION SIX   (30 MARKS)
A recent controversy over silicone breast implants began with the observation of breast cancer
among women with the implants.

a. What is the advantage in using a case –control study to test the hypothesis that silicone
    breast implants are associated with breast cancer   (4 marks)

b. Who should be the cases in such a study   (2 marks)

c. What groups would make appropriate controls   (4 marks)

d. What variables might one use to select the control group   (4 marks)

e. What variable might be useful in group or pair matching   (4 marks)

f. What would be the problem in choosing many variables for matching   (4 marks)

g. How would one collect information about women's silicone breast implants   (4 marks)

h. What problems arise in collecting the women's medical histories   (4 marks)