



# MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC HEALTH

THIRD YEAR FIRST SEMESTER EXAMINATION FOR DEGREE IN  
BACHELOR OF SCIENCE (POPULATION HEALTH)

PPH 300: RESEARCH METHODOLOGY

DATE: 31/5/2017

TIME: 8:30 – 10:30 AM

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## INSTRUCTIONS

*This paper consists of two sections A and B*

*Section A is compulsory*

*Section B choose any two (2) questions*

*Illustrate your answer with neat, clear and well labeled diagrams as appropriate*

## SECTION A (30 Marks) Compulsory

### SECTION A (COMPULSORY)

#### QUESTION ONE (30 MARKS)

- a) A researcher wishes to investigate the determinants of non-adherence to ARVs among HIV positive patients in Gashoroni Sub County. State the null and alternate hypothesis for this study (3 marks)
- b) Giving your own examples, define each of the following (3 marks)
  - i. General objectives
  - ii. Specific objectives
- c) Outline the aspects that should be described in the justification of a research problem (3 marks)
- d) Explain the importance of a clear statement of the problem (3 marks)
- e) Distinguish between a dependent variable and an independent variable (3 marks)
- f) Explain the errors that might occur during sampling (3 marks)

- g) Explain the importance of conducting research in Kenya (3 marks)
- h) Explain the conditions that need to be met for a problem to be researchable (3 marks)
- i) Highlight the reasons for sample size determination (3 marks)
- j) Distinguish between internal and external validity in research (3 marks)

**SECTION B: CHOOSE ANY TWO (2) QUESTIONS. EACH QUESTION IS 20 MARKS**

**QUESTION TWO (20 MARKS)**

In 1999, there were 2000 men who worked in a factory painting radium dial on watches. The incidence of skin cancer in these men up to 2016 was compared to that of 2000 men who worked as telephone operators in 1999. Twenty of the radium dial painters and four of the telephone operators developed skin cancer between 1999 and 2016. Discuss the study design in the scenario above giving its advantages and disadvantages (20 marks)

**QUESTION THREE (20 MARKS)**

- a) An undergraduate student in the Universal University has identified exclusive breastfeeding as a problem among adolescent mothers in Modern county. For this problem, formulate
  - i. An appropriate title for a research proposal
  - ii. A broad objective
  - iii. Two specific objectives
  - iv. Research questions
  - v. A null hypothesis for the study (10 marks)
- b) Discuss the role of a conceptual framework in research (10 marks)

**QUESTION FOUR (20 MARKS)**

- a) Describe the sampling methods that can be used to recruit participants into a research study (10 marks)
- b) Describe the importance of literature review in the development of a research problem. (10 marks)

**QUESTION FIVE (20 MARKS)**

- a) Discuss the various principles of ethics in research (12 marks)
- b) Explain the ways through which knowledge gained in research can be protected in Kenya (8 marks)