



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES**

UNIVERSITY EXAMINATION FOR DEGREE OF MASTER PUBLIC HEALTH

1ST YEAR 1ST SEMESTER 2019/2020 ACADEMIC YEAR

SPECIAL EXAMINATIONS NOV. 2020

COURSE CODE:	HES 5121
COURSE TITLE:	Epidemiologic Methods
EXAM VENUE:	STREAM:
DATE:	EXAM SESSION:
TIME:	3.00 HOURS

Instructions:

- 1. Answer Question One (Compulsary) and any other 3 questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

1. (i) State the main difference between the following study designs
 - a) Observational and experimental studies (**2 mks**)
 - b) Retrospective cohort and prospective cohort studies (**2 mks**)
 - c) Cohort and case-control studies (**2 mks**)
- ii. Briefly describe a cross-sectional study and indicate its main limitations (**5 mks**)
- (iii) Briefly describe an ecological study and indicate its main limitations (**4 mks**)
2. (i) Briefly define each of the following terms:
 - a) Confounding (**1 mk**)
 - b) Residual confounding (**1 mk**)
- (ii) What are the key characteristics of a confounding variable? (**3 mks**)
- (iii) Describe three methods for controlling confounding in the study design and give one advantage and one disadvantage for each method. (**6 mk**)
- (iv) Describe two methods for controlling confounding during the analysis and give one advantage and one disadvantage for each method. (**4 mks**)
3. (i) Define each of the following terms
 - a) Recall bias (**2 mks**)
 - b) Healthy worker effect (**2 mks**)
 - c) Control selection bias (**2 mks**)
 - d) Misclassification and the difference between differential and nondifferential misclassification (**3 kms**)
- (ii) State the different ways that each of the following biases can be minimized
 - a) Interviewer bias (**2 mks**)
 - b) Recall bias (**2 mks**)
 - c) Selection bias (**2 mks**)
4. Describe the distinctive features of experimental studies that enhance their ability to produce scientifically rigorous results and discuss why experimental studies are difficult to conduct (**15 mks**).
5. Describe what is meant by the term informed consent and discuss the required elements of informed consent (**15 mks**).
6. Outline the questions to ask when critiquing epidemiological studies from data collection, analysis and interpretation to recognize flaws in a study? (**15 mks**).