JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF MASTER PUBLIC HEALTH
SPECIAL EXAMINATIONS NOV. 2020

COURSE CODE: HMP 5136

COURSE TITLE: **Statistical Methods in Epidemiology**

EXAM VENUE: **STREAM:**

DATE: **EXAM SESSION:**

TIME: **3.00 HOURS**

Instructions:
1. Answer Question One (Compulsory) 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.
4. Use SPSS for data analysis where appropriate.
5. All questions carry 15 marks each.

QUESTIONS

Q1: Discuss the strengths and weaknesses of test-retest as a method of determining internal consistency of data collection instrument.

Q2: Describe any three types of validity as used in research.

Q3: Use the data in the table below to determine the odds of finding obstructive coronary artery disease (OCAD) in men than in females. In addition, use your answer to make appropriate recommendations to a relevant stakeholder.

OCAD Status	Male	Female
OCAD Present	92	15

Q4: Describe a research scenario for which each of each of the following statistical tests is appropriate for data analysis.
   a) One-factor analysis of variance
   b) Two-factor analysis of variance
   c) Analysis of covariance
   d) Partial correlation
   e) Multiple regression

Q5: Design, generate and analyze the generated data on a research project of public health or biomedical relevance for which independent t-test is an appropriate statistical test.

Q6: Distinguish the following pairs of terms
   a) Accuracy and precision
   b) Statistic and parameter
   c) Type I Error and Type II Error
   d) Alpha and p-value
   e) Null hypothesis and research hypothesis