

**UNIVERSITY OF SWAZILAND**  
**DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND**  
**PLANNING**

**MAIN EXAMINATION PAPER DECEMBER 2014**

**B.A., B.Ed., B.Sc. & BASS**

- TITLE OF PAPER** : **RESEARCH METHODS IN GEOGRAPHY**
- COURSE TITLE** : **GEP 323**
- TIME ALLOWED** : **THREE HOURS**
- INSTRUCTIONS** : **1. ANSWER THREE (3) QUESTIONS.**  
**2. QUESTION 1 IS COMPULSORY.**  
**ANSWER ANY TWO QUESTIONS FROM**  
**SECTION B.**  
**3. WHERE APPROPRIATE, ILLUSTRATE**  
**YOUR ANSWER WITH DIAGRAMS.**
- MARK ALLOCATION** : **QUESTION ONE (1) CARRIES 40 MARKS**  
**THE REST OF THE QUESTIONS CARY 30**  
**MARKS.**

**THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN**  
**GRANTED BY THE INVIGILATOR.**

**GEP 323 RESEARCH METHODS IN GEOGRAPHY- DECEMBER 2014**

**SECTION A: COMPULSORY QUESTION**

**QUESTION 1**

Refer to appendix A for the background to the text on the Tuskegee Syphilis Study. Read the full text and then answer the questions in (i-iv).

- i) Describe the type of research design used in the study. (6 marks)
- ii) Critique the nature of the study's approach given the justification made by the researchers. (8 marks)
- iii) Explain the justification used by the researchers to undertake the study. (6 marks)
- iv) Discuss the ethical issues raised by the study. (20 marks)

**[40 MARKS]**

**SECTION B: ANSWER ANY TWO (2) QUESTIONS FROM THIS SECTION**

**QUESTION 2**

- a) Discuss three factors affecting choice of a sampling design. (10 marks)
- b) With the aid of examples, explain the factors determining sample size. (20 marks)

**[30 MARKS]**

**QUESTION 3**

a) Describe the four scales of measurement. (12 marks)

b)

i) Distinguish between systematic error and random error. (6 marks)

ii) Distinguish between measurement reliability and measurement validity. (12 marks)

**[30 MARKS]**

**QUESTION 4**

‘One output from a research project, and one medium through research findings are disseminated is a written report.

a) Explain what a research report is. (10 marks)

b) Using examples discuss three key aspects to producing a research report. (20 marks)

**[30 MARKS]**

**QUESTION 5**

a) Explain why researchers need to conduct literature reviews. (10 marks)

b) Using examples provide a clearly articulated explanation of the process on how to read and evaluate individual research reports. (20 marks)

**[30 MARKS]**

## APPENDIX: A

### THE TUSKEGEE SYPHILIS STUDY

In the early 1930s, the United States Public Health Service (PHS) began a program aimed at controlling venereal disease in the rural South. When results revealed that 36% of the Macon County Afro-American had syphilis, the results showed the incidence was far higher than the national average. In 1932, the PHS decided to proceed with a follow-up study in Macon County, Alabama. The specific goal was to examine the progression of untreated syphilis in Afro-American males, periodically until their death and then perform an autopsy (post-mortem), to give doctors a chance to study the complete course of syphilis if left untreated. The rationale was that syphilis in black men was different than in white males. The men were black, poor, rural, uneducated and had never seen a doctor in their lives. The study was conducted during the time of racism in the south of the country.

The study was based at the Tuskegee Institute's Medical Teaching hospital. The institute was persuaded to participate by promises of training and employment of its doctors and nurses as well as credit for aiding an important scientific study.

The human subjects were recruited by spreading the word among Black people in the county that volunteers would be given free tests for "bad blood" a term used locally to refer to a wide variety of ailments. The subjects received heavy metals therapy, a standard treatment for syphilis in 1932, but were denied antibiotic therapy when it became clear in the 1940s that penicillin was a safe and effective treatment for the disease. When penicillin became widely available by the early 1950s as the preferred treatment for syphilis, this therapy was again withheld.

The subject group was composed of 600 African-American men, 399 of whom had been diagnosed as having syphilis and 201 controls. The subjects were not informed that they had syphilis or given information about what syphilis was, how it was transmitted, how it was treated and how it could be treated.

Eunice Rivers, an Afro-American PHS nurse assigned to monitor the study, soon became a highly trusted figure within the subject community. She was largely responsible for assuring the cooperation of the participants throughout the duration of the study. She was aware of the goals and requirements of the study, including the failure to fully inform the participants of their rights and to deny treatment for syphilis. The subjects received heavy metal therapy, standard treatment in 1932, but were denied antibiotic therapy when it clear in the 1940s that penicillin was safe and effective treatment for the disease. When penicillin became widely available by the early 1950s as the preferred treatment for syphilis, this therapy was again withheld from participants.

The medical community was aware of the study. The first published report of the study appeared in 1936, with subsequent papers issued every four to six years until the early 1970s. The investigating doctors never questioned the morality of the study and no comprehensive report was ever published. Indeed, the state of Alabama where Macon County

is located had passed a law in 1927 that required the reporting and treatment of several venereal diseases including syphilis by medical personnel. Thus the PHS ignored the state law, choosing to disregard the impact of untreated syphilis on wives of the married who were the subjects.

In July 25, 1972 an Associated Press reporter Jean Heller in her article entitled "*Human guinea pigs: syphilis patients died untreated*" appeared in the Washington Star and alerted the nation and the world to the existence of the study. Heller's revelations elicited broad-based public outrage which finally brought the study to an immediate end, 40 years after its inception and nearly 20 years after penicillin had become standard treatment for syphilis. In the media, the study was described as "the longest nontherapeutic experiment on human beings in medical history."

At the time, 74 of the test subjects were still alive. Accurate records were not kept, but it is estimated that at least 28 but perhaps more than 100 had died directly from advanced syphilis. The United States Federal Government was sued and in 1992, a total settlement of US\$10 million was distributed to participants according to whether they were still alive and whether they had been part of the syphilitic or control group. President Clinton publicly apologized on behalf of the federal government to the handful of study survivors in August 1997.

*(Source: Adapted from Heintzelman, C.A. (2003) Vol.10.No.4)*