



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

SECOND YEAR FIRST TRIMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN GLOBAL HEALTH**

COURSE CODE: NCG 225

COURSE TITLE: MEDICAL GEOGRAPHY

DATE: 04/10/2022

TIME: 3PM - 6PM

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in this paper.

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over.

MULTIPLE CHOICE QUESTIONS

(20 MARKS)

1. Validity stands for;

- a) accuracy
- b) reliability
- c) consistency
- d) all

2. John Snow located source of;

- a) cholera
- b) typhoid
- c) plague
- d) All

3. Constant presence of disease in an area during a period of time is:

- a) endemic
- b) epidemic
- c) sporadic
- d) pandemic

4. The type of epidemiology study in which individuals are identified according to exposure and followed to determine subsequent disease risk is known as:

- a) Case control study
- b) Cohort study
- c) Cross sectional study
- d) Ecological study

5. Relocation diffusion:-

- a) A combination of contagious, hierarchical and network diffusion
- b) Is a spatial spread process, whereby the disease leaves the areas in which it originated as it moves into new areas
- c) Occurs when a disease spreads via transportation and social networks
- d) Disease may intensify in the originating region and then diffuses outwards to new areas

6. _____ spread involves the spread of disease through an ordered sequence of classes or places.

- a) Contagious
- b) Radial
- c) Network
- d) Hierarchical

7. . Prevalence refers to :-

- a) Number of new cases of a disease in a population per unit time

- b) Total number of cases in a population at a given time
- c) Number of cases occurring during a specific period; always dependent on the size of the population during that period
- d) group of cases in a specific time and place that might be more than expected.

8. Medical geographers and Epidemiologists use a model for studying infectious disease and its spread that involves the microbe that causes the disease, the organism that harbors the disease, and the external factors that cause or allow disease transmission. This is also known as:-

- a) Host, vector, and transmission.
- b) Transmission, host, and environment.
- c) Host, agent, and environment.
- d) Organism, transmission, and environment

9. The following three elements have to occur to form a carrier state in a human being except:-

- a) The presence in the body of the disease agent.
- b) The absence of recognizable symptoms and signs of disease.
- c) The shedding of disease agent in the discharge or excretions
- d) The presence of recognizable symptoms and signs of disease

10. Medical geography:-

- a) Is same as medical epidemiology
- b) It focuses majorly on Geographical Information systems
- c) It is a branch of human ecology
- d) Is a study and application of geography concepts and techniques to health related problems

11. Fundamentals of medical geography include:-

- a) Place ,health,environment
- b) Place,health,well being
- c) Place,health,pathogen
- d) Environment,host,Agent

12. Applications of medical geography include all of the following except:-

- a) Geographical information systems
- b) Remote sensing technologies
- c) Life span measurement
- d) Wellness assessment

13. Which of the following spatial techniques best describes concentrations of incidents within a limited geographic area that appear over time:

- a) Spatial analysis
- b) Hotspot Analysis
- c) Disease mapping
- d) Weighted overlay analysis

14. HIV/AIDS spread can be best categorized as:

- a) Network diffusion
- b) Contagious diffusion
- c) Hierarchical diffusion
- d) Mixed diffusion

15. Disease maps:-

- a) Can identify environmental feature that allows the determination of risk factors and delineation of areas of risk
- b) Can quantify the associations between the disease risk variables
- c) Are able to model disease in relation to environmental variables
- d) Show historic outbreak of diseases and the source areas of diseases

16. Environmental or Ecological Models:-

- a) Aim at understanding or explaining the implication of space, distances and time, regarding to the spread of diseases.
- b) They are concerned about the spatial processes involved in the spread and flow patterns of diseases, the journey to medical institutions and utilization of health facilities
- c) Are models that try to explain the occurrence of the incidence of disease on the basis of environmental associations and causations
- d) Are concerned with the actual behaviours involved in the vector-host agent relationships in the occurrence of diseases

17. Which of the following statement is inaccurate:-

- a) Expansion diffusion occurs when a disease spreads from one source place to another
- b) Lassa fever virus is an example of Expansion diffusion
- c) GIS systems are helpful Tracking the Spread of Infectious Disease
- d) Case control studies refers to the incidence of a disease in one geographical area is compared to that of another area

Indicate whether True or False

18. Disease diffusion refers to the spread of disease from its source into new areas

19. Geographic Information systems can also be applied in the area of identifying and predicting spread patterns of diseases and those patterns used to curb future patterns of disease spread.

20. Case control studies refers to the incidence of a disease in one geographical area is compared to that of another area

SAQS

1. Define the following terms:

(8 marks)

- a) Cohort study
- b) Remote sensing technologies

c) Disease ecology

d) Map Info

2. Describe the three Models and Approaches to Medical Geography (8 marks)

3. State the importance of learning medical geography (6 marks)

4. Using relevant examples, Differentiate Contagious diffusion and Hierarchical diffusion (8 marks)

5. Discuss how ecological and demographic changes influence health (10 marks)

LONG ANSWER QUESTIONS (40 Marks)

1. Discuss how medical geography as a discipline contributes to health and health care (20 marks)

2. Discuss the benefits and application of Geographical information systems in health industry. (20 marks)

