

OBAFEMI AWOLowo UNIVERSITY, ILE - IFE, NIGERIA.

FACULTY OF SCIENCE

DEPARTMENT OF MICROBIOLOGY

B.Sc. (Microbiology) Degree Examination.

SEMESTER: Harmattan 2010/2011 Session

Date: 2<sup>nd</sup> August, 2011

COURSE CODE: MCB 405

Time allowed: 2% hours

COURSE TITLE: Principles of Epidemiology and Public Health

INSTRUCTION: Answer all questions with each section in a separate booklet.

SECTION A

- 1a. Write true or false.
- i. The contagion theory had its origin in the success of the ancient practice of isolating ill people.
  - ii. The discovery of the antibiotics at the end of 19<sup>th</sup> century led to bacteriological paradigm dominating epidemiology and public health.
- b. Which of this is not true?
- a. Epidemiology is closely associated with the idea of fighting epidemics.
  - b. Epidemiology literally means "the study of what is upon the people".
  - c. Epidemiology is the study of the distribution and determinants of health-related states in human populations.
  - d. Epidemiology is tracking the incidence and patterns of disease
  - e. Epidemiology is the study of the control of health problems in an individual
- c. Which of this is not true of the two critical cell surface proteins of Influenza virus?
- a. Neuraminidase binds specific receptors on red blood cells
  - b. Binding of the red blood cells causes clumping called agglutination
  - c. Neuraminidase also acts to degrade mucous in the animals lungs and airways
- d. Mention 4 factors which influence the likelihood of becoming infected with an agent of disease.
- 2a. Outbreaks are often detected through various sources, list sequentially, the steps of an outbreak investigation.
- b. Why are cohort studies not feasible in most outbreaks?
  - c. Which study design is used in these instances?

- d. Differentiate between antigenic drift and antigenic shift?
- e. Polymerase chain reaction-literarily means "DNA photocopying" list the contents of a tube ready for PCR reaction.
- f. Briefly describe the three basic steps of conventional PCR.

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3. The data in the table below was generated from an outbreak of gastroenteritis among the people who attended a wedding ceremony at Iyanfoworogi.

Food	Number of people who ate specified item				Number of people who did not eat specified item			
	ill	Well	Total	Attack Rate %	Ill	Well	Total	Attack Rate %
Egusi soup + Iyan	26	17	43		20	12	32	
Jollof rice	23	14	37		23	14	37	
Cabbage salad	18	10	28		28	19	47	
Five Alive	19	12	31		27	17	44	
Water	13	11	24		33	18	5	
Burukutu	43	11	54		3	18	21	

- i. Which item shows the highest attack rate?
- ii. Calculate the relative risk in this instance?

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## SECTION B.

- 1a. Discuss pathogen's virulence in relation to its mode of transmission.
- b. Describe any 5 zoonotic diseases with respect to their etiological agents, animal hosts and mode of transmission.
- 2a. Write briefly on the course of an infectious disease.
- b. Differentiate between epidemic and pandemic.
- c. Using chart only, describe the chain of infectious disease of a **named** pathogen.
3. Assuming there is an outbreak of an infectious disease of unknown aetiological agent in a particular community, how and in what ways will an epidemiologist come to the rescue?

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