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**University Examinations 2015/2016**

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE

OF BACHELOR OF SCIENCE IN

PUBLIC HEALTH

**HPC 3200: EPIDEMIOLOGY 1**

 **DATE: NOVEMBER 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Epidemiology is the foundation of public health, define the term epidemiology and briefly explain the major components of the definition. (6 Marks)
2. Using illustrations ,differentiate between the epidemiologic triangle of disease and the iceberg concept of disease (10 Marks)
3. Briefly explain the concept of “herd immunity” and the state 3 requirements for the herd immunity (5 Marks)
4. Define incidence rate and prevalence rate ,and with diagram briefly explain the relationship between the two (5 Marks)
5. The cause of disease is an event or condition or characteristic, which plays an important role in producing a disease .briefly describe the two classifications of causes of disease (4 Marks)

**QUESTION TWO (20 MARKS)**

1. Differentiate between an epidemic ,endemic and pandemic disease (4 Marks)
2. Discuss briefly the importance of outbreak investigation (6 Marks)
3. Discuss the common steps in the investigation of outbreaks (10 Marks)

**QUESTION THREE (20 MARKS)**

1. Differentiate between a screening and diagnostic test (4 Marks)
2. Define validity and reliability (2 Marks)
3. Briefly discuss sensitivity and specificity of diagnostic and screening tests

 (2 Marks)

1. In a village A, the prevalence of anaemia is 15%. The population of the village is 500.A local pharmaceutical company develops a new rapid screening test for anaemia and test for anaemia and tests it in the village .The test is able to pick out 10% of the population as having anaemia and 80% as not having anaemia

Using the above information, calculate

1. The sensitivity and specificity of the test. (6 Marks)
2. The positive and negative predictive values of the test (6 Marks)

 **QUESTION FOUR (20 MARKS)**

1. Discuss using a time-line diagram the natural history of disease (10 Marks)
2. Describe methods that can be used to
3. Identify the onset of disease (3 Marks)
4. Identify the endpoints of a disease (2 Marks)
5. Express the prognosis for a disease (5 Marks)