

TEST MODEL FOR THE CURRENT EVALUATION OF THE COURSE
“SOCIAL MEDICINE AND HEALTH MANAGEMENT”

MID-TERM TEST NR. 1 “DEMOGRAPHY & MORTALITY”

Part I : Introduction to demography

The size of population on January 1, 2014 is 5000 persons. In 2014, 150 deaths, 100 births, 50 in-migrations and 60 out-migrations were registered. Calculate:

- a) Size of population on January 1, 2015 (0.5 point)
- b) Net migration (0.5 point)
- c) Crude rate of emigration (0.5 point)
- d) Crude rate of natural increase (0.5 point)
- e) Population growth rate (1 point)

Maximum 3 points _____

Part II : Mortality

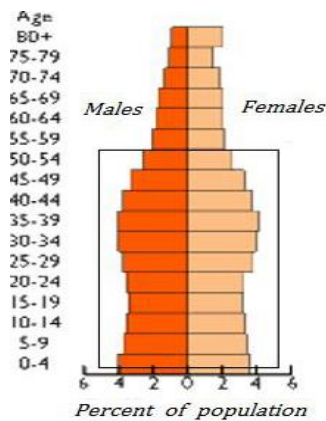
The total size of a mid-year population in 2014 is 650.800 persons, including 357.940 females. In 2014, 7.200 deaths were registered, including 4.000 deaths in females. In this year, 6.500 live-births and 200 still-births were registered. Among the total of deaths, 80 deaths were registered in the age group under one year, including 55 deaths during the first 28 days and 20 deaths during the first week after birth. Calculate:

- a) Crude death rate (0.5 point)
- b) Gender specific death rate in males (0.5 point)
- c) Still-birth mortality rate (0.5 point)
- d) Late neonatal mortality rate (1 point)
- e) What other rates can be calculated (name *at least* two) (1 point)

Maximum 3.5 points _____

Part III : Population structure by sex and age

Look at the following population pyramid: a) What is its type? b) What are the crude birth and c) death rates and d) life expectancy at birth in this country? e) What is the population growth in this country?



- a) _____ (1 point)
- b) _____ (0.5 point)
- c) _____ (0.5 point)
- d) _____ (0.5 point)
- e) _____ (1 point)

Maximum 3.5 points _____

MID-TERM TEST NR. 2 "MORBIDITY"

Problem 1

On January 1 2014, 3000 persons living in a region X were screened for Hepatitis C infection, and 55 persons were found Hepatitis C positive. On January 1 2015, the same group of 3000 persons were screened for Hepatitis C infection. This time, 70 persons were found Hepatitis C positive, including 55 persons who were positive on the first screening. Nobody died or left this region.

Calculate:

- a) Point prevalence of Hepatitis C on January 1, 2015
- b) Incidence risk of developing hepatitis C in 2014
- c) Incidence odds of developing hepatitis C in 2014

Problem 2

An outbreak of gastroenteritis occurred at a school with the total number of students of 840. Fifty-five students reported symptoms including vomiting and diarrhea. The table below provides information on the number of students and the number reporting illnesses by sex.

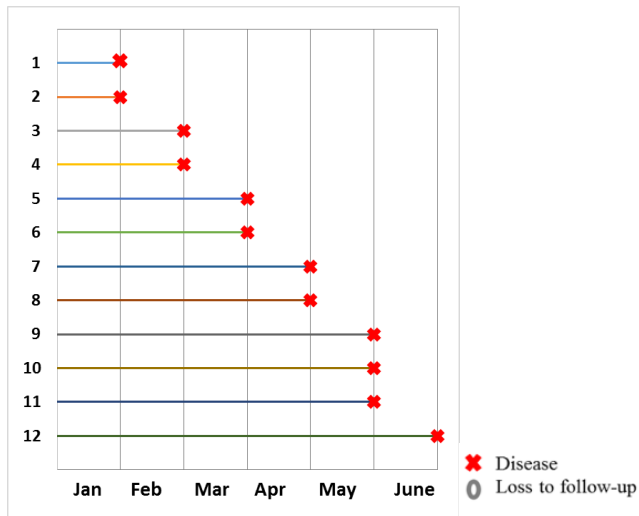
Residence	Number of students	Number of cases
Boys	400	30
Girls	440	25
Total	840	55

Calculate:

- a) Incidence risk of gastroenteritis among all the students
- b) Proportion of total cases occurring in boys

Problem 3

For the example set of data presented in Figure below, calculate time at risk (person-months) spent by each individual in the study and incidence rate (incidence density) of developing a disease between January 1 and July 1.



Calculate:

a) Total time at risk

b) Incidence rate:

Professor in charge of the international students

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