Epidemiology Exam 3

1. Under-five mortality refers to:
a. The probability of dying within the first month of life.
b. The probability of dying before the fifth birthday
c. The difference between infant and neonatal mortality.
d. The probability of dying between the first and fifth birthdays.

2. Which of the following statements is true about measures of central tendency/dispersition
a. The mode is the most useful measure of location
b. Variance is the square root of standard deviation
c. The mean is affected by extreme/outliers while the median and mode are not
d. The median is not very important in skewed data

3. Range is not a better measure of dispersion or variability in a data set. Why?
a. Range is only applied to binomial distributions
b. It is only good for skewed data
c. It is never used to measure variability
d. the range provides a misleading measure of spread since it relies on the extreme values only i.e. maximum and minimum values

4. Define sensitivity of a test as used in validating a screening test in epidemiology
a. the proportion of truly ill people in the screened population who are identified as ill by the screen test i.e. probability of positive test in people with the disease
b. the proportion of truly healthy people in the screened population who are correctly identified as healthy by the screening test i.e. probability of a negative test in people without the disease
c. proportion of all test negatives that are true negatives; i.e., probability of the person not having the disease when the test is negative
d. proportion of all test positives that are true positives; i.e, probability of a person having a disease when the test is positive

5. All are properties of the mean, median and mode. Which one is not:
a. The mean is sensitive to outliers while the median and mode are not
b. All the three measures of location are equal for a symmetric distribution while in skewed data, they differ
c. The mean is not sensitive to outliers while the median and mode are
d. The mode and median may be found graphically while the mean is calculated

6. Natural immunity, which eliminates the need for further immunization against disease is conferred by which of the following diseases
a. Polio
b. Influ
c. Tetanus
d. Measles

7. The aim of control of communicable diseases is to “tip the balance against disease agent.”

One way of achieving this is by attacking the source or reservoir. The approaches applied to achieve this include:
a. Environmental sanitation, personal hygiene, disinfection, and vector control
b. Immunization, personal protection, chemoprophylaxis and better nutrition,
c. Treatment, diagnosis, reservoir control, better nutrition and isolation
d. Notification, surveillance, treatment, diagnosis, reservoir control and isolation

8. Epidemics mean that a disease:
a. Is habitually present in human population
b. Affects a larger number of countries simultaneously
c. Exhibits a seasonal pattern
d. Occurs clearly in excess than the normal expectancy in a specific region

9. Post-neonatal mortality is a measure of mortality which refers to
a. The probability of dying within the first month of life
b. The difference between infant and neonatal mortality
c. The probability of dying before the first birthday
d. The probability of dying between the first and fifth birthdays

10. The principles of TB control include:
a. To detect, isolate and treat cases of the disease ensuring drug adherence
b. To have mass treatment in the community
c. To quarantine close contacts of cases in one place
d. To involve on the cases in control efforts

11. The following statements are true of epidemiologic transition
a. Describes the transition from high birth and death rates to low births and death rates
b. Describe the natural history of disease
c. Describes a shift from having communicable diseases to having non-communicable diseases or both
d. It is a qualitative discipline concerned with analyses of demographic processes

12. Zoonoses are diseases and infections which can be transmitted naturally from vertebrate animals to man. Rodents are animal hosts for the following zoonotic diseases
a. Hydatid disease and plague
b. Plague and leptospirosis
c. Yellow fever and leptospirosis
d. Rabies and plague

13. The following is true about cholera. Which one is not
a. Man is the only documented natural host
b. Person to person spread is a common mode of transmission
c. It’s transmitted through faeco-oral route
d. Cholera vaccination is mandatory for international travel

14. Endemic means that the disease:
a. Occurs clearly in excess than the normal expectancy in a specific region
b. Is habitually present in human population
c. Affects a larger number of countries simultaneously

d. Exhibits a seasonal pattern
e. Is prevalent among animals

15. Below are 4 broad purposes of epidemiology. Which one is not:
a. Understanding the causal mechanisms of disease
b. Enabling interventions to be made in areas where disease has occurred
c. Explain local disease occurrence/patterns
d. Provide guidance in the administration of health services

16. The following statements concerning malaria are true eccept:
a. Chemoprophylaxis is a method of prevention
b. Residual insecticides forms part of the control measures
c. Malaria is rarely fatal even when untreated in the non-immune persons
d. Mass treatment of the entire population is recommended in Africa

17. A random sample is one in which:
a. All the elements have an equal chance of selection
b. A chance method was not used to select the elements included in the sample
c. Both A and B
d. Neither A nor B

18. Transmission of the following diseases occur through direct contact:
a. Scabies amoeba
b. Scabies and plague
c. Pneumonia and scabies
d. scabies and pediculosis

19. Natural history of a disease
a. is study of disease origin or disease causation in a population
b. Is the resistance of a group of people to an attack by a disease to which many are immune
c. Is a disease whose occurrence is worldwide
d. is the description of the uninterrupted progression of a disease in an individual from exposure until recovery, disability of death

20. Convalescent carrier is:
a. Is a person who harbors and disseminates the causative agent/organism and yet shows no clinical evidence/sign of infection
b. Is a person who has recovered from an attack of a particular disease
c. Is a person who has recovered from an attack of a particular disease but continues to harbor the causative agent/organism
d. Is a person actually in the incubation period of the disease

SECTION B: SHORT ESSAY QUESTIONS (Answer all questions in this section) (8 marks each)
1. The data below shows the body surface area (m2) of patient with severe airflow limitations.
2.10 1.74 1.68 1.83 1.57 1.71 1.73
1.65 1.74 1.57
Using these data, compute:
a) Mean
b) Median

c) Mode
d) Variance
e) Standard deviation
2. Explain any four criteria for a screening programmes
3. Write short notes on cohort study design
4. Elucidate the concept of health-illness continuum using a diagram

5. Using epidemiologic triad/triangle, explain the patterns of communicable diseases

SECTION C: LONG ESSAY QUESTIONS (Answer any 2 question) (40mks)
1. a) The chain of infection of communicable disease occurs as a result of the interaction between the infectious agent, host and the environment. Write short notes on infectious agent, susceptible host and environment indication the interaction amongst these factors (15mks)
b) Define transmission cycle and give the two transmission routes in communicable disease control (5mks)

2. Identify five sources of health statistics or information and discuss their strengths and weaknesses(20mks)