TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF MEDICAL SCIENCES
UNIVERSITY EXAMINATION FOR:
DMLS
APH 2304 : EPIDEMIOLOGY & DISEASE CONTROL
END OF SEMESTER EXAMINATION
SERIES: AUGUST 2019
TIME: 2 HOURS
DATE: Pick Date Aug 2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO** Section(s). Attempt ALL questions.

Circle the correct answer in section A.

SECTION A

1. This statistic is used to estimate the risk of acquiring a disease. It may be measured as a rate or
   a. proportion
   b. Prevalence
   c. Incidence
   d. Mortality rate
2. A population of 500 persons was followed for a period of one year. 20 had the disease of interest at baseline. Another 30 new cases developed during the period of follow up. Calculate point prevalence at the start and prevalence for the year
   a. 6, 10
   b. 4, 10
   c. 5, 12
   d. 4, 12
3. Which of the following is a useful measure that reflects severity of an acute infectious disease
   a. Case fatality rate
   b. Incidence rate
   c. Prevalence
   d. Morbidity rate
4. Which one of the following statement is true?
   a. Low cure rate can reduce the prevalence of a disease
   b. High case fatality can increase the prevalence of a disease
   c. Both ‘a’ and ‘b’ are true
   d. High cure rate and high case fatality can reduce the prevalence of a disease
5. Which of the following must be considered while measuring disease occurrence?
   a. The number of people affected by the disease

b. The population size from which the cases of disease arise
c. The length of the time that the population is followed
d. All the above

6. Which of the following measure reflects the impact of a disease on population in terms of death
    a. Incidence density
    b. Cure rate
    c. Disease specific mortality
    d. Attack rate
7. While measuring the frequency of a chronic disease in a community in terms of Incidence per 1000 persons per year, and point prevalence per 1000 persons, what is the expected pattern of incidence and prevalence?
    a. Low prevalence, high incidence
    b. High prevalence, low incidence
    c. Both prevalence and incidence will be similar
    d. None of the above statements are true
8. _____ is also referred to as "Attack rate"
    a. Case fatality
    b. Mortality rate
    c. Cumulative incidence
    d. Period Prevalence
9. In a study among 5420 children aged 3-5 years, 27 children were diagnosed with autistic disorder. Calculate the prevalence of autism per 1000 children
    a. 5.01
    b. 5.53
    c. 3.35
    d. 4.98
10. Measures of disease frequency which measure the rapidity with which new cases occur in a population are?
    a. Incidence rate and prevalence
    b. Cumulative incidence and incidence rate
    c. Cumulative incidence and prevalence
    d. Incidence rate and mortality rate
11. Which is the unit of analysis in the ecological study
    a. Individual
    b. Group
    c. Both 'a' and 'b'
    d. None of the above
12. Which of the following study design(s) is useful for describing uncommon clinical manifestations
    a. Case reports
    b. Case series
    c. Both 'a' and 'b'
    d. Ecological study
13. Case reports can include presentation of
    a. Unique features/symptoms of a disease
    b. Rare manifestation of common disease
    c. New or unfamiliar diseases
    d. All the above
14. Which one of the following is useful to measure the burden or magnitude of health condition?

a. Case-control study
b. Cross-sectional study
c. Case report
d. Case series

15. Which of the following is wrong about descriptive study designs?
    a. Describe the study outcome for 1 group
    b. Compare the study outcomes for 2 group
    c. Calculate the incidence for surveillance data
    d. Calculate prevalence for cross-sectional study
16. Descriptive epidemiology study designs can answer all of the following questions EXCEPT:
    a. Who?
    b. When?
    c. Where?
    d. Why?
17. Which one of the following study designs does not employ comparison groups to answer the primary study objective?
    a. Cross-sectional study
    b. Cohort study
    c. Ecological study
    d. Case-control study
18. Unit of observation in the cross-sectional study
    a. Individual
    b. Group
    c. Both ‘a’ and ‘b’
    d. None of the above

19. The period between exposure and first symptoms is the:
    a. stage of susceptibility
    b. subclinical stage of disease
    c. stage of clinical disease
    d. stage of disability
20. Which stage of prevention is intended to reduce complications and disabilities.
    a. primary prevention
    b. secondary prevention
    c. tertiary prevention
    d. All the above
21. The “natural history of disease” refers to:
    a. the progress of a disease in an individual over time
    b. the period between exposure and first symptoms
    c. the period from first symptoms to recovery, disability, or death
    d. the broad scope of manifestations of a disease in different individuals
22. A disease that occurs rarely and without regularity is said to be:
    a. sporadic
    b. endemic
    c. epidemic
    d. pandemic

23. A particular infectious disease can display a broad scope of manifestations and severities. This is known as the:
    a. incubation period
    b. gradient of infection
    c. endemic level of disease
    d. stage of susceptibility
24. Indirect and direct causes of disease may form a complex network of events that determines the level of disease in a community. The complex inter-relation of events is called the:
    a. necessary cause of disease
    b. iceberg phenomenon
    c. causal web
    d. *caeteris parabus*

25. The "epidemiologic triad" includes all of the following *except*:
    a. agent
    b. host
    c. environment
    d. behavioral factors

26. Which of the following is a mechanical vector?
    a. Reduviid bug
    b. Phlebotomus sandfly
    c. *Musca domestica*
    d. *Ixodes scapularis*

27. The increase in the ability of a biologic agent to enter a host is called:
    a. infectivity
    b. pathogenicity
    c. virulence
    d. toxicity
28. Submicroscopic infectious agents that contain their own genetic material but are incapable of multiplying outside of the host are:
    a. protozoans
    b. bacteria
    c. viruses
    d. prions
29. Which of the following can act as reservoirs?
    a. animals
    b. carriers
    c. cases
    d. all of the above
30. Which of the following is an *active* form of immunization?
    a. Maternally-derived antibodies
    b. Anti-venoms
    c. Immune-serum
    d. Vaccination

31. While manifesting no discernable signs or symptoms are called:
    a. portals
    b. vectors
    c. vehicles
    d. carriers

32. Diseases with animal reservoirs are called:
    a. outbreaks
    b. portals
    c. nosocomial infections
    d. zoonoses
33. A convalescent carrier is:
    a. a person who transmits the agent prior to the onset of disease
    b. an animal carrier
    c. an infected person who has recovered from
    disease but still harbors and transmits the agent
    d. none of the above
34. An animal (usually an insect) that serves to transmit an agent is called a:
    a. vehicle
    b. vector
    c. carrier
    d. paratenic
35. A disease with a urogenital portal is a:
    a. zoonotic disease
    b. sexually transmitted disease
    c. nosocomial disease
    d. vertical transmitted disease
36. A disease that is spread from human to human or from humans to animal in sequence demonstrates:
    a. common vehicle spread
    b. serial transfer
    c. droplet nuclei transmission
    d. Zoonotic transfer
37. The water borne transmission of cholera via the Broad Street pump is an example of:
    a. common vehicle spread
    b. serial transfer
    c. droplet nuclei transmission
    d. propagated transmission

38. Which of the following is NOT associated with hypertension?
    a. High cholesterol
    b. High amounts of vegetables in the diet
    c. High body mass index
    d. Lack of exercise
39. Which of the following is the leading cause of cancer death for women globally?
    a. Stomach cancer
    b. Lung cancer
    c. Breast cancer
    d. Ovarian cancer

40. Which of the following types of cancer in women may be prevented by the human papillomavirus vaccine?
    a. Urinary bladder
    b. Cervical
    c. Ovarian
    d. Uterine

Section B

41. a) State six factors that are involved in the chain of transmission of communicable diseases. (6mks)
    b) Describe the three levels of disease prevention. (14mks)
42. a) Highlight five differences between communicable and non-communicable diseases (5mks)
    b) List five communicable diseases and five non-communicable diseases (10mks)
    c) Outline the five pillars of WHO's approach to cancer (5mks)
43. Discuss the major variables in descriptive epidemiology (20mks)