1. What are *Koch's postulates*?
   Experimental steps used to prove the case of an infectious disease

2. What does *etiologic agent* mean?
   Causative agent (the agent causative of an infectious disease)

Matching

D. Pathogen
B. Pathology
A. Pathogenesis
C. Etiology

A. The manner in which a disease develops
B. The scientific study of disease
C. The cause of a disease
D. Disease-causing microorganism

3. What are the 3 concerns of pathology?
   - etiology
   - pathogenesis
   - structural and functional changes brought about by disease & their final effects on the body

4. Differentiate between infection and disease.
   Infection → invasion/colonization of the body by pathogens
   Disease → an abnormal state in which part or all of the body is not functioning normally

5. What is the *normal flora* or *normal microbiota*?
   Microbes that engage in mutual associations but don't penetrate into the host's sterile tissues

6. List and describe the types of symbiosis.
   - commensalism → one organism benefits, the other in not affected
   - mutualism → both organisms benefit
   - parasitism → one organism benefits at the expense of the other

7. What is microbial antagonism?
   The competition between microbes

8. Endogenous infections occur when normal flora is introduced to a site that was previously sterile.

9. Define the following:
   - True pathogens → capable of causing disease in healthy persons with normal immune defenses

   - Opportunistic pathogens → cause disease when the host's defenses are compromised or when they grow in part of the body that is not natural to them

10. What factors weaken a host's defenses?
    - old age / extreme youth
    - genetic / acquired defects in immunity
    - surgery / organ transplants
    - organic disease (cancer, liver malfunction, diabetes)
    - chemotherapy / immunosuppressive drugs
    - physical / mental stress
    - other infections

11. List and describe the 5 distinct stages of clinical infections.
    1. Incubation period → time from initial contact with the infectious agent to the appearance of first signs / symptoms
    2. Prodromal stage → vague feelings of discomfort; nonspecific complaints; early mild symptoms; general aches
    3. Period of illness → multiplies at high levels, becomes well-established; more specific signs / symptoms
    4. Period of decline → signs / symptoms subside
    5. Convalescent period → person regains strength; recovers

12. Describe the different patterns of infection.
    * localized infection → microbes enter the body and remain confined to a specific tissue
    * systemic infection → infection spread to several sites and tissue fluids usually in the bloodstream / lymph
    * focal infection → when infectious agent breaks loose from a local infection and is carried to other specific tissues, where it becomes confined

13. What are the earliest signs/symptoms of a disease?
    Fever, pain, soreness, swelling, diarrhea, vomiting

14. Differentiate between *symptom*, *sign*, and *syndrome*.
    Symptom → a change in body function that is felt by a patient
    Sign → a change in a body that can be measured / observed
    Syndrome → a specific group of signs & symptoms that accompany a disease

15. Sepsis is a toxic inflammatory condition arising from the spread of microbes from a focus of infection.

16. What is *septicemia*?
    A systemic infection arising from the multiplication of pathogens in the blood

17. What are the possible ways the blood can change during an infection?
    - leukocytosis → increase in white blood cells
    - leukopenia → decrease in white blood cells
    - bacteremia → bacteria present in blood
    - viremia → viruses present in blood
    - toxemia → presence of toxins in blood

18. An asymptomatic (subclinical) infection is when the host doesn't show any signs of disease when they are infected.

19. What is *latency*?
    After the initial symptoms in certain chronic disease, the microbe can periodically become active and produce a recurrent disease (person may or may not shed it during the latent stage)

20. Define the following:
    - Reservoir → primary habitat of pathogen in the natural world (human or animal carrier, soil, water, plants)

    - Source → individual or object from which an infection is actually acquired

21. What are living human reservoirs?
    Carrier → person who inconspicuously shelters a pathogen & spreads it to others; may or may not have experienced disease due to the microbe
    Asymptomatic carrier → shows no symptoms
    Incubation carrier → spreads the infectious agent during incubation period
    Convalescent carrier → recuperating without symptoms
    Chronic carrier → individual who shelters the agent for a long period
    Passive carrier → contaminated healthcare provider who is not infected, but picks up pathogens and transfers them to other patients

22. Explain the difference between *biological vectors* and *mechanical vectors*.
Biological vectors → actively participate in a pathogen's life cycle
Mechanical vectors → not necessary to the life cycle of an agent; merely transports without being infected

23. A zoonosis is an infection indigenous to animals but naturally transmissible to humans.

24. What is a *communicable disease* and a *non-communicable disease*?
Communicable disease → when infected host can transmit the infectious agent to another host & establish infection in that host
Non-communicable disease → infectious disease does not arise through transmission from host to host

25. List the ways of transmission.
Direct contact
Indirect contact

26. What are nosocomial infections?
Diseases that are acquired or developed during a hospital stay

27. What is epidemiology?
The study of the frequency and distribution of disease

28. What is the difference between prevalence and incidence?
Prevalence → total number of existing cases with respect to the entire population
Incidence → measures the number of new cases over a certain time period

29. Morbidity rate is the number of people afflicted with a certain disease, while mortality rate is the total number of deaths in a population due to a certain disease.

30. Define the following terms.
- Endemic → disease that exhibits a relatively steady frequency over a long period of time in a particular geographic locale
- Sporadic → when occasional cases are reported at irregular intervals
- Epidemic → when prevalence of a disease is increasing beyond what is expected
- Pandemic → epidemic across continents

31. What is an *emerging infectious disease*?
    A new or changing disease showing an increase in incidence in the recent past or a potential to increase in the near future

32. List some examples of emerging diseases.

33. What are the emerging infectious diseases contributing factors?

34. Explain how to classify infectious diseases.

35. List and define the terms that describe the different occurrences of a disease?

36. Arthropods (especially fleas, ticks, and mosquitos) transmit diseases by two general methods. What are the methods of these vectors?