

Microbiology / Active Lecture Questions

Chapter 1 – Microbial World & You

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2 Which of the following is a scientific name?

- a. Mycobacterium tuberculosis
- b. Tubercle bacillus

3 Which of the following is not a characteristic of bacteria?

- a. are prokaryotic
- b. have peptidoglycan cell walls
- c. have the same shape
- d. grow by binary fission
- e. have the ability to move

4 Which of the following is the most important element of Koch's germ theory of disease? The animal shows disease symptoms when

- a. the animal has been in contact with a sick animal.
- b. the animal has a lowered resistance.
- c. a microorganism is observed in the animal.
- d. a microorganism is inoculated into the animal.
- e. microorganisms can be cultured from the animal.

5 Recombinant DNA is

- a. DNA in bacteria.
- b. the study of how genes work.
- c. the DNA resulting when genes of two different organisms are mixed.
- d. the use of bacteria in the production of foods.
- e. the production of proteins by genes.

6 Which of the following statements is the best definition of biogenesis?

- a. Nonliving matter gives rise to living organisms.
- b. Living cells can only arise from preexisting cells.
- c. A vital force is necessary for life.
- d. Air is necessary for living organisms.
- e. Microorganisms can be generated from nonliving matter.

7 Which of the following is a beneficial activity of microorganisms?

- a. Some microorganisms are used as food for humans.
- b. Some microorganisms use carbon dioxide.
- c. Some microorganisms provide nitrogen for plant growth.
- d. Some microorganisms are used in sewage treatment processes.
- e. all of the above

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8 Which of the following would be the essential function performed by bacteria?

- a. control insect populations
- b. directly provide food for humans
- c. decompose organic material and recycle elements
- d. cause disease
- e. produce human growth hormones such as insulin

9 Which of the following is an example of bioremediation?

- a. application of oil-degrading bacteria to an oil spill
- b. application of bacteria to a crop to prevent frost damage
- c. fixation of gaseous nitrogen into usable nitrogen
- d. production by bacteria of a human protein such as interferon
- e. all of the above

10 Which of the following statements is true?

- a. All life requires air.
- b. Only disease-causing organisms require air.
- c. Some microbes do not require air.
- d. Pasteur kept air out of his biogenesis experiments.
- e. Lavoisier was mistaken.

11 Which of the following statements about *E. coli* is not true?

- a. *E. coli* was the first disease-causing bacterium identified by Koch.
- b. *E. coli* is part of the normal microbiota of humans.
- c. *E. coli* is beneficial in human intestines.
- d. A disease-causing strain of *E. coli* causes bloody diarrhea.
- e. none of the above

12 The current system of nomenclature for organisms was established by

- a. Pasteur
- b. Jenner
- c. Linnaeus
- d. Koch

13 Archaea, often found in extreme environments, are divided into

- a. Three main groups
- b. Two main groups
- c. Four main groups
- d. Five main groups

14 Eukarya includes all of the following EXCEPT

- a. Viruses
- b. Protists
- c. Fungi
- d. Animals

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15 Robert Koch

- a. Developed the microscope
- b. Discovered penicillin
- c. Developed the germ theory of disease
- d. First observed cells

16 Pasteur

- a. Disproved spontaneous generation
- b. Discovered penicillin
- c. Discovered phagocytosis
- d. Developed aseptic surgery

17 Ehrlich

- a. Disproved spontaneous generation
- b. Discovered penicillin
- c. Discovered phagocytosis
- d. Developed the theory of immunity

18 Who first used microscopes to observe microorganisms?

- a. Koch
- b. Jenner
- c. Pasteur
- d. Van Leeuwenhoek

19 Gram is associated with

- a. Fermentation
- b. The germ theory
- c. Staining techniques
- d. The cell theory

20 Salvarsan was developed by

- a. Ehrlich
- b. Fleming
- c. Weizmann
- d. Needham

21 Who developed a set of postulates to prove that specific microorganisms cause disease?

- a. Jenner
- b. Gram
- c. Pasteur
- d. Koch

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22 All of the following provide a natural first line of defense against disease EXCEPT

- a. Interferon
- b. Penicillin
- c. Skin
- d. Mucous membranes

23 An example of a hemorrhagic fever virus is the

- a. Marburg virus
- b. Human immunodeficiency virus
- c. BSE
- d. West Nile virus

24 Paul Berg is associated with

- a. Chemotherapy
- b. Recombinant DNA
- c. Immunology
- d. Virology

25 Biotechnology can best be defined as

- a. Using living organisms to clean up pollution
- b. Using living organisms to develop desired products
- c. Using living organisms to treat disease
- d. Using living organisms to control pests

26 Cryptosporidiosis, which can be transmitted in a public water supply, is caused by a

- a. Virus
- b. Prion
- c. Protozoan
- d. Bacterium

27 Which of the following is not a domain in the three domain system?

- a. Archaea
- b. Eukarya
- c. Bacteria
- d. Animalia

28 Who observed cells in plant material?

- a. Koch
- b. Van Leeuwenhoek
- c. Lister
- d. Pasteur
- e. Hooke

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29 Which of the following is mismatched?

- a. Chemotherapy- treatment of disease
- b. Vaccine- prep of microorganisms
- c. Pencillin- antibiotic
- d. Pathogen- disease causing
- e. Normal microbiota- harmful

30 Who disproved spontaneous generation?

- a. Pasteur
- b. Koch
- c. Virchow
- d. Van Leeuwenhoek
- e. Hooke