VIP

Biology

Unit 2

Grade 12

Eubacteria

1. **Which of the following is a characteristic of Eubacteria?**

   A. Lack of cell wall

   B. Presence of peptidoglycan

   C. Multicellular

   D. Eukaryotic cells

   Answer: B. Presence of peptidoglycan

2. **What is the shape of cocci bacteria?**

   A. Rod-shaped

   B. Spiral-shaped

   C. Spherical

   D. Filamentous

   Answer: C. Spherical

3. **Which of the following is a common method for classifying Eubacteria?**

   A. By color

   B. By shape

   C. By size

   D. By habitat

   Answer: B. By shape

4. **What type of bacteria can perform photosynthesis?**

A. Anaerobic bacteria

B. Cyanobacteria

C. Chemoautotrophic bacteria

D. Pathogenic bacteria

Answer: B. Cyanobacteria

5. **Which of the following is NOT a way bacteria can reproduce?**

A. Binary fission

B. Budding

C. Fragmentation

D. Mitosis

Answer: D. Mitosis

Archaea

6. **Archaea are known for thriving in what type of environments?**

A. Extreme environments

B. Temperate environments

C. Polluted environments

D. Aquatic environments

Answer: A. Extreme environments

7. **Which of the following best describes the cell membranes of Archaea?**

A. Composed of phospholipids only

B. Composed of ether-linked lipids

C. Composed of cholesterol

D. Composed of peptidoglycan

Answer: B. Composed of ether-linked lipids

8. **Which group of Archaea is known for producing methane?**

A. Halophiles

B. Thermophiles

C. Methanogens

D. Acidophiles

Answer: C. Methanogens

9. **What distinguishes Archaea from Eubacteria at a genetic level?**

A. Differences in ribosomal RNA sequences

B. Presence of peptidoglycan in cell wall

C. Similar cell membrane structure

D. Lack of circular chromosomes

Answer: A. Differences in ribosomal RNA sequences

10. **Which of the following Archaea can thrive in salty environments?**

A. Psychrophiles

B. Halophiles

C. Thermophiles

D. Methanogens

Answer: B. Halophiles

Fungi

11. **What is the primary structure of fungi?**

    A. Cells with chloroplasts

    B. Hyphae

    C. Mycelium

    D. Spores

    Answer: B. Hyphae

12. **Which of the following is NOT a characteristic of fungi?**

    A. Eukaryotic cells

    B. Photosynthetic

    C. Heterotrophic

    D. Cell walls made of chitin

    Answer: B. Photosynthetic

13. **Fungi reproduce asexually by producing:**

    A. Seeds

    B. Spores

    C. Buds

    D. Conjugation

    Answer: B. Spores

14. **Which type of fungi forms a symbiotic relationship with plants?**

A. Saprophytic fungi

B. Lichens

C. Mycorrhizal fungi

D. Parasitic fungi

Answer: C. Mycorrhizal fungi

15. **What is the role of fungi in the ecosystem?**

A. Producers

B. Consumers

C. Decomposers

D. Primary producers

Answer: C. Decomposers

Protozoa

16. **Protozoa are primarily classified as:**

A. Multicellular organisms

B. Prokaryotic organisms

C. Unicellular eukaryotic organisms

D. Photosynthetic organisms

Answer: C. Unicellular eukaryotic organisms

17. **Which structure helps some protozoa move?**

A. Cilia

B. Cell wall

C. Hyphae

D. Spore

Answer: A. Cilia

18. **Which of the following is a parasitic protozoan?**

A. Amoeba

B. Paramecium

C. Plasmodium

D. Euglena

Answer: C. Plasmodium

19. **Protozoa can reproduce by:**

A. Only sexual reproduction

B. Only asexual reproduction

C. Both asexual and sexual reproduction

D. Budding

Answer: C. Both asexual and sexual reproduction

20. **What type of nutrition do most protozoa use?**

A. Autotrophic

B. Heterotrophic

C. Decomposers

D. Photosynthetic

Answer: B. Heterotrophic

General Questions

21. **What is the main component of fungal cell walls?**

A. Cellulose

B. Chitin

C. Peptidoglycan

D. Starch

Answer: B. Chitin

22. **Which of the following kingdoms does not contain prokaryotic organisms?**

A. Eubacteria

B. Archaea

C. Fungi

D. Both A and B

Answer: C. Fungi

23. **What is the main role of microbes in soil?**

A. Photosynthesis

B. Nitrogen fixation

C. Decomposition

D. Both B and C

Answer: D. Both B and C

24. **How do protozoa obtain their nutrients?**

A. Absorption

B. Photosynthesis

C. Ingestion

D. A and C

Answer: D. A and C

25. **Which of the following is a common method of identifying microbes in a lab?**

A. DNA sequencing

B. Protein analysis

C. Microscopy

D. All of the above

Answer: D. All of the above

Viruses

26. **What is the basic structure of a virus composed of?**

A. Cells

B. Genetic material and protein coat

C. Ribosomes

D. Cytoplasm

Answer: B. Genetic material and protein coat

27. **Which of the following is NOT a type of virus?**

A. Retrovirus

B. Bacillus

C. Adenovirus

D. Influenza virus

Answer: B. Bacillus

28. **Viruses are classified as:**

A. Prokaryotic

B. Eukaryotic

C. Acellular

D. Multicellular

Answer: C. Acellular

29. **What is the term for a virus that can remain dormant inside a host cell?**

A. Virulent

B. Lytic

C. Lysogenic

D. Bacteriophage

Answer: C. Lysogenic

30. **What type of genetic material can viruses contain?**

A. Only DNA

B. Only RNA

C. Both DNA and RNA

D. Neither DNA nor RNA

Answer: C. Both DNA and RNA

Normal Microbiota

31. **What is normal microbiota?**

A. Pathogenic organisms

B. Microorganisms that always cause disease

C. Non-pathogenic microorganisms living in or on the body

D. A type of virus

Answer: C. Non-pathogenic microorganisms living in or on the body

32. **Where is normal microbiota found in the human body?**

A. Only in the digestive tract

B. Throughout the whole body

C. Only on the skin

D. Only in the bloodstream

Answer: B. Throughout the whole body

33. **Which of the following is a benefit of normal microbiota?**

A. They produce toxins

B. They outcompete pathogenic microbes

C. They cause inflammation

D. They suppress the immune system

Answer: B. They outcompete pathogenic microbes

34. **Which of the following factors can disrupt normal microbiota?**

A. Antibiotic treatment

B. Healthy diet

C. Regular exercise

D. Good hygiene practices

Answer: A. Antibiotic treatment

35. **Normal microbiota can contribute to which of the following?**

A. Digestion

B. Vitamin production

C. Immune system stimulation

D. All of the above

Answer: D. All of the above

Modes of Disease Transmission and Ways of Prevention

36. **Which of the following is a mode of direct transmission?**

A. Airborne transmission

B. Fomites

C. Vector-borne transmission

D. Person-to-person contact

Answer: D. Person-to-person contact

37. **What is the main method of preventing the spread of respiratory viruses like the flu?**

A. Avoiding fiber-rich foods

B. Handwashing and vaccination

C. Consuming antibiotics

D. Drinking more water

Answer: B. Handwashing and vaccination

38. **Which of the following is an example of vector-borne transmission?**

A. Drinking contaminated water

B. Being bitten by an infected mosquito

C. Touching a contaminated surface

D. Coughing near someone

Answer: B. Being bitten by an infected mosquito

39. **Which of the following best describes airborne transmission?**

A. Transmission through blood

B. Transmission through contaminated food

C. Transmission via droplets or dust particles in the air

D. Transmission through contact with surfaces

Answer: C. Transmission via droplets or dust particles in the air

40. **The use of personal protective equipment (PPE) is crucial in preventing:**

A. Airborne diseases

B. Waterborne diseases

C. Bloodborne diseases

D. All of the above

Answer: D. All of the above

Uses of Microorganisms

41. **Which of the following is NOT a use of microorganisms in industry?**

A. Producing antibiotics

B. Food fermentation

C. Biodegradation

D. Killing all other organisms

Answer: D. Killing all other organisms

42. **Microorganisms are used in the production of which of the following foods?**

A. Bread

B. Cheese

C. Yogurt

D. All of the above

Answer: D. All of the above

43. **Which process involves the use of microorganisms to break down waste products?**

A. Photosynthesis

B. Bioremediation

C. Fermentation

D. Nitrogen fixation

Answer: B. Bioremediation

44. **The use of yeast in brewing beer is an example of:**

A. Pathogenic activity

B. Fermentation

C. Antibiotic production

D. Photosynthesis

Answer: B. Fermentation

45. **In medicine, microorganisms are frequently utilized to:**

A. Create vaccines

B. Treat infections with antibiotics

C. Produce insulin

D. All of the above

Answer: D. All of the above

General Questions

46. **Which of the following vaccines protects against viral infections?**

A. Tetanus vaccine

B. Hepatitis B vaccine

C. Rabies vaccine

D. Both B and C

Answer: D. Both B and C

47. **Probiotics are:**

A. Harmful microorganisms

B. Live beneficial bacteria

C. A type of virus

D. Environmental pollutants

Answer: B. Live beneficial bacteria

48. **What term describes the process of using microorganisms to convert organic waste into energy?**

A. Fermentation

B. Composting

C. Biogas production

D. All of the above

Answer: D. All of the above

49. **Which of the following can help prevent foodborne illnesses?**

A. Proper cooking and storage of food

B. Avoiding all animal products

C. Eating raw foods exclusively

D. Only drinking bottled water

Answer: A. Proper cooking and storage of food

50. **Which type of microbe is commonly used in the production of antibiotics?**

A. Viruses

B. Fungi

C. Protozoa

D. Eubacteria

Answer: B. Fungi