

CHOOSE THE BEST ANSWER FROM THE GIVEN FOUR ALTERNATIVE

1. Which of the following is not correct about bacteria and eukaryotes?
 - A. Eukaryotes generally are larger than bacteria
 - B. Both types of organisms reproduce by mitosis
 - C. Bacteria lack internal compartmentalization
 - D. Bacteria are fundamentally single-celled organism
2. Which of the following is unique feature to Archaea? The
 - A. Presence of cell wall made from peptidoglycan
 - B. Presence of cell membrane with no lipid and branched hydrocarbon
 - C. Abundancy in hostile environment
 - D. Presence of membrane bounded organelles

3. The following table compares gram negative and gram positive

Characteristic	Gram positive	Gram negative
Peptidoglycan layer	W	Thin
Cell wall composition	Lipoteichoic acid	X
Outer membrane	Y	Present
Retained color	Purple crystal	Z

In the above table, W, X, Y and Z can be represented respectively by

- A. thick peptidoglycan, present, Crystal violet
 - B. Thin, teichoic acid, present, purple
 - C. Thick, Lipoprotein, Absent, counter stain
 - D. Thick, lipopolysaccharide, present, colorless
4. Which of the following is not found in eubacteria?
 - A. Nucleoid, plasmid, Ribosome
 - B. Cell wall, Glycocalyx, Chromosome
 - C. Nucleolus, Cellulose, mitochondria
 - D. Endospore, inclusion, Capsule
5. All bacteria contain
 - A. Nucleoid
 - B. Endospore
 - C. Capsule
 - D. Pili
6. Spirochaetes are
 - A. Spherical shaped bacteria
 - B. Rod-shaped bacteria
 - C. Corkscrew shaped bacteria
 - D. Comma shaped bacteria
7. Which of the following bacterial structure is correctly matched with its function?
 - A. Flagellum— maintains the shape of the bacterial cell
 - B. Pilus — Adhesion site and means of reproduction
 - C. Glycocalyx — specialized appendage that provide locomotion
 - D. Plasmid — prevents the cell from bursting during osmosis
8. This item is based on the following steps of gram staining techniques
 - I. Applying crystal violet
 - II. Rapid decolorization
 - III. Adding a mordant
 - IV. Counterstaining
 - V. Fixation with heat

Which of the following is the correct sequence of staining techniques in gram staining?

- A. II, IV, II, I, III
 - B. V, I, II, III, IV
 - C. V, I, III, II, IV
 - D. V, IV, III, II, I

9. Which of the following is the similarity between prokaryotes and eukaryotes?
 - A. The presence of cytoplasm surrounded by a membrane and cell wall
 - B. The presence of enclosed genetic material in a nuclear membrane
 - C. Their ability to involve in nitrogen fixation and denitrification
 - D. The presence of histone, plastids, lysosome and endoplasmic reticulum
10. The chemical secreted by the lipopolysaccharide portion of some gram-negative bacteria
 - A. Endotoxin
 - B. Porin protein
 - C. peptidoglycan
 - D. Exotoxin
11. Archaea that inhabit very salty environment is termed as
 - A. Cryophiles
 - B. Halophiles
 - C. Psychrophiles
 - D. Thermophile
12. Which of the following is sentence is correct about physical factors that control growth of microbes?
 - A. Obligate aerobic organism can grow under an anaerobic condition
 - B. Microbes growing with or without oxygen are called facultative microbes
 - C. Psychrotrophs are microbes that are growing in an extreme high temperature
 - D. Microbes not using oxygen and sensitive to oxygen are facultative anaerobes
13. Which of the following statement about bacterial mode of nutrition is correct?
 - A. Chemoheterotrophic bacteria use organic compound as source of energy, electron and carbons
 - B. Chemo-lithoheterotrophic bacteria extract electrons from reduced organic compounds
 - C. Photoautotrophs uses light energy and organic carbon as source of carbon
 - D. Photo organoheterotrophs are bacteria that are nearly all pathogenic
14. Swap of genetic material from the environment into bacteria is termed as
 - A. Transformation
 - B. Transduction
 - C. Conjugation
 - D. Transcription
15. Chytridiomycota are:
 - A. Zoospore producing fungi
 - C. Basidiospore producing fungi
 - B. Mycorrhizal fungi
 - D. Ascospore producing fungi
16. Which of the following is statement about fungi is correct?
 - A. All fungi contain Coenocytic hyphae
 - C. All fungi are achlorophyllous
 - B. All fungi are acellular
 - D. All fungal cell contains diploid nuclei
17. Which of the following causes ringworm of beard?
 - A. Tinea barbae
 - B. Tinea pedis
 - C. Tinea Capitis
 - D. Tinea unguium
18. What do we call a form of poisoning from ingesting grains typically rye, wheat and barley infected by fungus called *Claviceps purpurea*?
 - A. Botulism
 - B. Ergotism
 - C. Aflatoxins
 - D. Mycetism
19. Which of the following disease is not transmitted by sexual contact?
 - A. Candidiasis
 - B. Giardiasis
 - C. Trichomoniasis
 - D. taeniasis
20. Which of the following statement is true about Chagas Disease? It is
 - A. African disease
 - C. Caused by parasitic *Leishmania*
 - B. A bacterial infection
 - D. Caused parasitic *Trypanosoma cruzi*

21. Which of the following is not the characteristic feature of fungi?
 A. Saprophytic B. Autotrophic C. Parasitic D. Symbiotic
22. Which of the following is not an example asexual reproduction in fungi?
 A. Conidiospores B. Sporangiospore C. Blastospore D. Basidiospore
23. Which of the following statement is NOT correct about the use of viruses?
 A. Viruse have been used in gene therapy
 B. viruse have been used in treating antibiotic resistant bacterial infection
 C. Viruse have been used in detecting mineral in the layers of ores
 D. Viruses have been serve as anti-tumor agents
24. Which of the following is a vector-borne parasitic infection that can be transmitted to humans by the bite of infected sandflies?
 A. Leishmaniasis B. Chagas disease C. Malaria D. Sleeping Sickness
25. Which one of the following is true about the feature of viruses?
 A. Viruse can be grown on artificial cell free media C. Viruses are inert and filterable agent
 B. Viruses are organism that are affected antibiotic D. viruses are cellular parasite of cell
26. Which of the following is the correct sequence of bacteriophage reproductive cycle?
 A. Penetration→ Attachments → Replication →Assembly→ Release
 B. Attachments → Replication →Penetration →Assembly→ Release
 C. Replication →Assembly→ Release → Attachments → Penetration
 D. Attachments →Penetration→ Replication →Assembly→ Release
27. This table compares protozoa and fungi. Which of the following is the correct comparison?
- | | Protozoa | Fungi |
|---|--------------------------------------|---|
| A | They are prokaryotic organism | They are eukaryotic organism |
| B | They lack cell wall | They have cell wall |
| C | Are all multicellular | Are all multicellular |
| D | they lack membrane bounded organelle | They consist membrane bounded organelle |
28. Which of the following disease is correctly paired with its preventive method?
 A. Syphilis — taking vaccination C. Tuberculosis – avoiding overcrowding
 B. Malaria — cooking meat D. Cholera – using bed net
29. Which of the following type of asexual reproduction is not correctly paired with its example of protozoa?
 A. Plasmodium – Multiple fission C. Paramecium –Transverse binary fission
 B. Amoeba – Binary fission D. Bacteria – Longitudinal binary fission
30. Which of the following bacteria convert nitrogen in dead bodies to Ammonia?
 A. Denitrifying bacteria B. Putrefying bacteria C. Nitrifying bacteria D. Nitrogen fixing bacteria
31. Which of the following viral disease is not correctly paired with its sign and symptoms?
 A. Mumps — Swollen and painful parotid glands C. Measles — Cough, nasal discharge and eye redness
 B. Rabies —Tingling, paralysis and hydrophobia D. Polio — Sneezing, sore throat and stuffy nose

32. Which of the following is correct about replication of virulent bacteriophage?
- A. Is the life cycle that release viruses without killing the hosts cell
 - B. Is the life cycle that integrates the viral DNA with host cell DNA
 - C. Is lysogenic cycle that produces temperate phages that multiplies synchronously with host chromosome
 - D. Is the phage that undergoes the lytic cycle to produces new phage particles within bacterial cell
33. Plant and animals use nitrogen in the form of :
- A. Nitrite
 - B. Nitrate
 - C. Ammonium ion
 - D. Atmospheric Nitrogen
34. Which of the following process do not add carbon dioxide to the atmosphere?
- A. Photosynthesis
 - B. Decomposition
 - C. Respiration
 - D. Assimilation
35. How do antiseptics used to destroy pathogens? By
- A. Applying them on cut skin or wound
 - B. Applying them on inanimate objects
 - C. Dry heat application in special oven
 - D. Taking them into the body
36. The genus of bacteria that involves in Sulphur oxidation and increase the availability of sulphate in the soil?
- A. Thiobacillus
 - B. Desulfovibrio
 - C. Pseudomonas
 - D. Cyanobacteria
37. Which of the following process of phosphorus cycle makes phosphorus unavailable to plants?
- A. Adsorption
 - B. Dissolution
 - C. Mineralization
 - D. Weathering
38. Which of the following is not correct about the contribution of Rober Koch? He
- A. Proved that all microorganism can causes disease
 - B. Discovered causative agent of anthracis and tuberculosis
 - C. Proved diseases are caused by microorganism
 - D. Stated the germ theory of disease
39. Which of the following diseases can be caused by more than types of agents?
- A. Botulism
 - B. Cholera
 - C. Gastroenteritis
 - D. Tuberculosis
40. Which of the following method of bacterial isolation technique are performed to convert a dense solution into a more usable concentration
- A. Streaking Method
 - B. Serial dilution method
 - C. Spreading Method
 - D. Pouring method