



*Faculty of Science*  
*Botany and Microbiology Department*  
*Microbiology Mic 140*  
*Prof. Ibraheem IBM*

***First revision in***  
***Microbiology***  
***MIC 140***

***By***

***Prof.Dr. Ibraheem IBM***



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**CHOOSE THE CORRECT ANSWER:**

1. The science that deals with the study of bacteria.
  - a. microbiology
  - b. zoology
  - c. bacteriology
  - d. protozoology
2. When bacteria are first cultured, growth is slow while the organisms acclimate to the conditions. This period is called.
  - a. stationary phase
  - b. death phase
  - c. lag phase
  - d. log phase
3. Cell walls, when they exist, usually contain peptidoglycan in
  - a. prokaryotes only.
  - b. eukaryotes only.
  - c. both prokaryotes and eukaryotes.
4. A bacillus bacterium with a single flagellum at each end is described as
  - a. Monotrichous
  - b. Amphitrichous
  - c. Lophotrichous
  - d. Peritrichous
5. A method of asexual reproduction in bacteria in which the cell splits into two parts, each of which develops into a complete individual.  
(simple transverse division)
  - a. meiosis
  - b. binary fission
  - c. vectored splitation
  - d. inverse kinematic



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6. The scientific study of microorganisms and their effect on other living organisms :
  - a. zoology
  - b. microbiology
  - c. macrobiology
  - d. virology
7. A microbe that can only live in the presence of oxygen
  - a. anaerobic
  - b. aerobic
  - c. parasite
  - d. saprophyte
8. Which is NOT a bacterial shape?
  - a. bacilli
  - b. coccus
  - c. spirillum
  - d. peritrichous
9. Organisms that survive on dead tissue
  - a. saprophyte
  - b. parasite
  - c. anaerobic
  - d. aerobic
10. Any rod shaped organism
  - a. bacteria
  - b. coccus
  - c. spirillum
  - d. bacillus
11. The living together in close association of two organisms of different species.
  - a. parasitism
  - b. symbiosis
  - c. antagonism
  - d. marriage
12. A double bacillus, two being linked end to end to each other.
  - a. diplococcus
  - b. streptobacillus



- c. binary fission
  - d. diplobacillus
13. Having the capacity to do something that is not compulsory, in particular - having the ability to live or adapt to certain conditions.
- a. heterotrophic bacteria
  - b. autotrophic bacteria
  - c. facultative bacteria
  - d. normal flora
14. Bacterial that prefer cold, thriving at temperatures between zero degrees centigrade and twenty five degrees centigrade.
- a. mesophile
  - b. psychrophile
  - c. thermophile
  - d. facultative bacteria
15. A microbe that can only live in the presence of oxygen
- a. Strict (obligate) anaerobic
  - b. Strict (obligate) aerobic
  - c. Strict (obligate) parasite
  - d. Strict (obligate) saprophyte
16. A prokaryotic one celled microorganism of the Kingdom Monera, existing as free living organisms or as parasites, multiplying by binary fission and having a large range of biochemical properties
- a. virus
  - b. fungi
  - c. bacteria
  - d. protozoa
17. The temperature above which bacterial growth will not take place
- a. maximum temperature
  - b. minimum temperature
  - c. optimum temperature
  - d. obligate temperature
18. A genus of gram-positive, non-motile, opportunistic bacteria which tend to aggregate in irregular grapelike clusters.
- a. streptobacilli
  - b. diplobacilli



- c. coccus
  - d. staphylococcus
19. A microbe that can only survive in an area without oxygen present.
- a. strict (obligate) aerobic
  - b. strict (obligate) anaerobic
  - c. strict (obligate) parasite
  - d. strict (obligate) saprophyte
20. A type of bacteria that is spherical or ovoid in form.
- a. bacillus
  - b. coccus
  - c. spirillum
  - d. spirochete
21. The temperature below which bacterial growth will not take place.
- a. optimum temperature
  - b. maximum temperature
  - c. minimum temperature
  - d. obligate temperature
22. A genus of bacteria containing gram-negative rods which form a chain like colony
- a. streptobacilli
  - b. streptococcus
  - c. diplobacilli
  - d. staphylococcus

**Mark with black colour the right answers:**

23. The genetic material of bacteria is composed of
- ☐ ATP
  - ☐ DNA
  - ☐ ribosomes
  - ☐ protein
24. Bacterial cells
- ☐ are usually larger than typical eukaryotic cells.
  - ☐ do not possess a cell wall.
  - ☐ do not have a membrane around their genetic material.
  - ☐ usually reproduces by a large cell fragmenting into many small cells.



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25. Who was the first person to describe microorganisms?  
☐ Louis Pasteur  
☐ Antony Van Leewenhoek  
☐ Robert Hooke
26. Who showed that microorganisms caused fermentation and that some microorganisms could live in the absence of oxygen?  
☐ Louis Pasteur  
☐ Anton Van Leewenhoek  
☐ Robert Hooke
27. He was the first scientist difference between the "smallpox" and "measles",  
☐ Louis Pasteur  
☐ Abu Bakr El-Razi  
☐ Abu El-kasim El-Zhrawy
28. He wrote a medical encyclopedia and wrote books on open abscess, symptoms and treatment, which are the microbial diseases  
☐ Louis Pasteur  
☐ Abu Bakr El-Razi  
☐ Abu El-kasim El-Zhrawy

### **Chose False or True**

29. Whittaker (1969), classify the living organisms to four kingdoms.  
☐ True  
☐ False
30. All bacteria are prokaryotic.  
☐ True  
☐ False
31. Microbiology is the study of organisms and agents too small to be seen clearly by the unaided eye.  
☐ True  
☐ False
32. kingdom Monera includes all primitive forms which reproduce sexually by motile units.  
☐ True  
☐ False



33. Some bacteria can be photosynthetic  
☐ True  
☐ False
34. MonoBacilli is a duple spherical bacterial cells  
☐ True  
☐ False
35. Diplococci is a single rod-shaped bacterial cells  
☐ True  
☐ False
36. Sarcinae is a tetra spherical bacterial cells  
☐ True  
☐ False
37. Spirillia. Coiled forms exhibiting twists with one or more turns  
☐ True  
☐ False
38. Actinomycetes consists of mycelium just like fungi  
☐ True  
☐ False
39. Vibriones. cells resemble a comma in appearance  
☐ True  
☐ False
40. Monotrichous bacteria. One flagellum attached to one pole of the cell.  
☐ True  
☐ False
41. Lophotrichous bacteria. A tuft of flagella at one pole of the cell.  
☐ True  
☐ False
42. Amphitrichous bacteria. A single or a tuft of flagella at the two poles of the cell.  
☐ True  
☐ False
43. Peritrichous bacteria. Many flagella distributed over the whole surface of  
☐ True  
☐ False



44. *Nitrosomonas*, oxidizes ammonia or ammonium salts to nitrites with a release of energy.  
☐ True  
☐ False
45. *Nitrobacter*, oxidizes nitrites to nitrates with a release of energy  
☐ True  
☐ False
46. *Thiobacillus thiooxidans*, oxidizes sulphur with a release of energy.  
☐ True  
☐ False

### **Fill in the blanks**

47. Robert Hooke published a book  
.....
48. Ferdinand J Cohn used the term  
.....
49. Louis Pasteur developed the process for sterilizing milk and this was named after him .....
50. Many microorganisms which prepare their food through photosynthesis are called .....
51. Circular DNA called ..... is present in bacteria
52. Diplobacilli eubacteria occur in .....
53. Vibrionaceae bacteria resemble a ..... in appearance.
54. Asexual reproduction in bacteria achieved by .....
55. Peritrichous many ..... distributed over the whole surface of the cell.





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56. The bacterial cell wall was found to consist of 3 layers, the outermost being ....., the middle being ....., and a rigid innermost layer of .....
57. Bacterial cytoplasmic membrane (plasma membrane) lies immediately beneath the inner surface of ..... It is composed of ..... and functions as ..... Barrier.
58. Bacteria do not have ....., instead, their genetic material is a single circular loop of .....
59. Chemical analysis of bacterial flagella shows that it is composed of protein called .....
60. Many eubacteria have layer called a ..... which protect the cell .
61. Under unfavourable environmental conditions, some bacilli can form endospores. The formed spores may be located either..... or ..... or .....

**Put True or False with correct the wrong**

62. The chemical analysis of flagella shows that it is composed of protein called lipoprotein ( ).
- .....
63. Ferdinand J Cohn published Micrographia book ( ).
- .....
64. Pasteurization was developed by Robert Hooke ( ).
- .....
65. Kingdom Monera have only division Eubacteria ( ).



.....  
66. The function of plasma membrane is protection ( ).  
.....

**Write the scientific name:**

67. He published a book of micrographia  
(.....).

68.. He discovered the science of Immunology  
(.....).

69. Louis Pasteur developed the process which called  
( .....).

70. They require free supply of oxygen.  
( .....).

71. They grow in complete absence of oxygen.  
( .....).

72. They can live either in presence or absence of oxygen.  
( .....).

73. They can build up complex organic substances such as carbohydrates  
from simple inorganic sources (CO<sub>2</sub> and water).  
( .....).

74. Heterotrophs live either as:

a. .... on plants, animals and humans causing serious  
diseases.

b. .... on dead organic matter.



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c. .... with other living organisms, sharing benefit

With best wishes