



## Dr.G.R.Damodaran College of Science

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I BSC [2017-2020]  
SEMESTER I  
CORE: MICROBIOLOGY - 109A  
Multiple Choice Questions.

1. In prokaryote, karyo means.

- A. Cell.
- B. Cytoplasm.
- C. Membrane
- D. Nucleus

ANSWER: D

2. \_\_\_\_\_ can not be seen using light microscope.

- A. bacteria
- B. fungi
- C. algae
- D. viruses

ANSWER: D

3. The study of the frequency and distribution of disease is known as \_\_\_\_\_.

- A. epidemiology
- B. etiology
- C. population genetics
- D. phytopathology

ANSWER: A

4. The study of microscopic organisms are called \_\_\_\_\_.

- A. Endomology
- B. Zoology
- C. Enzymology
- D. Microbiology

ANSWER: D

5. Anaerobic microorganisms were first discovered by \_\_\_\_\_.

- A. Robert Koch
- B. John Needham
- C. Louis Pasteur
- D. Ferdinand Cohn

ANSWER: C

6. Single celled and multicellular microscopic organisms with true nuclei and which absorb nutrients from their environment are \_\_\_\_\_.

- A. fungi
- B. viruses
- C. algae
- D. bacteria

ANSWER: A

7. Microorganism was first observed by \_\_\_\_\_.

- A. Leeuwenhoek
- B. Koch
- C. Pasteur
- D. Lister

ANSWER: A

8. Living organisms arising from non-living substances can be called \_\_\_\_\_.

- A. spontaneous generation
- B. germ theory and cell theory
- C. univocal generation
- D. abiogenesis

ANSWER: A

9. An Italian physician who demonstrated that maggots arise from fly eggs and not rotten meats was \_\_\_\_\_.

- A. Louis Pastuer
- B. Robert Koch
- C. Redi
- D. Edward Jenner

ANSWER: C

10. Cell theory was proposed by \_\_\_\_\_.

- A. Schleiden and Schwann
- B. Robert Hooke
- C. Schleiden and Robert
- D. Charles Darwin

ANSWER: B

11. The theory that states that microbes can invade other organisms and cause disease is the \_\_\_\_\_.

- A. germ theory of disease
- B. spontaneous generation
- C. univocal generation
- D. abiogenesis

ANSWER: A

12. A scientist who formulated four postulates to associate a particular organism with a specific disease was \_\_\_\_\_.

- A. Louis Pastuer
- B. Robert Koch
- C. Alexander Fleming
- D. Edward Jenner

ANSWER: B

13. Periplasmic space is found \_\_\_\_\_.

- A. in between cell wall and cell membrane
- B. below cell membrane
- C. within outer membrane
- D. in between outer membrane and peptidoglycan

ANSWER: D

14. A German physician who recognized the connection between autopsies and puerperal fever was \_\_\_\_\_.

- A. Rudolf Virchow
- B. Friedrich Hoffmann
- C. Semmel Weiz
- D. Alexander Mitscherlich

ANSWER: C

15. Killing effect of dry heat is due to

- A. protein denaturation
- B. elevated levels of electrolysis
- C. oxidative damage
- D. all the above

ANSWER: D

16. A tentative explanation to account for an observed condition or event is known as \_\_\_\_\_.

- A. hypothesis
- B. observation
- C. investigation
- D. all the above

ANSWER: D

17. A project designed to map the location of every gene in all human chromosome is the \_\_\_\_\_.

- A. human genome project
- B. human genetics
- C. gene pool
- D. human genome analysis

ANSWER: A

18. Bacteria can be measured in metric units called \_\_\_\_\_.

- A. millimeters
- B. micrometers
- C. nanometers
- D. picometers

ANSWER: B

19. Viruses should be measured in metric units called \_\_\_\_\_.

- A. millimeters
- B. micrometers
- C. nanometers
- D. picometers

ANSWER: C

20. The widest cone of light that can enter an objective lens would be called \_\_\_\_\_.

- A. numerical aperture
- B. resolution
- C. magnification
- D. coarse adjustment

ANSWER: A

21. A compound microscope with a single eyepiece is said to be \_\_\_\_\_.

- A. monocular
- B. binoculars
- C. monocular and binoculars
- D. uniocular

ANSWER: A

22. Positively charged dyes that are commonly used in bacteriological stains are \_\_\_\_\_.

- A. cationic dyes
- B. anionic dyes
- C. metallized dyes
- D. sulphur dyes

ANSWER: B

23. Which one of the following is a selective medium?

- A. Mac Conkey agar

- B. Blood agar
- C. Nutrient agar
- D. Mineral agar

ANSWER: A

24. Stains which color the background and not the organism are called \_\_\_\_\_ stains.

- A. negative
- B. positive
- C. acidic
- D. basic

ANSWER: A

25. Certain bacteria form highly resistant structures called \_\_\_\_\_ from free living, reproducing cells called \_\_\_\_\_ cells

- A. endospores, vegetative
- B. endospores, somatic
- C. endospores, multiresistant
- D. both a and b

ANSWER: D

26. In microscopy, the thickness of a specimen that is in focus at any one time is called \_\_\_\_\_.

- A. depth of field
- B. diameter
- C. wavelength
- D. velocity

ANSWER: A

27. Organisms that lack a defined nucleus would be called \_\_\_\_\_.

- A. prokaryotic
- B. eukaryotic
- C. plant cell.
- D. animal cell.

ANSWER: A

28. \_\_\_\_\_ bacteria vary widely in their cellular form even within a single culture.

- A. Pleomorphic
- B. Polymorphic
- C. Monomorphic
- D. Dimorphic

ANSWER: A

29. A tough, interlinked component of the cell wall of bacteria that provides rigidity is the \_\_\_\_\_.

- A. capsule
- B. peptidoglycan
- C. cell membrane.
- D. cell wall

ANSWER: B

30. The two repeating subunits of the peptidoglycan layer are \_\_\_\_\_.

- A. N-acetyl glucosamine.
- B. N-acetyl muramic acid.
- C. N-acetyl glycosamine.
- D. both a and b.

ANSWER: D

31. A toxic component of the outer layer of Gram negative bacteria is \_\_\_\_\_.

- A. lipid A.
- B. protein A.

C. lipid B.

D. lipid C.

ANSWER: A

32. If an organism loses its cell wall, the resultant structure called a \_\_\_\_\_.

A. endospores

B. protoplast

C. spheroplast

D. spores.

ANSWER: B

33. An antibiotic that affects the formation of the cell wall is \_\_\_\_\_.

A. penicillin

B. ampicillin

C. tetracyclin

D. streptomycin

ANSWER: A

34. Hydrocarbon ends of fatty acids are said to be \_\_\_\_\_.

A. hydrophobic, nonpolar.

B. hydrophilic, nonpolar.

C. hydrophobic, polar.

D. hydrophobic, polar.

ANSWER: A

35. Accumulations of polyphosphate volutin granules with cytoplasm of bacteria are called \_\_\_\_.

A. metachromatic

B. monochromatic.

C. minichromatic.

D. macrochromatic.

ANSWER: A

36. Members of the genus Bacillus and Clostridium produce resistant structures called \_\_\_\_\_.

A. spores

B. endospores

C. capsular structure

D. inclusion bodies

ANSWER: B

37. Flagella distributed all over the surface of bacteria are called \_\_\_\_\_.

A. peritrichous

B. monotrichous

C. atrichous

D. amphitrichous

ANSWER: A

38. Spirochete may possess a series of internal filaments used for motion, known as \_\_\_\_\_.

A. stalk

B. tail

C. axial filaments

D. biaxial filaments

ANSWER: C

39. Any substances containing polysaccharides found external to the cell wall is known the \_\_\_\_\_.

A. lipid

B. protein

C. glycocalyx

D. peptidoglycon

ANSWER: C

40. Molecules that add rigidity to all membranes of eukaryotes are \_\_\_\_\_.

- A. lipid
- B. protein
- C. sterols
- D. fatty acids

ANSWER: C

41. Proteins bound to the DNA of the eukaryotic cells are \_\_\_\_\_.

- A. Histones
- B. DNA
- C. RNA
- D. Protein

ANSWER: A

42. Mitochondria are characterized by extensive inner membrane folds are known as \_\_\_\_\_.

- A. matrix
- B. granules
- C. cristae
- D. fimbriae

ANSWER: C

43. A eukaryotic organelle which contains digestive enzymes is a \_\_\_\_\_.

- A. lysosome
- B. mitochondria
- C. chloroplast
- D. golgi complex

ANSWER: A

44. Movement of molecules from a region of higher to lower concentration by means of a carrier protein is called \_\_\_\_\_.

- A. simply diffusion
- B. tracer diffusion
- C. chemical diffusion
- D. facilitated diffusion

ANSWER: D

45. A membrane that allows the passage of only a selected group of substances is said to be \_\_\_\_\_.

- A. selectively permeable
- B. impermeable
- C. semi permeable
- D. impenetrable

ANSWER: A

46. Cells immersed in an \_\_\_\_\_ solution would exhibit no change in their cell volume.

- A. hypertonic
- B. hypotonic
- C. isotonic
- D. immiscible

ANSWER: C

47. \_\_\_\_\_ that form into long chains may be identified by the prefix

- A. Streptococci.
- B. Staphylococci
- C. Diplococci
- D. Micrococci

ANSWER: A

48. A bacterial cell duplicates its components and divides into two cells by \_\_\_\_\_.

- A. Endospores formation.
- B. Budding
- C. Fragmentation
- D. Binary fission

ANSWER: D

49. Organisms that have adapted to a medium thus allowing for rapid exponential growth are in the \_\_\_\_\_ phase.

- A. lag
- B. log
- C. stationary
- D. decline

ANSWER: A

50. If bacteria could divide together and have the exact same generation time they could exhibit \_\_\_\_\_.

- A. continous
- B. fed batch
- C. batch
- D. synchronous

ANSWER: D

51. During the decline phase, many cells exhibit unusual shapes which is caused by \_\_\_\_\_.

- A. involution
- B. ingestion
- C. digestion
- D. high energy conversion

ANSWER: A

52. A method used to measure bacterial growth that requires the use of a series of dilution tubes is \_\_\_\_\_.

- A. spectrophotometric
- B. staining
- C. serial dilution
- D. cell mass

ANSWER: C

53. An indication of bacterial growth due to \_\_\_\_\_

- A. acidity nature
- B. alkalinity
- C. turbidity
- D. cell dry biomass

ANSWER: C

54. Organisms that can tolerate very low pH conditions are called \_\_\_\_\_.

- A. acidophiles
- B. thermophiles
- C. hyperthermophiles
- D. alkaliphiles

ANSWER: A

55. Organisms that prefer temperatures above 50°C are known as \_\_\_\_\_.

- A. thermophiles
- B. acidophiles
- C. hyperthermophiles
- D. alkaliphiles

ANSWER: A

56. Which organism can tolerate one environmental condition but still live in another?

- A. aerobes
- B. anaerobes
- C. facultative
- D. endospores producing microbes

ANSWER: C

57. An enzyme which can break into H<sub>2</sub>O and O<sub>2</sub> is \_\_\_\_\_.

- A. catalase
- B. oxidase
- C. urease
- D. proteases

ANSWER: A

58. Obligate anaerobes are killed by a highly reactive form of oxygen called \_\_\_\_\_.

- A. superoxide
- B. reactive oxygen
- C. free radicals
- D. dismutase

ANSWER: A

59. When cells lose water and their membranes shrink away from the cell wall indicates that they are undergoing \_\_\_\_\_.

- A. lysis
- B. plasmolysis
- C. lysogenic
- D. caryolysis

ANSWER: D

60. Organisms that have many special nutritional needs are \_\_\_\_\_

- A. fastidious
- B. Lactobacillus sp
- C. Mycobacterium sp
- D. all the above

ANSWER: D

61. The processes of endospore formation is known as \_\_\_\_\_.

- A. sporulation.
- B. germination
- C. propagation
- D. binary fission

ANSWER: A

62. The two bacterial genera that produce endospores are \_\_\_\_\_.

- A. Bacillus, Clostridium
- B. Escherichia coli, Bacillus
- C. Actinobacter, Bacillus
- D. Staphylococcus, Streptococcus

ANSWER: A

63. A method of pure culturing bacteria by means of an agar plates and an inoculating loop is \_\_\_\_\_.

- A. streak plate
- B. pour plate
- C. spread plate
- D. quadrant streak

ANSWER: A



64. A culture medium which contains known specific kinds and amounts of chemicals is a \_\_\_\_\_.

- A. Liquid
- B. solid
- C. selective
- D. defined synthetic

ANSWER: D

65. A medium that encourages the growth of some organisms but suppresses others is a \_\_\_\_\_.

- A. liquid
- B. solid
- C. defined synthetic
- D. selective

ANSWER: D

66. Isolated organisms can be maintained in a pure culture called \_\_\_\_\_

- A. stock cultures
- B. standard culture
- C. enrichment culture
- D. selective culture

ANSWER: A

67. A preserved culture maintained to keep its characteristics as originally defined is a \_\_\_\_\_

- A. reference culture
- B. standard culture
- C. enrichment culture
- D. selective culture

ANSWER: A

68. Pasteur is credited with all the following except \_\_\_\_\_.

- A. construction of swan necked vessels
- B. development of a vaccine for rabies
- C. development of the technique for rabies
- D. became the director of the Pasteur institute in Paris, France

ANSWER: D

69. One of the most important contributions of Robert Koch in his development of the germ theory of disease was the \_\_\_\_\_.

- A. use of test animals in research
- B. use of the microscope
- C. development of the technique of pure culturing
- D. development of the busen burner

ANSWER: C

70. Fungi can be characterized as \_\_\_\_\_.

- A. photosynthetic organism
- B. organisms lacking a cell wall
- C. organisms lacking a true nucleus
- D. organism that absorb nutrients from their environment

ANSWER: D

71. Phycology is the study of \_\_\_\_\_.

- A. molds
- B. bacteria
- C. viruses
- D. algae

ANSWER: D

72. The total magnification of a microscope with the low power lens (10X) and ocular lens (15X) in

position would be \_\_\_\_\_.

- A. 25
- B. 15
- C. 150
- D. 1500

ANSWER: C

73. A major difference between the SEM and the TEM is that the SEM \_\_\_\_\_.

- A. can resolve objects smaller than 20 nanometer
- B. requires less of a vacuum system than the TEM
- C. can create three dimensional images
- D. does not require the use of any metal coating of the specimen

ANSWER: C

74. Heat fixation accomplishes all the following expect \_\_\_\_\_.

- A. helps the dye to penetrate the cells
- B. kills the bacteria on the slide
- C. decreases distortion of the cells prior to the addition of strains
- D. fixes the organisms to the slide

ANSWER: C

75. The condenser lens of a microscope \_\_\_\_\_.

- A. increases the magnification
- B. generally can magnify an object ten times
- C. increases the light refraction
- D. converges light beams onto the specimen

ANSWER: D

76. If a bacterium measures 0.3 micrometer, it would measure how many angstroms?

- A. 300
- B. 30
- C. 3000
- D. 3

ANSWER: C

77. An example of a non-ionizing type of radiation which is microbiocidal is \_\_\_\_\_.

- A. Gamma rays
- B. UV rays
- C. X-rays
- D. electrons

ANSWER: C

78. Which of the following would not be consistent with eukaryotic organisms?

- A. membrane bound organelle
- B. presence of histones
- C. cell membranes lacking sterols
- D. paired chromosomes

ANSWER: B

79. The peptidoglycan layer of the cell wall \_\_\_\_\_.

- A. consist of lipopolysaccharide
- B. is formed from repeating molecules of glunac and murnac
- C. represents the lipid bilayer
- D. lacks teichoic acids

ANSWER: B

80. Dipicolinic acid is commonly associated with \_\_\_\_\_.

- A. endospore coats

- B. lipopolysaccharide of gram negative bacteria
- C. peptidoglycan layer of gram positive bacteria
- D. mesosomes

ANSWER: A

81. Bacterial flagella \_\_\_\_\_.

- A. attach to the cell wall via the teichoic acids and calcium
- B. form a hook after leaving the cell
- C. are about the same size as eukaryotic flagella
- D. are composed of lipopolysaccharides units called flagellin

ANSWER: B

82. Select the most CORRECT statement in relation to serial dilution.

- A. diluted samples are transferred to nutrient broth tubes
- B. the number of colonies on the plate is multiplied by the denominator of the dilution factor
- C. the test can accurately measure live and dead cells
- D. countable plates should contain between 10 and 30 colonies

ANSWER: B

83. Which of the following methods is NOT used to determine bacterial numbers?

- A. turbidity
- B. serial dilution
- C. direct microscopic counts
- D. all the above

ANSWER: D

84. Temperature can control bacteria because \_\_\_\_\_.

- A. freezing will kill all the bacteria
- B. hot temperatures (above 80°C) will denature bacterial protein
- C. refrigerator temperatures stop the growth of all bacteria
- D. no bacteria can live above 180°F

ANSWER: B

85. Endospores \_\_\_\_\_.

- A. are generally formed for protection and reproduction
- B. are formed only when conditions become unfavorable.
- C. contain dipicolinic acid and calcium
- D. contain laminated layers of peptidoglycan called the exosporium

ANSWER: C

86. Select the most INCORRECT statement concerning culturing of bacteria \_\_\_\_\_.

- A. a synthetic medium consists of unidentifiable ingredients such as those found in beef extract
- B.
- C. the streak plate method uses agar plates and a wire inoculating loop
- D. an enrichment medium contains ingredients such as blood which can enhance the growth of certain

organisms

ANSWER: A

87. A specially calibrated counting chamber used with direct microscopic counts is called \_\_\_\_\_.

- A. petroff hausser counter
- B. haemocytometer counter
- C. Geiger-Muller counter
- D.

ANSWER: A

88. Trace elements such as copper and zinc often serve as \_\_\_\_\_.

- A. cofactors

- B. inducers
- C. receptors
- D. inhibitors

ANSWER: A

89. A substance that forms an insoluble complex with stain and serves to fix the color to bacterial cell is called \_\_\_\_\_.

- A. mordant
- B. intensifier
- C. fixative
- D. dyes

ANSWER: A

90. The ratio of diameter of lenses to its focal length is referred as \_\_\_\_\_.

- A. magnification
- B. resolution
- C. numerical aperture
- D. focal length

ANSWER: A

91. The ability to reveal closely adjacent points as separate and distinct \_\_\_\_\_.

- A. magnification
- B. resolution
- C. numerical aperture
- D. focal length

ANSWER: B

92. In \_\_\_\_\_ microscope, the field surrounding a specimen appears black, while the object itself is brightly illuminated

- A. compound
- B. phase contrast
- C. dark field
- D. fluorescence

ANSWER: C

93. Use of single stain to color the bacteria is commonly called as \_\_\_\_\_ staining.

- A. simple
- B. Gram
- C. differential
- D. negative

ANSWER: A

94. A substance that forms an insoluble complex with stain and serves to fix the color to bacterial cell is called as \_\_\_\_\_.

- A. mordant
- B. intensifier
- C. fixative
- D. dyes

ANSWER: A

95. In Grams Staining, Grams iodine is act as \_\_\_\_\_.

- A. counter stain
- B. primary stain
- C. secondary stain
- D. mordant

ANSWER: D

96. A stain which on ionization gives positively charged molecules is referred as \_\_\_\_\_.

- A. acidic stain
- B. Basic stain
- C. anionic stain
- D. basic mordant

ANSWER: A

97. The charged group of bacterial cell surface produces attraction between basic stain \_\_\_\_\_.

- A. negative
- B. positive
- C. neutral
- D. all of the above

ANSWER: B

98. The differential staining technique refers as \_\_\_\_\_ staining.

- A. monochrome
- B. Gram
- C. negative
- D. endospore

ANSWER: B

99. In Gram Staining, Safranin is act as \_\_\_\_\_.

- A. primary stain
- B. mordant
- C. counter stain
- D. decolorizer

ANSWER: C

100. In Gram staining, differentiation of microorganisms is based on \_\_\_\_\_.

- A. cell wall
- B. plasma membrane
- C. capsule
- D. flagella

ANSWER: A

101. The Petroff-Hausser counting chamber consist of \_\_\_\_\_.

- A. 25 squares
- B. 100 squares
- C. 50 squares
- D. none of the above

ANSWER: A

102. A culture containing only one kind of microorganism is called \_\_\_\_\_.

- A. synchronous culture
- B. pure culture
- C. auxenic culture
- D. continuous culture

ANSWER: B

103. The process that reduces the bacterial count to safe levels as may judged by the public health is referred as \_\_\_\_\_.

- A. sterilization
- B. sanitization
- C. disinfection
- D. antisepsis

ANSWER: B

104. Culture containing more than one kind of microorganism is called \_\_\_\_\_.

- A. synchronous culture

- B. pure culture
- C. auxenic culture
- D. continuous culture

ANSWER: C

105. To maintain the bacterial population in \_\_\_\_\_ phase is referred as continuous culture.

- A. lag phase
- B. log phase
- C. stationary phase
- D. death phase

ANSWER: B

106. Slide culture technique is used for \_\_\_\_\_ cultivation

- A. bacterial
- B. fungi
- C. virus
- D. algae

ANSWER: B

107. The type of media is used for fungi cultivation is \_\_\_\_\_ agar.

- A. nutrient
- B. Mac Conkeys
- C. sabourauds
- D. plant

ANSWER: C

108. Macintosh Jar is used for \_\_\_\_\_.

- A. cultivation of anaerobes
- B. cultivation of aerobes
- C. fungal cultivation
- D. algal cultivation

ANSWER: A

109. Maintenance of sterile condition is referred as \_\_\_\_\_.

- A. aseptic technique
- B. septic technique
- C. disinfection
- D. fumigation

ANSWER: A

110. \_\_\_\_\_ rays are referred as non ionizing radiations.

- A. UV
- B. X
- C. gamma
- D. cathode

ANSWER: B

111. In Laminar air flow \_\_\_\_\_ type of filter is located

- A. membrane filter
- B. seitz filter
- C. HEPA
- D. slow filter

ANSWER: C

112. \_\_\_\_\_ is referred as biological indicator of autoclave.

- A. Bacillus stearothermophilus
- B. Bacillus subtilis
- C. Bacillus megatorium

D. *Bacillus cereus*

ANSWER: A

113. Fluorescent substance is used in \_\_\_\_\_.

- A. viscometer
- B. centrifugation
- C. flow cytometry
- D. spectrophotometer

ANSWER: D

114. The process of killing or removal of organisms capable of causing infection is called as \_\_\_\_\_.

- A. sterilization
- B. sanitization
- C. disinfection
- D. antiseptis

ANSWER: A

115. The pH meter standardized with pH \_\_\_\_\_.

- A. 7
- B. 2
- C. 14
- D. 4

ANSWER: A

116. Colorimeter is applied only in relation to \_\_\_\_\_.

- A. uv light
- B. X rays
- C. visible light
- D. IR rays

ANSWER: A

117. The amount of light absorbed by a material is proportional to the concentration of the absorbing solution is referred as \_\_\_\_\_ law.

- A. Beers
- B. Bogers Lambert
- C. Poiseuilles
- D. Newtons

ANSWER: A

118. Separation of small molecule can be done by \_\_\_\_\_.

- A. viscometer
- B. centrifugation
- C. flow cytometry
- D. spectrophotometer

ANSWER: B

119. Microbes such as *E. coli* are able to manufacture vitamin in the human intestinal tract \_\_\_\_\_.

- A. A
- B. D
- C. C
- D. K

ANSWER: D

120. A slippery outer covering in some bacteria that protects them from phagocytosis by host cells is \_\_\_\_\_.

- A. capsule
- B. cell wall
- C. flagellum

D. peptidoglycan

ANSWER: A

121. Gram negative cell wall is \_\_\_\_\_ than a Gram positive one.

- A. thicker
- B. thinner
- C. thickest
- D. thin

ANSWER: B

122. Most human pathogens prefer temperatures near that of the human body. They are called as

- A. psychrophiles
- B. thermophiles
- C. mesophiles
- D. halophiles

ANSWER: C

123. Which year Beijerinck found the free living nitrogen fixing bacteria Azotobacter \_\_\_\_\_.

- A. 1909
- B. 1919
- C. 1921
- D. 1901

ANSWER: D

124. \_\_\_\_\_ are very small, multi-shaped bacteria lacking a true cell.

- A. Rickettsias
- B. Actinomycetes
- C. Spirochetes
- D. Mycoplasmas

ANSWER: A

125. Magnetite-bearing magnetosomes have also been found in eukaryotic magnetotactic \_\_\_\_\_.

- A. algae
- B. fungi
- C. bacteria
- D. protozoan

ANSWER: A

126. The model organism, which used to study endospore formation is \_\_\_\_\_.

- A. Bacillus subtilis
- B. Escherichia coli
- C. Streptomyces aureus
- D. yeast

ANSWER: A

127. The role of pili in cloning of bacteria in E.coli is \_\_\_\_\_.

- A. conjugation
- B. transformation
- C. tranfection
- D. transduction

ANSWER: A

128. Some pathogenic bacteria develop resistance to antibiotics by \_\_\_\_\_.

- A. modifying their cell walls
- B. developing such enzymes which modify antibiotics
- C. alter the antibiotics target due to spontaneous mutation
- D. all the above

ANSWER: D



129. A biofertiliser is \_\_\_\_\_.

- A. living
- B. nonliving
- C. chemical
- D. synthetic

ANSWER: A

130. Cyanobacteria helps farmers by \_\_\_\_\_.

- A. reducing the alkalinity of the soil
- B. reducing the acidity of the soil
- C. neutralising the alkalinity of the soil
- D. water logging

ANSWER: B

131. Various commercial products of economic value made by microbes are \_\_\_\_\_

- A. medicines
- B. organic acids
- C. amino acids
- D. all the above

ANSWER: D

132. Many individuals of the same species living together in a defined area form a/an \_\_\_\_\_.

- A. community
- B. genus
- C. population
- D. ecosystem

ANSWER: A

133. Why is it difficult to integrate nitrogen gas from the atmosphere into the nitrogen cycle of the biosphere?

- A. nitrogen is not very abundant in the atmosphere
- B. few organisms can directly utilize atmospheric nitrogen gas
- C. most plants do not require organic nitrogen compounds for survival
- D. oceans quickly absorb nitrogen gas

ANSWER: B

134. A culture medium on which only Gram positive organisms grow and a yellow halo surrounds Staphylococcus aureus colonies is called a \_\_\_\_\_.

- A. selective medium
- B. differential medium
- C. enrichment culture
- D. a and b

ANSWER: D

135. Abiogenesis refers to the \_\_\_\_\_.

- A. spontaneous generation of organisms from nonliving matter
- B. development of life forms from preexisting life forms
- C. developmeat of aseptic technique
- D. germ theory of disease

ANSWER: A

136. While using any pair of carbon compounds as long as other nutrients are not limiting, the bacteria shows \_\_\_\_\_ growth.

- A. diauxic
- B. continuous
- C. batch
- D. synchronous

ANSWER: A

137. Endospores were first discovered by \_\_\_\_\_.

- A. Ferdinand Cohn
- B. Louis Pasteur
- C. John Tyndal
- D. Anton von Leeuwenhoek

ANSWER: A

138. The protein surrounded the genetic material of viruses are called \_\_\_\_\_.

- A. envelope
- B. capsid
- C. cover
- D. cortex

ANSWER: B

139. Bacterial ribosomes are composed of \_\_\_\_\_.

- A. protein and DNA
- B. protein and rna
- C. protein and mrna
- D. protein and RNA

ANSWER: B

140. Energy production in anaerobes is not by \_\_\_\_\_.

- A. TCA cycle
- B. EMP pathway
- C. fermentation
- D. pentose phosphate shunt

ANSWER: A

141. Contagious disease spreads by \_\_\_\_\_.

- A. inhalation
- B. ingestion
- C. inoculation
- D. contact

ANSWER: D

142. The widely used fumigant is \_\_\_\_\_.

- A. ethylene
- B. chlorine
- C. formaldehyde
- D. CO<sub>2</sub>

ANSWER: C

143. Lyophilization is a method of \_\_\_\_\_.

- A. characterization of microorganisms
- B. destroying microorganisms
- C. preservation of microorganisms
- D. regulating microorganisms

ANSWER: C

144. \_\_\_\_\_ fungi shows sexual reproduction

- A. aPathogenic
- B. Reproductive
- C. Perfect
- D. Saprophytic.

ANSWER: C

145. The first virus to be crystallized was \_\_\_\_\_.

- A. rabies
- B. pox virus
- C. tobacco mosaic virus
- D. polio virus

ANSWER: C

146. The iodine-organic carrier complex iodophore is \_\_\_\_\_.

- A. ethylene oxide
- B. methane
- C. chloroform
- D. ozone

ANSWER: A

147. In nitrogen fixation, nitrogen from the atmosphere is combined with \_\_\_\_\_.

- A. oxygen atoms
- B. hydrogen atoms
- C. carbon atoms
- D. calcium atoms

ANSWER: B

148. An example of a non-ionizing type of radiation which is microbiocidal is \_\_\_\_\_.

- A. gamma rays
- B. uv rays
- C. X-rays
- D. electrons

ANSWER: C

149. The principle behind the sterilization using autoclave is \_\_\_\_\_.

- A. high pressure
- B. bhigh steam
- C. hot vapors
- D. steam under pressure

ANSWER: D

150. Microbe is bright and the field is dark in \_\_\_\_\_.

- A. dark-field microscopy
- B. phase contrast microscopy
- C. bright field microscopy
- D. electron microscopy

ANSWER: A

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