



## BIOLOGY

### BOOKS - UNIVERSAL BOOK DEPOT 1960

### BIOLOGY (HINGLISH)

## MONERA

### Monera

1. Which of the following statement is correct

A. All bacteria are heterotrophic

B. Bacteria are either heterotrophic or chemoautotrophic

C. Bacteria can also be photoautotrophic

D. Bacteria are either photoautotrophic or chemoautotrophic

**Answer: C**

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2. Bacteria were first discovered by

A. Robert Koch

B. L. Pasteur

C. Robert Hooke

D. A.V. Leeuwenhoek

**Answer: D**



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**3. On the basis of rRNA genes, bacteria are divisible into**

- A. Gram +ve and Gram -ve
- B. Bacteria and archaebacteria
- C. Actinomycetes and mycoplasma
- D. Cyanobacteria and mycolasma

**Answer: b**



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4. In *Escherichia coli*

- A. An organised nucleus is present
- B. Chloroplast is present
- C. One DNA molecule is present
- D. All of the above

**Answer: c**



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5. Which of the following fixes  $CO_2$  in carbohydrates

- A. *Bacillus*
- B. *Rhizobium*

C. Nitrobacter

D. Rhodospirillum

**Answer: d**



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**6. Bacteria are considered as plants, because**

A. These have a rigid cell wall

B. They have a green colour

C. They can reproduce

D. They are present everywhere

**Answer: a**

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7. Membrane-bound organelles are absent in

- A. Plasmodium
- B. Saccharomyces
- C. Streptococcus
- D. Chlamydomonas

**Answer: c**

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8. How many organism in the list given below are autotrophs Lactobacillus, Nostoc, Chara, Nitrosomonas,

Nitrobacter, Streptomyces, Saccharomyces, Trypanosoma,  
Porphyra, Wolfia

A. Four

B. Five

C. Six

D. Three

**Answer: c**



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**9. Gram -ve and +ve bacteria have cell membrane made up of**

A. Proteins and lipids

B. Cellulose

C. Fats

D. Chitin

**Answer: A**



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**10.** Some hyperthermophilic organisms that grow in highly acidic ( $pH < 2$ ) habitats belong to the two groups

A. Liverworts and yeasts

B. Eubacteria and archaea

C. Cyanobacteria and diatoms

D. Protists and mosses



**Answer: b**



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**11. The chief component of bacterial cell wall is**

- A. Cellulose and chitin
- B. Cellulose and pectin
- C. Amino acids and polysaccharides
- D. Cellulose and carbohydrates

**Answer: C**



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12. Bacteria whose cell has only a curve/comma is

A. Vibrio

B. Cocci

C. Spirilli

D. Bacilli

**Answer: A**



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13. The main difference between Gram positive and Gram negative bacteria lies in the composition of

A. Cilia

B. Cell wall

C. Nucleolus

D. Cytoplasm

**Answer: B**



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**14.** Muramic acid is present in the cell wall of

A. Bacteria/ Blue green algae

B. Green algae

C. Yeast

D. Rhizopus

**Answer: a**



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**15. The shape of the cocci bacteria is**

A. Rod shaped

B. Spherical

C. Comma shaped

D. Spiral

**Answer: b**



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16. Match the following pairs correctly and choose the right combination

Column-I

Column-II

- |                                  |   |
|----------------------------------|---|
| A. <i>Escherichia coli</i>       | 1. 'nif' gene                           |
| B. <i>Rhizobium melilotae</i>    | 2. Digests hydrocarbon of crude oil     |
| C. <i>Bacillus thuringiensis</i> | 3. Production of human insulin          |
| D. <i>Pseudomonas putida</i>     | 4. Biological control of fungal disease |
|                                  | 5. Bio-decomposed insecticide           |

A. A=3, B=1, C=5, D=4

B. A=1, B=2, C=3, D=4

C. A=2, B=1, C=3, D=4

D. A=3, B=1, C=5, D=2

**Answer: d**



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17. Helically coiled shaped bacteria are called

A. Spirilla

B. Cocci

C. Bacilli

D. Vibrio

**Answer: A**



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18. Which of the following is a genetic vector

A. Phage

B. Plasmid

C. Mosquito

D. None of these

**Answer: B**



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**19. Bacteria bearing flagella all over the body are called**

A. Peritrichous

B. Atrichous

C. Monotrichous

D. Cephalotrichous

**Answer: A**



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**20.** The habitat of E. coil is

A. Water

B. Colon (Intestine)

C. Soil

D. Organic food

**Answer: b**



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21. Bacterial ribosomes are called

- A. Autosomes
- B. Dictyosomes
- C. Centrosomes
- D. Polyribisimes

**Answer: d**

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22. Choose the wrong statement regarding bacterial cell

- A. Glycocalyx is the outer most envlope in bacteria
- B. The glycocalyx could be a loose sheath called capsule
- C. The glycocalyx may be thick and tough called slime layer

D. A special structure formed by the plasma membrane is called mesosome

E. Small bristle like fibers sprouting out of the cell are called fimbriae

A. A and C are wrong

B. A and B are wrong

C. B and C are wrong

D. A and D are wrong

**Answer: C**



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23. Which one of the following organisms is not an example of eukaryotic cells

- A. *Amoeba proteus*
- B. *Paramecium caudatum*
- C. *Escherichia coli*
- D. *Euglena viridis*

**Answer: c**

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24. Which of the following statement is correct

- A. E. coli gram -ve bacterium while Rhizobium japonicum is gram +ve bacterium
- B. Both E. coli and Rhizobium japonicum are gram +ve
- C. Both E. coli and Rhizobium japonicum are gram -ve
- D. E. coli is gram +ve, Rhizobium japonicum is gram -ve

**Answer: c**

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**25.** Which of the following compounds are decomposed during putrefaction

- A. Proteins
- B. Fats

C. Carboghydrates

D. None

**Answer: a**



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**26.** In the light of recent classification of living organisms into three domains of life (bacteria, archea and eukarya), which one of the following statements is true about archaea

A. Archaea completely differ from both prokaryotes and eukaryotes

B. Archaea completely differ from prokaryotes

C. Archaea resemble eukarya in all respects

D. Archaea have some novel features that are absent in other prokaryotes and eukaryotes

**Answer: d**

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**27.** Bacteria obtaining energy from oxidation of inorganic substances are called

A. Chemolithotrophs

B. Photolithotrophs

C. Photo organotrophs

D. Chemo organotrophs

**Answer: a**



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**28. Bacterial ribosomes are present**

- A. In cytoplasm
- B. On endoplasmic reticulum
- C. On nuclear membrane
- D. On cell wall

**Answer: A**



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29. Mesosome in a bacterial cell is

- A. Plasmid
- B. Connection between two cells
- C. Plasma membrane infolded for respiration
- D. None of these

**Answer: C**



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30. Colourless, unicellular, cell wall bound, spherical or rod-shaped micro-organism and lacking organized nucleus is called



A. Mycoplasma

B. Virus

C. Bacteria

D. Cyanobacteria

**Answer: c**



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**31. Bacterial flagella is made up of**

A. Protein

B. Amines

C. Lipids

## D. Carbohydrates

**Answer: A**

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**32.** Which one of the following is not a characteristic of gram positive bacteria

- A. Cell wall is smooth
- B. Mesosomes are distinctively prominent
- C. Basal body of flagellum contains 2 rings
- D. Outer membrane is present

**Answer: d**





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**33.** Bacterial flagella do not show. ATPase activity and 9 + 2 organization. These are chemically

- A. Flagellin
- B. Pilin
- C. Tubulin
- D. Bacterin

**Answer: a**



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**34.** Plasmids are extra chromosomal genetic material of

A. Bacteria

B. Virus

C. Algae

D. Amoeba

**Answer: A**



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**35.** Which of the following amino acid is present only in bacteria and BGA

A. Glutamic acid

B. Diaminopimetic acid

C. Glycine

D. Tyrosine

**Answer: b**

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**36.** Shorter generation time of E. coli compared to eukaryotes may be explained on the basis of

- A. Shape
- B. Large surface : volume ratio
- C. Presence of cell wall
- D. Absence of organelles

**Answer: b**

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**37.** Teichoic acid is found in

- A. Gram (+ve) bacteria
- B. Gram (-ve) bacteria
- C. Cyanobacteria
- D. Mycoplasma

**Answer: A**



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**38.** N-acetyl muramic acid is found as

- A. Cell wall component of plant
- B. Cell wall component of gram positive bacteria
- C. Cell wall component of fungi
- D. Viral coat material

**Answer: b**

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**39.** The nitrifying bacteria are

- A. Autotrophic
- B. Saprophytic
- C. Parasitic

D. Chemosynthetic

**Answer: d**



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**40.** Branched chain lipids occur in the cell membranes of

A. Archaeobacteria

B. Mycoplasma

C. Actinomycetes

D. Streptomyces

**Answer: a**



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41. Smallest bacteria is

A. Spirillum

B. Basillus

C. Dialister

D. None of these

**Answer: c**



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42. A mutant micro-organism unable to synthesize a compound required for its growth but able to grow if the compound is provided, is known as

- A. Auxotroph
- B. Prototroph
- C. Autotroph
- D. None of these

**Answer: a**

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**43.** Which one of the following organisms may respire in the absence of oxygen

- A. Azotobacter
- B. Clostridium
- C. Rhizobium

D. Lactobacillus

**Answer: b**

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**44.** A bacterium is capable of withstanding extreme heat dryness and toxic chemicals. This indicates that it is probably able to form

- A. A thick peptidoglycan wall
- B. Endospores
- C. Endotoxins
- D. Endogenous buds

**Answer: b**



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**45.** First organism which was evolved on the earth

- A. Saprotrophs
- B. Chemoheterotrophs
- C. Photoautotrophs
- D. Chemoautotrophs

**Answer: B**



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46. Antony Van Leeuwenhoek was first discovered bacteria.

He belongs to which country

A. France

B. Sweden

C. Holland

D. United Kingdom

**Answer: c**



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47. Bacteria are included in which of the following kingdoms

A. Protista

B. Plantae

C. Monera

D. Animalia

**Answer: c**



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**48. Salmonella sp. Is**

A. Monotrichous

B. Lophotrichous

C. Amphitrichous

D. Peritrichous

**Answer: d**



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**49. Who classified bacteria under Schizomycetes**

A. Nageli

B. Linnaeus

C. Leeuwenhoek

D. Sadashivan

**Answer: a**



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50. The correct sequence of stages of growth curve for bacteria is

- A. Decline, lag, log phase
- B. Lag, log, stationary phase
- C. Stationary, lag, log, decline phase
- D. Lag, log, stationary, decline phase

**Answer: d**

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51. Genophore term was coined by Hans Ris for

- A. Genetic material of virus



B. Stack on which spore originated

C. Bacterial chromosome

D. Fungal chromosome

**Answer: c**



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**52.** The DNA of E. coil is

A. Single stranded and linear

B. Single stranded and cuicular

C. Double stranded and linear

D. Double stranded and circular

**Answer: D**



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**53.** In prokaryotes the Glycocalyx when it is thick is called

- A. Capsule
- B. Slime layer
- C. Cell wall component of fungi
- D. Mesosome

**Answer: a**



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**54.** When a bacterium is provided with flagella arising from two opposite ends, it is called

- A. Monotrichous
- B. Lophotrichous
- C. Amphitrichous
- D. Polytrichous

**Answer: c**



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**55.** The structure that help some bacteria to attach to rocks and host tissues are

A. Fimbriae

B. Mesosomes

C. Holdfast

D. Rhizoids

**Answer: a**



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**56.** What is a genophore

A. DNA in prokaryotes

B. DNA and RNA in prokaryotes

C. DNA and protein in prokaryotes

D. RNA in prokaryotes

**Answer: b**



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57. An example of iron bacteria is

A. Beggiatoa

B. Geobacillus

C. Ferrobacillus

D. None of these

**Answer: c**



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**58.** Bacteria are made up of

- A. Nucleic acid
- B. Only proteins
- C. Nucleic acid and proteins
- D. Nucleosides

**Answer: C**



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**59.** Genes for antibiotic resistance located in

Or

Bacterial resistance to antibiotics is a genetic trait, it is normally carried by the

- A. Chromosome
- B. Nucleus
- C. Cell wall
- D. Plasmid

**Answer: d**



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**60.** The cells of bacterium *Staphylococcus* remain arranged in the form of

- A. Plate

B. Cube

C. Irregular cluster

D. Chain

**Answer: c**



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**61.** Peptidoglycan' is a characteristic constituent of the cell wall of

A. Eubacteria and unicellular eukaryotes

B. Bacteria and cyanobacteria

C. Archaeobacteria and eukaryotes

D. All members of 'monera' and 'protista'



**Answer: B**



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**62.** Bacteria and other monerans do not possess

- A. Ribosomes
- B. Mitochondria
- C. Nucleoid
- D. Plasma membrane

**Answer: b**



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**63.** Mucopeptide in cell wall is more in

- A. Gram-positive bacteria
- B. Gram-negative bacteria
- C. Cyanobacteria
- D. Bacteriophage

**Answer: a**



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**64.** Identify the bacterium that appears violet after Gram staining

- A. *Salmonella enterica*

B. Escherichia coli

C. Mycobacterium tuberculosis

D. Rhizobium meliloti

**Answer: c**



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**65.** Many bacteria bear minute hairy structures on their cell wall, these are called

A. Hairs

B. Flagella

C. Pili

D. Cilia

**Answer: c**



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**66.** Which of the following is not correct statement about the plasmids

- A. It is the extra chromosomal DNA in bacteria
- B. It is not a integral part but inert genetic material
- C. Host chromosome can be integrated with the plasmide
- D. Transfer of plasmid can be done from cell to cell without killing the host

**Answer: b**



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67. Infoldings of the plasma membrane of gram positive bacteria, gives rise to

- A. Clathrin
- B. Chondritin
- C. Chondrioides
- D. Chromatin

**Answer: c**



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**68.** Bacteria with tuft of flagella at one pole is known as

A. Amphitrichous

B. Peritrichous

C. Atrichous

D. Lophotrichous

**Answer: d**



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**69.** Circular DNA molecule occurs in

A. Viruses

B. Bacteria, chloroplasts and mitochondria

C. Bacteria and chloroplasts only

D. Bacteria only

**Answer: b**



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**70.** Extension of plasma membrane in prokaryotes is

A. ER

B. Mesosome

C. Ribosome

D. None of these

**Answer: b**

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71. Bacterial cells can be stained with

- A. Mercuric chloride
- B. Crystal violet
- C. Crystal violet and iodine
- D. Safranin

**Answer: c**

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72. The term 'glycocalyx' is used for



- A. A layer present between cell wall and membrane of bacteria
- B. Cell wall of bacteria
- C. Bacterial cell glyco-engineered to possess *N*-glycosylated proteins
- D. A layer surrounding the cell wall of bacteria

**Answer: D**

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**73.** Why is a capsule advantageous to a bacterium

- A. It protects the bacterium from desiccation

B. It provides means of locomotion

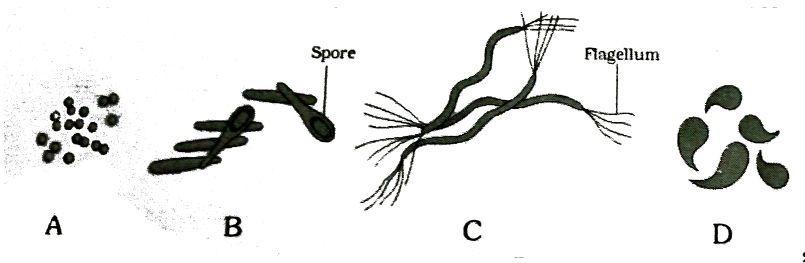
C. It allows bacterium to "hide" from host's immune system

D. It allows the bacterium to attach to the surface

**Answer: c**

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**74.** According to the shapes the names of the different bacteria are given below. Identify them



- A. A-Spirilla, B-Vibrio, C-Cocci, D-Bacilli
- B. A-Spirilla, B-Bacilli, C-Cocci, D-Vibrio
- C. A-Bacilli, B-Cocci, C-Spirilla, D-Vibrio
- D. A-Cocci, B-Bacilli, C-Spirilla, D-Vibrio

**Answer: d**



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**75. Archaeobacteria differ from eubacteria in**

- A. Cell shape
- B. Mode of reproduction
- C. Cell membrane structure

D. Mode of nutrition

**Answer: C**



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**76.** Which structures perform the function of mitochondria in bacteria

A. Cell wall

B. Mesosomes

C. Nucleoid

D. Ribosomes

**Answer: b**





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77. Which one of the following matching pairs is WRONG

- A. Bacterial cell wall-cellulose
- B. Bacterial ribosome-16s rRNA
- C. Bacterial flagella-protein
- D. Bacterial glycocalyx-cellulose

**Answer: a**



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78. Methanogens belong to

- A. Slime moulds
- B. Eubacteria
- C. Archaeobacteria
- D. Dinoflagellates

**Answer: c**

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**79.** Which of the following are found in extreme saline conditions

- A. Archae bacteria
- B. Eubacteria
- C. Cyanobacteria

D. Mycobacteria

**Answer: A**



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**80.** Which of the following components provides sticky character to the bacterial cell

A. Cell wall

B. Nuclear membrane

C. Plasma membrane

D. Glycocalyx

**Answer: D**





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**81.** Bacterial cell divides in every minute it takes one hour to fill up a cup. How much time be taken to fill half the cup

- A. 59 minutes
- B. 30 minutes
- C. 60 minutes
- D. 29 minutes

**Answer: a**



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**82.** Under the optimum condition of temperature and nutrition most of the bacteria divide at the interval

- A. 24 hours
- B. 20 minutes
- C. 60 minutes
- D. 5 minutes

**Answer: b**



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**83.** Transformation experiments using *Pneumococcus* bacteria led to the hypothesis that

- A. DNA is the genetic material
- B. Bacteria have sexula reproduction
- C. Chromosomes are made up of DNA
- D. RNA is the transfer link

**Answer: a**

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**84.** The process in which viruses are involved in sexual reproduction of bacteria is called

Or

The transfer of genetic material from one bacterial cell to another through a vector is

A. Transduction

B. Transcription

C. Transformation

D. Translation

**Answer: a**



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**85.** Bacteria commonly reproduce vegetatively by

Or

Which one of the following processes results in the formation of clone of bacteria

A. Binary fission

B. Budding

C. Conjugation

D. Oidia

**Answer: A**



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**86.** Some bacteria are not easily killed because of

A. Chitinous wall

B. Endospore formation

C. Presence of mesosome

D. High tolerance

**Answer: b**



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**87.** Identify the correct pair of events when temperature phages infect bacteria

I. No prophages are formed

II. Bacterial cell undergoes many divisions

III. Bacterial cell undergoes immediate lysis

IV. Prophages are formed

The correct pair is

A. *I, II*

B. *II, III*

C. *III, IV*

D. II, IV

**Answer: d**

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**88.** Why the food can be kept for a longer time in cold house than in normal conditions

- A. Insert can not enter
- B. Bacterial multiplication stops
- C. Bacterial multiplication is reduced
- D. There is plasmolysis at low temperature

**Answer: c**

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**89.** Viral genome incorporated and integrates with bacterial genomes is refer to as

- A. Prophages
- B. RNA
- C. DNA
- D. Both (b) and (c)

**Answer: a**



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**90.** Sexual reproduction in eubacteria takes place by

A. Conjugation

B. Transduction

C. Transformation

D. All of these

**Answer: d**

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**91.** In griffith's experiment, the conversion of R-type to S-type of *Diplococcus pneumoniae* when mixed with heat killed S-type is called

Or

The uptake of naked DNA by bacteria is called



A. Mutation

B. Transduction

C. Transfection

D. Transformation

**Answer: d**



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**92.** There is no alternation of generation in *Escherichia coli* because of the absence of

A. Syngamy

B. Raduction division

C. Conjugation

D. None of these

**Answer: b**

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**93.** Penicillin inhibits bacterial multiplication because

- A. It checks spindle formation
- B. It destroys chromatin
- C. It inhibits cell wall formation
- D. It checks RNA synthesis

**Answer: c**

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**94.** Pili in bacteria represent

- A. Extra-chromosomal genetic element
- B. Protoplasmic outgrowths of donor cells
- C. Small flagella
- D. Special bacterial cilia

**Answer: b**



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**95.** The process of replication in plasmid DNA, other than initiation, is controlled by

- A. Plasmid gene
- B. Bacterial gene
- C. Cytoplasmic gene
- D. Mitochondrial gene

**Answer: b**

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**96.** The guts of cow and buffalo possess

- A. Chlorella spp.
- B. Methanogens
- C. Cyanobacteria

D. Fucus spp.

**Answer: b**



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**97.** Transfer of genetic information from one bacterium to another in the transduction process is through

- A. Physical contact between donor and recipient strains
- B. Conjugation between opposite strain bacterium
- C. Bacteriophages released from the donor bacterial strain
- D. Another bacterium having special organ for conjugation

**Answer: c**



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**98.** Conjugation in bacteria was discovered by

Or

The sexuality in bacteria was established by

- A. Robert Koch
- B. Schaudinn and Hoffmann
- C. Lederberg and Tatum
- D. Leeuwenhoek

**Answer: c**



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**99.** Transfer of DNA from one bacteria to another by contact is known as

- A. Conjugation
- B. Transformation
- C. Transduction
- D. Transcription

**Answer: A**



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**100.** Sex factor in bacteria is

A. F-replicon

B. Chromosomal replicon

C. RNA

D. Sex pilis

**Answer: a**



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**101. Amitosis is shown by**

A. Bacteria

B. Euglene

C. Syllis



D. Hydra

**Answer: a**



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**102.** Bacteria reproduce sexually by

A. Endospores

B. Transformation

C. Conidia

D. Exospores

**Answer: b**



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**103.** Consider the following four statements (1-4) and select the option which includes all the correct ones only

(1) Single cell *Spirulina* can produce large quantities of food rich in protein, minerals, vitamins etc

(2) Body weight-wise the microorganism *Methylophilus methylotrophus* may be able to produce several times more proteins than the cow per day

(3) Common button mushrooms are a very rich source of vitamin C

(4) A rich variety has been developed which is very rich in calcium

A. Statement (3), (4)

B. Statement (1), (3) and (4)

C. Statements (2), (3) and (4)

D. Statements (1), (2)

**Answer: d**



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**104.** A free living anaerobic bacterium capable of  $N_2$  fixation in soil is

A. Rhizonbium

B. Azotobacter

C. Streptococcus

D. Clostridium

**Answer: d**



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**105.** Which of the following is free-living aerobic non-photosynthetic nitrogen fixing bacterium

- A. Rhizonbium
- B. Azotobacter
- C. Nostoc
- D. Azospirillum

**Answer: b**



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**106.** Which of the following groups of plants are highly useful in increasing soil fertility

- A. Red algae
- B. Fungi
- C. Bacteria
- D. Bryophytes

**Answer: c**



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**107.** A prokaryotic autotrophic nitrogen fixing symbiont found in

or

Besides paddy fields, cyanobacteria are also found inside  
vergative part of

A. Pisum

B. Alnus

C. Cycas

D. Cicer

**Answer: c**



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**108.** Curing of tea leaves is brought about by the activity of

A. Viruses

B. Fungi

C. Bacteria

D. Mycorrhiza

**Answer: c**



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**109.** Oxygenic photosynthesis occurs in

A. Chromatium

B. Oscillatoria

C. Rhodospirillum

D. Chlorobium

**Answer: b**

**110.** Thermococcus, Methanococcus and Methanobacterium exemplify:

- A. Bacteria whose DNA is relaxed or positively supercoiled but which have a cytoskeleton as well as mitochondria
- B. Bacteria that contain a cytoskeleton and ribosomes
- C. Archaeobacteria that contain protein homologous to eukaryotic core histones
- D. Archaeobacteria that lack any histones resembling those found in eukaryotes but whose DNA is negatively supercoiled



**Answer: c**



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**111.** The symbiotic nitrogen fixing bacteria present in root nodules of legumes belong to genus

A. Xanthomonas

B. Pseudomonas

C. Rhizobium

D. Acetobacter

**Answer: c**



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112. Nitrogen fixing bacteria are associated with

- A. Leguminosea
- B. Cruiferea
- C. Gramineae
- D. Malvaceae

**Answer: a**



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113. Which of the following is recently discovered gram positive non-leguminous nitrogen fixing bacterium

- A. Azospirillum

B. Rhizobium

C. Nitrosomonas

D. Spirillum

**Answer: a**



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**114.** Nitrifying bacteria , Nitrosomonas and Nitrobacter

A. Convert (oxidize) ammonia or ammonium compounds  
into nitrates

B. Convert nitrate into nitrogen

C. Convert nitrogen into nitrates

## D. Convert dioxide into carbohydrates

**Answer: a**



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**115.** Match the items in column I with those in column II and choose the correct answer

Column I	Column II
<i>P.</i> Blue green algae as biofertilizers	<i>i.</i> Ectomycorrhiza
<i>Q.</i> Fungi as biofertilizers	<i>ii.</i> Thiobacillus sp
<i>R.</i> Free living nitrogen fixing bacteria	<i>iii.</i> Anabaena sp
<i>S.</i> Phosphate solubilizing bacteria	<i>iv.</i> Clostridium sp
	<i>v.</i> Azospirillum sp

A. O-iii, Q-I, R-v, S-ii

B. P-v, Q-I, R-ii, S-iv

C. P-v, Q-iv, R-I, S-ii

D. P-iv, Q-ii, R-v, S-iii

**Answer: a**



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**116.** The most abundant prokaryotes helpful to humans in making curd from milk and in production of antibiotics are the ones categorised as

A. Cyanobacteria

B. Archaeobacteria

C. Chemosynthetic autotrophs

D. Heterotrophic bacteria

**Answer: d**

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**117.** During biological nitrogen fixation, inactivation of nitrogenase by oxygen poisoning is prevented by

- A. Xanthophyll
- B. Carotene
- C. Cytochrome
- D. Leghaemoglobin

**Answer: d**





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**118.** Free living bacteria that can fix  $N_2$  from soil is

- A. Clostridium
- B. Azotobacter
- C. Beijerinckia
- D. All of these

**Answer: d**



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**119.** For retting of jute the fermenting microbe used is

A. Methophilic bacteria

B. Butyric acid

C. Helicobacter pylori

D. Streptococcus lactin

**Answer: b**



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**120.** Which bacteria is responsible for the reduction of nitrates into nitrogen, (denitrifying Bacteria) in soil

A. Nitrosomonas

B. Pseudomonas

C. Rhizobium



D. Clostridium

**Answer: b**

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**121.** Which of the bacterium is useful in preparing Idli

A. Leuconostoc mesenteroides

B. Clostridium

C. Both (a) and (b)

D. None of the above

**Answer: a**

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122. Which of the following is symbiotic nitrogen fixer.

Or

Which of the following can fix nitrogen in non-leguminous plants

A. Streptomyces

B. Anabaena

C. Frankia

D. Rhizobium

**Answer: c**



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**123.** Non-symbiotic nitrogen fixation takes place by

- A. Nostoc, Azotobacter, Clostridium
- B. Anabena, Nostoc, Rhizobium
- C. Azotobacter, Nitrosomonas, Rhizobium
- D. Anabena, Nitrosomonas, Pseudomonas

**Answer: a**

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**124.** all of the following statements concerning the actinomycetous filamentous soil bacterium Frankia are correct except that Frankia

- A. Can induce root nodules on many plant species
- B. Cannot fix nitrogen in the free-living state
- C. Cannot fix specialized vesicles in which the nitrogenase is protected from oxygen by a chemical barrier involving triterpene hapanoids
- D. Like Rhizobium, it usually infects its host plant through root hair deformation and stimulates cell proliferation in the host's cortex

**Answer: b**



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**125.** Organisms called Methanogens are most abundant in a

- A. Hot spring
- B. Sulphur rock
- C. Cattle yard
- D. Polluted stream

**Answer: c**

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**126.** Plasmid are used as carried because

- A. It has antibiotic resistance genes
- B. Its both ends are replication points
- C. It can go between eukaryotic and prokaryotic cells

D. It is circular DNA which has capacity to bind eukaryote

DNA

**Answer: a**



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**127.** Fermentation is by

A. All micro organism

B. All fungi

C. All bacteria

D. Some fungi and some bacteria

**Answer: d**

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**128.** Cattle ranches are known to cause acute green house effect. This is due to

- A. Mechanised milking practices
- B. Methanogenic bacteria in rumen
- C. Decomposition of left over fodder
- D. Decomposition of organic remains in faeces

**Answer: b**

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**129.** which does not help in  $N_2$  fixation

A. Anabaena

B. Nostoc

C. Oscillatoria

D. Rhizobium

**Answer: c**



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**130.** Which of the following is non-symbiotic biofertilizer

A. VAM

B. Azotobacter

C. Anabaena



D. Rhizobium

**Answer: b**

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**131.** Which bacteria convert ammonium salts into nitrite

- A. Nitrobacter
- B. Nitrosomonas
- C. Azotobacter
- D. None of these

**Answer: b**

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**132.** Which of the following soil microorganism breaks down plant and animal protein into ammonia

- A. *Bacillus vulgaris*
- B. *Nitrosomonas*
- C. *Pseudomonas*
- D. None of the above

**Answer: a**



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**133.** Which of the following is used to cure off the bitterness of tea leaves

A. Bacillus subtilis

B. B. megatherium

C. B. lactis

D. B. mycrococcus

**Answer: b**

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**134.** One of the useful activities of several bacteria is

A. Nitrogen fixation

B. Nitrification

C. Operation of biogeochemical cycles

D. All of the above

**Answer: d**



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**135.** the main role of bacteria in the carbon cycle involves

A. Photosynthesis

B. Assimilation of itrogenous compound

C. Chemosynthesis

D. Digestion or breakdown of organic compounds

**Answer: d**



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**136.** One of the free-living, anaerobic nitrogen-fixer is

Or

which of the following is a photoautotrophic bacterium

A. Azotobacter

B. Beijernickia

C. Rhodospirillum

D. Rhizobium

**Answer: c**



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**137.** The function of leghaemoglobin in the root nodules of legumes is

- A. Expression of *nif* gene
- B. Inhibition of nitrogenase activity
- C. Oxygen removal
- D. Nodule differentiation

**Answer: c**

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**138.** A large number of organic compounds can be decomposed by

A. Chemoorgano

B. Pseudomonas

C. Acetobacter

D. Mycoplasma

**Answer: a**



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**139.** Which one of the following bacteria has potential for nitrogen fixation

A. Nitrosomonas

B. Nitrobacter

C. Nitrosococcus

D. Rhizobium

Answer: d



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140. Certain bacteria living in the soil poor in oxygen convert nitrates into nitrites and then to free nitrogen and such bacteria are termed as

Or

The bacteria which convert  $NO_3 \rightarrow$  Free  $N_2$  are called as

A. Nitrogen fixing bacteria

B. Denitrifying bacteria

C. Ammonifying bacteria



D. Saprophytic bacteria

**Answer: b**



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**141.** Which of the following is a flowering plant with nidules containing filamentous nitrogen-fixing microorganism

A. *Casuarina equisetifolia*

B. *Crotalaria juncea*

C. *Cycas revoluta*

D. *Cicer arietinum*

**Answer: a**





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**142.** Probiotics are

- A. Safe antibiotics
- B. Cancer inducing microbes
- C. New kind of food allergens
- D. Live microbial food supplement

**Answer: d**



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**143.** Bacteria which directly convert atmospheric nitrogen into nitrogen compounds are called

- A. Denitrifying bacteria
- B. Putrefying bacteria
- C. Nitrogen fixing bacteria
- D. Nitrifying bacteria

**Answer: c**

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**144.** The germ theory of disease was put forth by

- A. Koch
- B. Pasteur
- C. Rayer

D. Devaine

**Answer: b**

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**145.** Effective management practice for bacterial leaf blight of rice is

- A. Removal of secondary host weed
- B. Use of resistant varieties
- C. Treatment of  $ZnSO_4$  and  $CaOCl_2$
- D. All of the above

**Answer: d**

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**146.** In the following table identify the correct matching of the crop its disease and the corresponding pathogen

- |    |            |             |                                 |
|----|------------|-------------|---------------------------------|
| A. | Crop       | Disease     | Pathogen                        |
|    | Citrus     | Canker      | <i>Pseudomonas rubrilineans</i> |
| B. | Crop       | Disease     | Pathogen                        |
|    | Potato     | Late blight | <i>Fusarium udum</i>            |
| C. | Crop       | Disease     | Pathogen                        |
|    | Brinjal    | Root-knot   | <i>Meloidogyne incognita</i>    |
| D. | Crop       | Disease     | Pathogen                        |
|    | Pigeon pea | Seed gall   | <i>Phytophthora infestans</i>   |

**Answer: c**



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**147.** Cause of 'Mad Cow' disease of England

- A. Virions
- B. Mycoplasma
- C. Scrapie Protein
- D. Viral protein

**Answer: c**

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**148.** Which of the following is a bacterial plant disease

- A. Tikka disease of groundnut
- B. Downy mildew of grapes
- C. Ring rot of potato

D. Red rot of sugarcane

**Answer: c**

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**149.** Mycolic acid is present in cell wall of pathogen causing

A. Tetanus

B. Cholera

C. Diphtheria

D. Tuberculosis

**Answer: d**

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**150.** Tetanolusin is produced by

- A. *Mycobacterium laprae*
- B. *Clostridium botulinum*
- C. *Clostridium tetani*
- D. None of these

**Answer: c**

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**151.** Bacterial blight of rice is caused due to

- A. *Xanthomonas oryzae*



B. *Helminthosporium oryzae*

C. *Pseudomonas falcatum*

D. *Xanthomonas falcatum*

**Answer: a**

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**152.** The poisonous substances commonly produced by bacteria are known as

A. Toxin (Exotoxins)

B. Auxins

C. Antibiotic

D. Anitoxins

**Answer: a**



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**153.** Which one of the following pathogen cause canker disease

- A. *Meloidogyne incognita*
- B. *Anguina tritici*
- C. *Xanthomonas citri*
- D. *Pseudomonas rubilineans*

**Answer: c**



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**154.** The *Bacillus haemophilus* causes

- A. Influenza
- B. Pneumonia
- C. A form meningitis
- D. Whooping cough

**Answer: a**



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**155.** Black rot of crucifers is caused by a

- A. Fungus
- B. Bacterium

C. Virus

D. None of these

**Answer: b**



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**156.** Which of the following is disease causing bacterium in human beings

A. Escherichia coli

B. Xanthomonas citri

C. T.M.V.

D. Pilobolus

**Answer: a**



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**157.** 'Crown gall' is caused by

- A. Mycobacterium
- B. Agrobacterium tumefaciens
- C. Erwinia
- D. Clostridium

**Answer: b**



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**158.** Which is the cause of Anthrax disease

A. Virus

B. Bacteria

C. Mycoplasma

D. Algae

**Answer: b**



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**159.** Citrus canker' is caused by a

A. Fungus

B. Bacterium

C. Virus

D. Nematoda

**Answer: b**



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**160.** The 2005 noble prize for physiology/medicine was awaeded to Barry Marshall and Robin Warren of Australia for their discovery of

A. Human papilloma virus causing cervical cancer

B. Bacterium *Helicobacter pylori* causing peptic ulcer

C. Prions, a new biological principle of infection

D. Human immunodeficiency virus

**Answer: b**



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**161.** Which one is the smallest organism capable of autonomous growth and reproduction

Or

Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen

A. Virus

B. Viroid

C. Mycoplasma (PPLO)

D. None of the above



**Answer: c**



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**162.** Little leaf of brinjal is caused by

A. Virus

B. Mycoplasma

C. Fungus

D. Algae

**Answer: b**



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**163.** Which one of the following statements about mycoplasma is wrong

- A. They are also called PPLO
- B. They are pleomorphic
- C. They are sensitive to penicillin
- D. They cause diseases in plants

**Answer: C**



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**164.** What is incorrect for mycoplasma

- A. They are osmotically incative

- B. Show absence of cell wall
- C. Are sensitive to modern antibiotics
- D. Are obligate intracellular parasites

**Answer: d**

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**165.** Prokaryota includes

- A. Mycoplasma
- B. Ulothrix
- C. Fungi
- D. Mycoplasma and blue-green algae

**Answer: d**



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**166.** Penicillin and Vancomycin do not affect the mycoplasma because

- A. There is no cell wall
- B. There is no nucleus
- C. there is no mitochondria
- D. There is no golgi body

**Answer: a**



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**167.** Which of the following is effective against mycoplasmal diseases

- A. Vancomycin
- B. Penicillin
- C. Chloramphenicol
- D. All the above

**Answer: c**

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**168.** Which of the following is called "Jockers of microbiological park"

A. Bacteria

B. Mycoplasma

C. Nostoc

D. None of these

**Answer: B**



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**169.** The 'Witches broom' of legumes is caused by a

A. Virus

B. Mycoplasma

C. Bacterium

D. Fungus

**Answer: b**



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**170.** Elementary cell body in mycroplasma perform the function of

- A. Metabolism
- B. Excretion
- C. Reproduction
- D. Respiration

**Answer: c**





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171. Mycoplasma are not sensitive to

- A. Streptomycin
- B. Penicillin
- C. Erythromycin
- D. Neomycin

**Answer: b**



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172. Which of the following statement is true for Mycoplasma



A. Presence of cell wall

B. Presence of nucleus

C. Absence of cell wall

D. Definite shape

**Answer: c**



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**173.** Who recorded pleuropneumonia in cattles

A. Pasteur

B. Twort

C. Knoll and Ruska

D. Nocard and Roux

**Answer: d**



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174. 'Dodder' can transmit

A. Mycoplasmal diseases

B. Viral diseases

C. Both (a) and (b)

D. None of these

**Answer: c**



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175. Which of the species of mycoplasma causes human sterility

- A. *M. hominis*
- B. *M. fermentans*
- C. Both (a) and (b)
- D. None of these

**Answer: c**



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176. The outermost limiting layer of mycoplasma is made up of

- A. Cell wall
- B. Cell membrane
- C. Mucilaginous sheath
- D. Slime layer

**Answer: b**

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**177.** The membrane of which one of the following micro-organism is three layered

- A. Nostoc
- B. Mycoplasma
- C. E. coli

D. Rhodospirillum

**Answer: b**



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**178.** The disease of cardio-vascular system is caused by

A. Algae

B. Mycoplasma

C. Cyanobacteria

D. None of these

**Answer: b**



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**179.** Tendency of abortion in ladies is caused by

- A. Cyanobacteria
- B. Bacteria
- C. Mycoplasma
- D. None of these

**Answer: c**



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**180.** Which disease is caused by mucoplasma

- A. Citrus greening

B. Sandal spike

C. Grassy shoot of sugarcane

D. All the above

**Answer: d**



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**181.** Mycoplasma is

A. Gram positive

B. Gram negative

C. Some species are gram positive

D. None of the above

**Answer: b**



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**182.** PPLO reproduce (multiply) by

- A. Gametic fusion
- B. Binary fission
- C. Akinetes
- D. Endospore

**Answer: b**



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**183.** An organism having cytoplasm DNA and RNA but no cell wall is

A. Cyanobacterium

B. Mycoplasma

C. Bacterium

D. Virus

**Answer: b**

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**184.** Mycoplasma is related to

A. Algae

B. Bacteriophage

C. Virus

D. L-form bacteria

**Answer: d**



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**185.** Organisms without any specific shape are

A. Mycoplasma

B. Bacteria

C. Viruses

D. Cyanobacteria

**Answer: a**



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**186.** Pigment phycocyanin and phycoerythrin are found in

- A. Bacillariophyceae
- B. Archaeobacteria
- C. Eubacteria
- D. Cyanobacteria

**Answer: d**



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**187.** Incipient nucleus is present in

- A. Chlorophyceae
- B. Rhodophyceae
- C. Myxophyceae
- D. Phaeophyceae

**Answer: c**



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**188.** Which of the following has polar nodule on both the ends

- A. Akinetes

B. Hormogonia

C. Heterocysts

D. None of these

**Answer: c**



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**189.** Which of the following shows the absence of chlorophyll 'b'

A. Green algae

B. Red algae

C. Blue-green algae

D. Brown algae

**Answer: c**



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**190.** Which of the following plants is used as biofertiliser

- A. Nostoc
- B. Funaria
- C. Volvox
- D. Rhizopus

**Answer: a**



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**191.** The most primitive in the following are

- A. Cyanobacteria
- B. Bryophytes
- C. Gymnosperms
- D. Monocots

**Answer: a**



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**192.** Which of the following statement is right

- A. Fronds are found in bryophytes
- B. Multiciliate sperms are found in angiosperms

C. Diatoms produce basidiospores

D. Heterocysts are found in Nostoc

**Answer: d**

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**193.** Cyanobacteria are

A. Mosses which attack bacteria

B. Bacteria which attack cyanophyceae

C. Autotrophic organism with phycocyanin

D. None of these

**Answer: c**



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**194.** Nitrogen fixation by Nostoc /Anabaena takes place in

- A. Heterocysts
- B. Vegetative cell
- C. Akinetes
- D. Hormogonia

**Answer: a**

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**195.** Which of the following may cause water blooms

A. Bacteria

B. Mycoplasma

C. Virus

D. Blue-green algae

**Answer: d**



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**196.** Which of the following is not blue-green algae

A. Nostoc

B. Anabaena

C. Lichen

D. Aulosiras

**Answer: c**



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**197.** The blue-green algae are so called as they have in addition to green pigment chlorophyll, a blue pigment known as

- A. Phycocyanin
- B. Chromoplasm
- C. Cyanophycin
- D. Phycoerythrin

**Answer: a**



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**198.** Red sea phenomena due to

A. Red algae

B. Dinophyceae

C. Diatoms

D. Blue-green algae (*Trichodesmium erythrium*)

**Answer: d**



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**199.** Which of the following movement may be found in blue-green algae

- A. Flagellar
- B. Ciliary
- C. Gliding
- D. None of the above

**Answer: c**

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**200.** Which of the following important features are found in blue-green algae

- A. Abundant secretion of pectin
- B. Presence of phycocyanin-C as dominant pigment
- C. No plastids
- D. All the above

**Answer: d**

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**201.** Which was first photosynthetic organism

- A. Green algae
- B. Red algae
- C. Cyanobacteria

D. Brown algae

**Answer: c**



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**202.** Which of the following is a Prokaryote

A. Chlorella

B. Chlamydomonas

C. Protomyces

D. Oscillatoria

**Answer: d**



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203. What is the photosynthetic product in blue-green algae

- A. Normal starch
- B. Glycogen
- C. Cyanophycean starch resembling glycogen
- D. None of these

**Answer: c**



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204. Which is not a cyanobacterium



A. Lyngbya

B. Plectonema

C. Anabaena

D. Sinorhizobium

**Answer: d**



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**205.** The characteristic of blue green alga is

Or

Blue-green algae are called cyanobacteria because

A. DNA without histone

B. Nuclear membrane absent

C. 70 S ribosomes

D. All of the above

**Answer: d**



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**206.** Cyanobacteria of great nutritive value is

A. Gleocapsa

B. Scytonema

C. Stigonema

D. Spirulina

**Answer: d**

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207. Nitrogenase enzyme is found in Nostoc in the cell of

- A. Vegetative
- B. Heterocyst
- C. Both (a) and (b)
- D. None of these

**Answer: b**

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208. Nostoc is known to perform

- A. Only photosynthesis
- B. Photosynthesis and nitrogen fixation simultaneously
- C. Only nitrogen fixation
- D. Either photosynthesis or nitrogen fixation at a time

**Answer: b**

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**209.** Single filament of *Nostoc* without mucilage sheath is known as

- A. Hyphae
- B. Colony
- C. Trichome

D. Mycelium

**Answer: c**



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**210.** In which of the following there is no sexual reproduction

A. Ulothrix

B. Nostoc

C. Aspergillus

D. Volvox

**Answer: b**





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**211.** Which of the following algae is symbiotic and nitrogen fixing

- A. Spirogyra
- B. Cladophora
- C. Anabaena
- D. Oedogonium

**Answer: c**



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**212.** Sexual reproduction is absent in

A. Cyanobacteria

B. Bacteria

C. Eukaryote

D. All of the above

**Answer: a**



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**213.** Prokaryotes are characterized by

A. A true nucleus with double layered nuclear membrane  
is absent

B. Well developed nucleus with double layered nuclear membrane present

C. Presence of cell wall made of chitins, mucopolysaccharides and absence of nuclear membrane and cell organelles like mitochondria and chloroplasts

D. Autotrophic in nature and only DNA is present

**Answer: c**



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**214.** One of the followings is not the characteristic feature of cyanobacteria



- A. They are multicellular
- B. They form colonies
- C. They form blooms in polluted water bodies
- D. They can fix atmospheric nitrogen

**Answer: a**

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**215.** The name cyanobacteria refers to

- A. Bacteria
- B. Blue-green algae
- C. Yeast

D. Fungi

**Answer: b**



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**216.** Nuclear membrane is absent in

A. Penicillium

B. Agaricus

C. Volvox

D. Nostoc

**Answer: d**



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**217.** Which one of the following statements is wrong

- A. Cyanobacteria are also called blue-green algae
- B. Golden algae are also called desmids
- C. Eubacteria are also called false bacteria
- D. Phycocetes are also called algal fungi

**Answer: c**



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**218.** Which were the organisms who changed earth's surface from reducing to the oxidizing

A. Autotrophs

B. Heterotrophs

C. Photoautotrophs

D. Chemotrophs

**Answer: c**



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**219.** Cyanobacteria originated about how many years ago

A. 1 billion

B. 2 billion

C. 3 billion

D. 4 billion

**Answer: c**



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**220.** Which of the following statements is not true for Nostoc

- A. It is prokaryotic
- B. It is autotrophic
- C. It is filamentous
- D. It is macroscopic

**Answer: d**





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221. During rainy seasons, the ground becomes slippery due to dense growth of

- A. Lichens
- B. Bacteria
- C. Green algae
- D. Cyanobacteria

**Answer: d**



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222. Hormogonia are the vegetatively reproducing structures of

A. Ulothrix

B. Spirogyra

C. Oscillatoria

D. Chlamydomonas

**Answer: c**



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223. Atmospheric nitrogen-fixation is carried on by

A. Funaria

B. Anabaena

C. Chlamydomonas

D. Fern gametophyte

**Answer: b**



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**224.** Spirulina is a

A. Blue green algae

B. Fungi

C. Pteridophyte

D. Bryophyte



**Answer: A**



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**225.** Cyanophyceae has got

- A. Definite nucleus and plastid
- B. No definite nucleus but plastid
- C. Neither definite nucleus nor plastid
- D. Definite nucleus but no plastid

**Answer: c**



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**226.** Nostoc is a

- A. Cyanobacteria
- B. Beaded bacterium
- C. Bacteriophage
- D. Parasite

**Answer: a**



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**227.** Unicellular cyanobacteria reproduce asexually by

- A. Conjugation
- B. Fragmentation

C. Binary fission

D. Hormogones

**Answer: c**



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**228.** Heterocysts are found in certain

A. Viruses

B. Bacteria

C. Cyanobacteria

D. Mycoplasmas

**Answer: c**

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**229.** Pigment-containing membranous extensions in some cyanobacteria are

- A. Chromatophores
- B. Heterocysts
- C. Basal bodies
- D. Pneumatophores

**Answer: a**

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**230.** Nostoc is characteristic in having

- A. Cellulose cell wall
- B. Uniflagellated zoospores
- C. Chlorophyll 'e'
- D. Sexual reproduction

**Answer: a**

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**231.** Escherichia coli has the following combination of characters

- A. Rod shaped, 1 – 3  $\mu\text{m}$  long, gram negative
- B. Rod shaped, 1 – 3  $\mu\text{m}$  long, gram positive
- C. Spiral, 1 – 3  $\mu\text{m}$  long, gram negative

D. Spiral, 1 – 3 $\mu$ m long, gram positive

**Answer: a**



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**232.** Mycoplasma differs from virus in being sensitive to

A. Sugar

B. Tetracycline

C. Protein

D. Amino acid

**Answer: b**



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**233.** Which one of the following is wrong statement

- A. Anabaena and Nostoc are capable of fixing nitrogen in free living state also
- B. Root nodule forming nitrogen fixers live as aerobes under free living conditions
- C. Phosphorus is a constituent of all membranes, certain nucleic and all proteins
- D. Nitrosomonas and Nitrobacter are chemoautotrophs

**Answer: c**



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234.  $K_{12}$  plasmid was studied first in

- A. E. coil
- B. Shigella
- C. Salmonella
- D. Eberthella

**Answer: a**



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235. Lysozyme that is present in perspiration, saliva and tears, destroys

- A. Certain fungi



B. Certain types of bacteria

C. All viruses

D. Most virus-infected cells

**Answer: b**

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**236.** The most thoroughly studied known bacteria- plant interactions is ,

A. Nodulation of Sesbania stems by nitrogen fixing bacteria

B. Plant growth stimulation by phosphate-solubilising bacteria

C. Cyanobacterial symbiosis with some aquatic ferns

D. Gall formation on certain angiosperms by  
Agrobacterium

**Answer: d**

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**237.** Which one of the following is genetically improved bacteria for pollution control

A. Pseudomonas

B. Rhizobium

C. Nitrobacter

D. Nitrosomonas

**Answer: a**



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**238.** Otitis media (inflammation of middle ear) is caused by

A. Virus

B. Bacteria

C. Bacteriophage

D. Mycoplasma

**Answer: d**



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**239.** Select the correct combination of the statement of the statement (*A – D*) regarding the characteristics of certain organisms

(A) Methanogens are Archaeobacteria which produce methane in marshy areas

(B) Nostoc is a filamentous blue-green algae which fixes atmospheric nitrogen

(C) Chemosynthetic autotrophic bacteria synthesize cellulose from glucose

(D) Mycoplasma lack a cell and can survive without oxygen

The correct statement are

A. (B), (C)

B. (A), (B), (C)

C. (B), (C), (D)

D. (A), (B), (D)

**Answer: D**



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**240.** The gram negative bacteria detect and responded to chemicals in their surroundings by

- A. Lipopolysaccharide
- B. Muramic acid
- C. Porins
- D. Voluthin granules

**Answer: c**





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**241.** A few organism are known to grow and multiply at temperature of  $100 - 105^{\circ}C$ . They belong to

- A. Thermophilic subaerial fungi
- B. Marine archaeobacteria
- C. Thermophilic sulphur bacteria
- D. Hot spring blue-green algae

**Answer: d**



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**242.** A bacterium divides every 35 minutes. If a culture containing  $10^5$  cells/ml is grown for 175 minutes. What will be the cell concentration / ml after 175 minutes

A.  $175 \times 10^5$  cells

B.  $85 \times 10^5$  cells

C.  $35 \times 10^5$  cells

D.  $32 \times 10^5$  cells

**Answer: d**



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**243.** Monera possess

- A. Membrane bound nucleoproteins lying free in the cytoplasm
- B. Gene containing nucleoproteins condensed together in compact masses
- C. Nucleoproteins in direct contact with the rest of the cell substance
- D. Only free nucleic acid aggregates

**Answer: c**

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**244.** Which of the following are likely to be present in deep sea water



A. Saprophytic fungi

B. Archaeobacteria

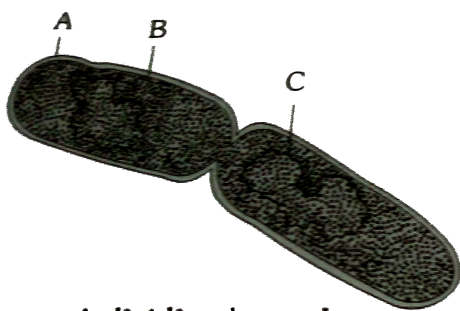
C. Eubacteria

D. Blue-green algae

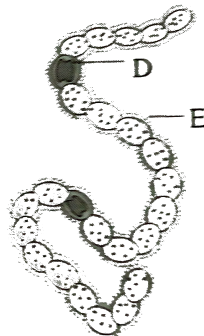
Answer: b

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245. Identify the A, B, C, D and E in the following diagram



**A dividing bacteria**



Nostoc

- A. A-Cell membrane, B-Cell wall, C-DNA, D- Heterocyst, E-  
Mucilagenous sheath
- B. A- Mucilagenous sheath, B-Cell membrane, C- DNA, D-  
Heterocyst, E-Cell wall
- C. A-Cell wall, B-Cell membrane, C-DNA, D-Heterocyst, E-  
Mucilagenous sheath
- D. A-Cell wall, B-Cell membrane, C-Heterocyst, D-DNA, E-  
Mucilagenous sheath

**Answer: c**



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**246.** The motile bacteria are also to move by

A. Cilia

B. Pili

C. Fimbriae

D. Flagella

**Answer: d**



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**247.** Pick up the wrong statement

A. Protista have photosynthetic and heterotrophic modes of nutrition

B. Some fungi are edible

C. Nuclear membrane is present in monera

D. Cell wall is absent in animalia

**Answer: c**



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**248.** Cyanobacteria are classified under

A. Protista

B. Plantae

C. Monera

D. Algae

**Answer: c**

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249. Conversion of nitrate to ammonia is *a / an*

- A. Amination process
- B. Deamination process
- C. Oxidative process
- D. Reductive process

**Answer: d**

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250. Select the mismatch

- A. Methanogens- Prokaryotes
- B. Gas vacuoles-Green bacteria
- C. Large central vacuoles-Animal cells
- D. Protists- Eukaryotes

**Answer: c**



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**251. Select the wrong statement**

- A. Mycoplasma is a wall-less microorganism
- B. Bacterial cell wall is made up of peptidoglycan

C. Pili and fimbriae are mainly involved in motility of  
bacteria cells

D. Cyanobacteria lack flagellated cells

**Answer: c**

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**252.** Spliceosomes are not found in cell of

A. Plants

B. Fungi

C. Animals

D. Bacteria

**Answer: d**



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**253.** Which among the following is not a prokaryote

A. Saccharomyces

B. Mycobacterium

C. Nostoc

D. Oscillatoria

**Answer: a**



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**254.** Oxygen is not produced during photosynthesis by

A. Green sulphur bacteria

B. Nostoc

C. Cycas

D. Chara

**Answer: a**



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**255.** Assertion : Bacteria are prokaryotic.

Reason : Bacteria do not possess true nucleus and membrane bound cell organelles.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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**256.** Assertion : Bacteria have three basic shapes, i.e., round, rod, spiral.

Reason : Cocci and Bacilli may form clusters or chain of a definite length.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: b**



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**257.** Assertion : Bacterial photosynthesis occurs by utilizing wavelength longer than 700 nm.

Reason : Here reaction centre is  $B - 890$ .

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: b**



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**258.** Assertion : The nitrogen-fixing bacteria in leguminous plant nodules live as symbionts.

Reason : Leg-haemoglobin synthesized by leguminous plants protect bacteria

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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**259.** Assertion : Bacteria are classified among plants.

Reason : They have cell walls.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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**260.** Assertion : Bacteria do not always move with the help of flagella.

Reason : Flagellated bacteria employs rotary motion of flagellum when it moves.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: b**



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**261.** Assertion : Some bacteria have the capacity to retain Gram stain after treatment with acid alcohol.

Reason : They are known as Gram positive as they are attracted towards positive pole under influence of electric current.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: c**





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**262.** Assertion : None autotrophic bacteria carry out chemosynthesis.

Reason : Chemosynthesis bacteria trap the small amount of energy released from inorganic compound's oxidation to use in the reaction that synthesize carbohydrates.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: d**



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**263.** Assertion : Exotoxins are released by Gram +ve bacteria causing diseases to animals.

Reason : Exotoxins are proteins to whose response WBC of animals react.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false

D. If both the assertion and reason are false

**Answer: a**



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**264.** Assertion : All food chains will come to stand still if bacteria disappear from earth.

Reason : Bacteria are only associated with the soil fertility and hardly any role for food chains.

A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion

B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion

C. If the assertion is true but the reason is false

D. If both the assertion and reason are false

**Answer: c**



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**265.** Assertion : Broad spectrum antibiotics are produced by streptomycetes.

Reason : They can destroy microorganisms by inhibiting DNA replication or protein synthesis.

A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion

- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**

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**266.** Assertion : Bacterial cell wall is characterised by having mucopolysaccharides.

Reason : Acetyl muramic acid is an example of mucopolysaccharide.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: d**



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**267.** Assertion : Root nodules in leguminous plants are inhabited by Anabaena.

Reason : Leguminous plants are an example of symbiotic nitrogen fixation.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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**268.** Assertion : *Bacillus butschli* is true bacterium.

Reason : Its cell wall is composed of acetyl muramic acid.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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**269.** Assertion : Plasmids are double-stranded extra chromosomal DNA.

Reason : Plasmids are possessed by eukaryotic cells.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: c**



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**270.** Assertion : Pili are motile appendages of bacteria.

Reason : Pili participate in conjugation.

A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion

B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion

C. If the assertion is true but the reason is false

D. If the assertion is false but reason is true

**Answer: d**



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**271.** Assertion : Cell secretion does not occur in bacteria.

Reason : Golgi complex is absent in bacteria.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If the assertion is false but reason is true

**Answer: d**



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**272.** Assertion : *Agrobacterium tumefaciens* is the causative agent of crown gall disease of dicots.

Reason : *Agrobacterium tumefaciens* causes infection by entering the plant through wounds and injuries.

- A. If both the assertion and the reason are true and the reason is a correct explanation of the assertion
- B. If both the assertion and the reason are true and the reason is not a correct explanation of the assertion
- C. If the assertion is true but the reason is false
- D. If both the assertion and reason are false

**Answer: a**



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273. Which of the following represents obligate anaerobes

A. Spirogyra

B. Pisum sativum

C. Onion

D. Methane bacteria

**Answer: d**



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274. Mycoplasma mycoides causes which of the following diseases

A. Bovine pleuropneumonia

B. Inflammation of genitals

C. Agalactia

D. None of these

**Answer: a**



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**275.** Food material can be preserved at

A. High temperature

B. Osmotic pressure

C. Low temperature

D. All of the above

**Answer: d**



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**276.** The bacteria which lacks flagella and moves by gliding are included in

A. Spirochaetes

B. Rickettsia

C. Myxobacteria

D. Eubacteria

**Answer: c**





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277. Select the correct match

- |    |              |   |                            |
|----|--------------|---|----------------------------|
| A. | Nitrosomonas | – | Nitrite to nitrate         |
| B. | Thiobacillus | – | Denitrification            |
| C. | Nostoc       | – | Free-living nitrogen-fixer |
| D. | Azotobacter  | – | Anaerobic nitrogen-fixer   |

A. A and B

B. C and D

C. B and C are wrong

D. B and D

**Answer: c**



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**278.** Pasteurization is heating at

- A.  $120^{\circ} C$  for 60 minutes
- B.  $60 - 70^{\circ} C$  for 30 minutes
- C.  $70^{\circ} C$  for 60 minutes
- D.  $80^{\circ} C$  for 30 minutes

**Answer: b**

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**279.** Exotoxin is produced by

- A. Gram positive bacteria
- B. Gram negative bacteria

C. Both (a) and (b)

D. None of the above

**Answer: a**



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**280.** Clover phyllody is caused by

A. Spirochaetes

B. Protoplasts

C. Spheroplasts

D. Mycoplasmas

**Answer: d**

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**281.** The murein found in bacterial cell is

- A. Derivative of protein
- B. Derivative of fat
- C. Derivative of organic acids
- D. Derivative of sugars

**Answer: d**

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**282.** Koch's postulates are not applicable to

A. T.B.

B. Leprosy

C. Cholera

D. Diphtheria

**Answer: b**

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**283.** The purple sulphur bacteria use hydrogen sulphide and release sulphur but not oxygen. Which of the following agrees with above observation

A. The  $H_2$  that reduces  $CO_2$  comes from  $H_2S$  that liberates sulphur

- B. Photosynthesis does not require chlorophyll
- C. Photosynthesis consist of a light and a dark reaction
- D. The  $H_2$  which reduces  $CO_2$  in photosynthesis comes from  $H_2O$  that releases  $O_2$

**Answer: a**

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**284.** Why bacteria do not survive in the salt pickle which has high salt contents

- A. Salt retards the rate of reproduction of bacteria
- B. Bacteria do not get light for photosynthesis
- C. Due to plasmolysis bacteria die

D. Essential elements for bacterial viability are not present in the pickle

**Answer: c**



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**285.** For reproduction, 'endospores' are formed in the following genera

- A. Bacillus and Clostridium
- B. Mucor and Bacillus
- C. Monococcus and Clostridium
- D. Saccharomyces and clostridium

**Answer: a**



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**286.** Match column I with Column II and select the correct

option given below

Column I	Column II
A. Aerobic	1. Frankia
B. Cyanobacteria	2. Azospirillum
C. Casuarina	3. Clostridium
D. Tropical grasses	4. Aulosira
	5. Azotobacter

A. A-4, B-3, C-2, D-1

B. A-3, B-5, C-4, D-2

C. A-2, B-1, C-3, D-5

D. A-5, B-4, C-1, D-2

**Answer: d**



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**287. Which bacterium causes cotton destruction**

- A. Clostridium botulinum
- B. Spirochaeta cytophaga
- C. Mycobacterium
- D. Vibrio

**Answer: b**



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**288.** Bactroids are

- A. Enlarged non-motile cellular bacteria *Rhizobium leguminosarum* in root nodules of legumes
- B. A bacterial cell infected with viruses
- C. A motile bacterium
- D. *Nitrosomonas* bacteria in soil

**Answer: a**



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**289.** Activity of nitrogenase in nitrogen fixing micro-organisms can be seen when

- A. Methane is converted to ethane
- B. Ethane is converted to methane
- C. Ethylene is converted to acetylene
- D. Acetylene is converted or reduced to ethylene

**Answer: c**

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**290.** Azotobacter and Polymyxa are example of

- A. Symbiotic nitogen fixation
- B. Non-symbiotic nitrogen fixation
- C. Disease causing bacteria

## D. Ammonifying bacteria

**Answer: b**

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**291.** Match the type of bacteria listed in column I with their activity given in column II. Choose the correct combination of alphabets of the two columns

Column-I (Types of bacterial)	Column-II (Activity)
A. Steptomycetes	<i>p.</i> Food poisoning
B. Rhizobium	<i>q.</i> Source of antibiotics
C. Nitrosomonas	<i>r.</i> Nitrogen fixation
D. Acetobacter	<i>s.</i> Nitrification
	<i>t.</i> Vinegar synthesis

A. A=q, B=r, C=p, D=t

B. A=q, B=r, C=s, D=t

C. A=s, B=t, C=p, D=r

D. A=t, B=p, C=r, D=s

**Answer: b**



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**292.** The bacteria *Pseudomonas* is useful because of its ability to

- A. Transfer genes from one plant to another
- B. Decompose a variety of organic compounds
- C. Fix atmospheric nitrogen in the soil
- D. Produce a wide variety of antibiotics

**Answer: b**



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**293.** Pullorum disease of poultry is caused by

- A. Hemophilus
- B. Clostridium
- C. Salmonella
- D. Mycobacterium

**Answer: c**



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**294.** Which of the following is a seed borne disease

A. Bacterial blight of rice

B. Kharia of paddy

C. Whiptail of Brassica

D. All of these

**Answer: a**



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