

TEACHING TASK

I)Single Answer Type (Key and Solutions)

1.Pasteurization means

Answer: (C) Heating milk or other liquids to 60°C to 70°C for short duration.

Solution: Pasteurization is a heat treatment process to kill harmful microbes in food, typically milk, by heating it to 60–70°C for a short time.

2.Bacteria differ from other plants in that they do not have

Answer: (D) A well-defined nucleus.

Solution: Bacteria are prokaryotes and lack a well-defined nucleus, unlike plants, which are eukaryotes with a distinct nucleus.

3.Who proposed the germ theory of disease?

Answer: (D) Louis Pasteur.

Solution: Louis Pasteur proposed the germ theory, stating that microorganisms cause diseases.

4.Comma-shaped bacteria are termed as

Answer: (D) Vibrio.

Solution: Vibrio bacteria are comma-shaped, e.g., *Vibrio cholerae*.

5.Food spoilage can be prevented by

Answer: (D) All of these.

Solution: Heating (likely a typo for heating), using chemicals (preservatives), and canning are all methods to prevent food spoilage.

6.Yeast is used in the production of

Answer: (B) Alcohol.

Solution: Yeast ferments sugars to produce alcohol, as in brewing and winemaking.

7.The fixation of free nitrogen by bacteria in the soil is done by

Answer: (A) *Azotobacter*.

Solution: *Azotobacter* is a free-living nitrogen-fixing bacterium in soil.

8.Nitrifying bacteria convert the

Answer: (B) Ammonium salts into nitrates.

Solution: Nitrifying bacteria (e.g., *Nitrosomonas*, *Nitrobacter*) convert ammonium to nitrates in the nitrogen cycle.

9.The bacterial genome is called

Answer: (C) Nucleoid.

Solution: The bacterial genome is located in a region called the nucleoid, not an organized nucleus.

10. Antibiotics are mostly obtained from

Answer: (D) Fungi.

Solution: Many antibiotics, like penicillin, are derived from fungi.

11. Nitrates are converted into nitrogen by

Answer: (A) Denitrifying bacteria.

Solution: Denitrifying bacteria convert nitrates back into nitrogen gas, completing the nitrogen cycle.

12. All bacteria have the following organelle

Answer: (A) Mesosomes.

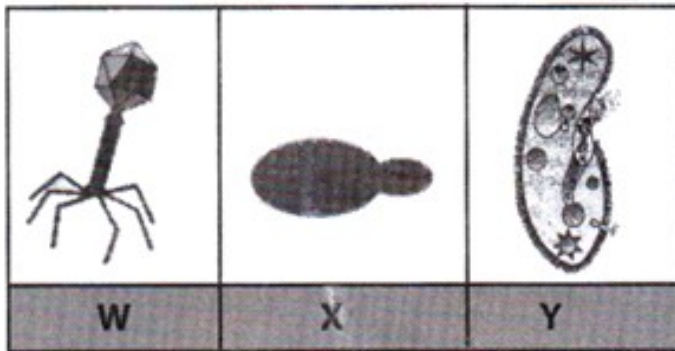
Solution: Mesosomes are invaginations of the bacterial cell membrane, present in many bacteria, unlike eukaryotic organelles like Golgi bodies or mitochondria.

13. Rounded bacteria are

Answer: (D) Cocci.

Solution: Cocci are spherical or rounded bacteria.

14. The following is an antibiotic



Answer: (B) Streptomycin.

Solution: Streptomycin is an antibiotic, unlike sodium bicarbonate, alcohol, or yeast.

15.Virus possess



Answer: (B) Nucleic acid, DNA or RNA.

Solution: Viruses contain either DNA or RNA as their genetic material, not both, along with a protein coat.

16.Capsid is

Answer: (B) Protein cover of virus.

Solution: The capsid is the protein coat surrounding a virus's genetic material.

17.Carrier of malaria-causing protozoan is

Answer: (A) Female Anopheles mosquito.

Solution: The female Anopheles mosquito transmits the Plasmodium parasite, causing malaria.

18.Who discovered vaccination against smallpox

Answer: (A) Jenner.

Solution: Edward Jenner developed the smallpox vaccine using cowpox.

19.Bacteriophage is

Answer: (A) Virus attacking bacteria.

Solution: Bacteriophages are viruses that infect bacteria.

20.The most common carrier of communicable diseases is

Answer: (B) Housefly.

Solution: Houseflies are common vectors for diseases like typhoid and cholera.

21.Thread-like fungal structures are

Answer: (A) Hyphae.

Solution: Hyphae are the thread-like structures forming the fungal body.

22.Fungal cell wall is composed of

Answer: (A) Chitin.

Solution: Fungal cell walls are made of chitin, unlike plant cell walls (cellulose).

23.Fleming discovered penicillin from

Answer: (A) Penicillium notatum.

Solution: Alexander Fleming discovered penicillin from the fungus Penicillium notatum.

24.Yeast are economically important because they

Answer: (D) Are used in wine and baking industry.

Solution: Yeast is used for fermentation in wine production and leavening in baking.

25.The bread or idli dough rises because of

Answer: (C) Growth of yeast cells.

Solution: Yeast ferments sugars, producing CO₂, which causes dough to rise.

II) One or More Than One Answer Type (Key and Solutions)

1.Which of the following statements are incorrect?

Answer: (A), (C).

Solution:

(A) Viruses are not used in making bread; yeast (a fungus) is used.

(B) Euglena can perform photosynthesis (correct).

(C) Protozoa are animal-like, not plant-like organisms.

2.Which of the following statements are incorrect?

Answer: (A), (B), (C).

Solution:

(A) Viruses contain either DNA or RNA, not both.

(B) Lichen is a symbiotic relationship between algae and fungi, not just an alga.

(C) Foot and mouth disease is caused by a virus, not bacteria.

3.Which of the following statements are correct?

Answer: (C).

Solution:

(A) Cocci are spherical, not spiral (incorrect).

(B) Bacteria lack a well-developed nucleus (incorrect).

(C) Spirogyra is a filamentous alga (correct).

4.Which of the following statements are correct?

Answer: (B), (C).

Solution:

(A) Tobacco mosaic is a virus, not a fungus (incorrect).

(B) Milk is preserved by pasteurization (correct).

(C) Moulds are a type of fungi (correct).

5.Which of the following statements are correct?

Answer: (A).

Solution:

(A) Study of algae is called phycology (correct).

(B) Agar is obtained from red algae (Gelidium), not blue-green algae (incorrect).

(C) Malaria is caused by Plasmodium, transmitted by mosquitoes, not fleas (incorrect).

III) Match the Following

(A)

Column-A	Column-B	Answer
(1) Phycology	(c) Study of algae	1-c
(2) Spirilla	(e) A kind of bacterium	2-e
(3) Chlorella	(a) An alga	3-a
(4) Measles	(b) A disease	4-b
(5) Bacteria	(d) Curd making	5-d

Solution:

Phycology is the study of algae.

Spirilla are spiral-shaped bacteria.

Chlorella is a type of alga.

Measles is a viral disease.

Bacteria (e.g., Lactobacillus) are used in curd making.

(B)

Column-A	Column-B	Answer
(1) Mycelium	(d) Rhizopus	1-d
(2) Potato blight	(g) Fungal disease	2-g
(3) Paramecium	(a) Slipper shaped	3-a
(4) Malaria-causing protozoan	(b) Plasmodium	4-b
(5) Sodium metabisulphite	(c) Jam, jelly, etc.	5-c
(6) Rabies	(e) Viral disease	6-e
(7) Ethyl alcohol	(f) Fermentation of molasses	7-f

Solution:

Mycelium is the fungal structure, as in Rhizopus.

Potato blight is a fungal disease caused by Phytophthora.

Paramecium is a slipper-shaped protozoan.

Plasmodium is the protozoan causing malaria.

Sodium metabisulphite is used as a preservative in jams and jellies.

Rabies is a viral disease.

Ethyl alcohol is produced by fermentation of molasses.

LEARNERS TASK

NEET Level Questions (Single Correct Answer Type)

1. Botulism is caused by

Answer: (B) Clostridium botulinum.

Solution: Botulism is caused by the bacterium Clostridium botulinum, which produces a neurotoxin.

2.Bacterial infection of food can be prevented by

Answer: (D) Both (A) and (C).

Solution: Covering food and heating it to at least 70°C can prevent bacterial contamination.

3.Elephantiasis is caused by

Answer: (B) Culex mosquito.

Solution: Elephantiasis (filariasis) is caused by parasitic worms transmitted by Culex mosquitoes.

4.Bacteria bearing flagella all over body are

Answer: (A) Peritrichous.

Solution: Peritrichous bacteria have flagella distributed over their entire surface.

5.BCG stands for

Answer: (B) Bacillus Calmette-Guérin.

Solution: BCG is a vaccine for tuberculosis named after Calmette and Guérin.

6.DPT vaccine is for

Answer: (B) Diphtheria, Pertussis, Tetanus.

Solution: DPT protects against diphtheria, pertussis (whooping cough), and tetanus.

7.MMR vaccine is given for

Answer: (C) Mumps, Measles, Rubella.

Solution: MMR vaccine protects against mumps, measles, and rubella.

8.Ringworm spreads through

Answer: (B) Direct skin contact.

Solution: Ringworm, a fungal infection, spreads through direct skin contact.

9.World TB day is celebrated on

Answer: (B) March 24.

Solution: World TB Day is observed on March 24 to commemorate Robert Koch's discovery of the TB bacterium.

10.Who discovered antibiotic streptomycin effective against tuberculosis

Answer: (A) Selman A. Waksman.

Solution: Selman Waksman discovered streptomycin, used to treat tuberculosis.

11.Match the following pairs

Answer: (B) 1-II, 2-IV, 3-III, 4-I.

Solution:

Tuberculosis: Mycobacterium (II).

Typhoid: Salmonella (IV).

Malaria: Plasmodium (III).

Dysentery: Entamoeba (I).

12. In blue-green algae, the structure specialized for nitrogen fixation is

Answer: (C) Heterocyst.

Solution: Heterocysts in cyanobacteria are specialized cells for nitrogen fixation.

13. The similarity between bacterium and cyanobacterium is in the presence of

Answer: (B) Nucleoid.

Solution: Both bacteria and cyanobacteria are prokaryotes with a nucleoid region for genetic material.

14. The figure given below shows microorganisms W, X, and Y. Identify them

Answer: Depends on the figure (not provided).

Solution: Without the figure, this cannot be answered definitively. Typically, W, X, Y could represent virus, protozoan, or fungus based on context.

15. Rocky Mountain spotted fever is caused by

Answer: (A) Rickettsias.

Solution: Rickettsias are bacteria causing Rocky Mountain spotted fever.

16. The figure given below shows the method of reproduction of a microorganism

Answer: (D) Fungi, Spore formation.

Solution: Fungi commonly reproduce via spore formation.

17. Mycoplasma differ from bacteria in

Answer: (A) Not having a cell wall.

Solution: Mycoplasma lack a cell wall, unlike most bacteria.

18. Escherichia coli in human intestine synthesizes

Answer: (D) Vitamin B and K.

Solution: E. coli in the gut produces vitamins B and K.

19. The smallest bacterium is

Answer: (B) Dialister pneumosintes.

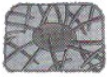


Solution: Dialister pneumosintes is among the smallest known bacteria.

20. Bacteria having a tuft of flagella at one end are called

Answer: (C) Lophotrichous.

Solution: Lophotrichous bacteria have a tuft of flagella at one end.

21. The figures given below show four types of microorganisms P, Q, R, and S

P	
Q	
R	

Answer: Depends on the figure (not provided).

Solution: Without the figure, this cannot be answered definitively.

22. *Saccharomyces cerevisiae* is

Answer: (C) Both a and b.





Solution: *Saccharomyces cerevisiae* is used as both baker's yeast and beer yeast.

23. Yeast contains maximum amount of

Answer: (C) Protein.

Solution: Yeast is rich in protein, used as a nutritional supplement.

24. Which of the following are represented by P, Q, R, and S in the figure?

P	Q	R	S
			

Answer: (A) P - Diatom, Q - Chlamydomonas, R - Spirogyra, S - Volvox.

Solution: These are common algae: Diatoms (silica walls), Chlamydomonas (unicellular), Spirogyra (filamentous), Volvox (colonial).

25. Identify the organism that can photosynthesize but lack the cell wall



Answer: Depends on options (not provided). Likely Euglena.

Solution: Euglena can photosynthesize but lacks a cell wall, unlike algae.

26.Contractile vacuole of Amoeba is analogous to

Answer: (A) Kidneys.

Solution: The contractile vacuole in Amoeba regulates water balance, similar to kidneys in animals.

27.Viruses are

Answer: (C) Complete parasites.

Solution: Viruses are obligate intracellular parasites, requiring a host to replicate.

28.Protein coat of virus is called

Answer: (B) Capsid.

Solution: The capsid is the protein coat surrounding a virus's genetic material.

29.Cell organelles that resemble viruses in chemical nature are

Answer: (B) Ribosomes.

Solution: Ribosomes, like viruses, contain protein and nucleic acid (RNA).

30.Virus possessing only proteins are called

Answer: (B) Prions.

Solution: Prions are infectious proteins without nucleic acids.