BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

MICROBES IN HUMAN WELFARE

Illustrative Questions

1. What are flocs? Discuss their role in sewage treatment.

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2. What are biopesticides?

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3. Your company has given you the task of popularising the use of biopesticides and not chemical pesticides. How will you explain that use of biopesticides is better than use of chemical pesticides?

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4. Name the blank spaces a, b, c, d, e, f and g given in the following table:

Type of Microbe	Scientific Name	Commercial Product
Bacterium	a	Lactic acid
Fungus	b	Cyclosporin A
c	*Monascus purpureus*	Statins
Fungus	*Penicillium notatum*	d
Bacterium	e	Clot buster enzyme
f	*Aspergillus niger*	Citric acid
Bacterium	g	Butyric acid

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5. Match organisms in column I with as many as articles in column II.

Column I	Column II
(a) *Trichophyton*	(i) DEVINE (ii) BINDAD-P
(b) *Trichoderma*	(iii) Bovarine (iv) Collego
(c) *Phytophthora*	(v) Bionematicide
(d) *Arthrobotrys*	(vi) Bioherbicide
(e) *Metarhizium*	(vii) Bioinsecticide (viii) Hair
	(ix) Nail (x) Skin (xi) Lungs
	(xii) Liver (xiii) Nose
	(xiv) Ringworm
	(xv) ROGEM-300
	(xvi) BIOTROL
	(xvii) *Rhizoctonia*
	(xviii) Veincel

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6. Fill in the blanks from Cephalosporin, Cyclosporin, Cycas, Soyabean, Nematode, Fungus, Rhizobium.

Potent immunosuppressent drug is which is ___ obtained from a_____.

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7. Fill in the blanks from Cephalosporin, Cyclosporin, Cycas, Soyabean, Nematode, Fungus, Rhizobium.

Roots of Pinus and _____ are associated with Amanita and ____ respectively.

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8. Name the blank spaces a, b, c and d

Type of Microbe	Scientific Name	Product commercial	Medical Application
(i) Fungus	a	Cyclosporin	b
(ii) c	*Monascus purpureus*	Statin	d

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9. Bacteria cannot be seen with the naked eye but these can be seen with the help of microscope. If you have to carry a sample from your home to your biology laboratory to demonstrate the presence of microbes under a microscope, which sample would you carry and why?

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10. Give examples to prove that microbes release gases during metabolism.

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11. Name some traditional Indian foods made of wheat, rice and Bengal gram (or their products) which involve use of microbes.

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12. In which way have microbes played a major role in controlling diseases caused by harmful bacteria?

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13. What is the key difference between primary and secondary sewage treatment?

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14. Do you think microbes can also be used as a source of energy? If yes, how?

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15. Arrange the following in decreasing order (most important first) of their importance for the welfare of human society. Give reasons for your answer: biogas, citric acid, penicillin and curd.

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16. What are fermentors?

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17. Name a microbe used for statin production.

How do statins lower blood cholesterol level?

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18. Why are flocs important in bioligical treatment of waste water?

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19. How do mycorrhizal fungi help the plants harbouring them?

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20. How do bioactive molecules of fungal origin help in restoring good health of humans?

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21. What roles do enzymes play in detergents that we use for washing clothes? Are these enzymes produced by some unique microorganisms?

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22. What is the chemical nature of biogas. Name an organism which is involved in biogas production?

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23. Why is aerobic degradation more important than anaerobic degradation for the treatment of large volumes of waste water rich in organic matter. Discuss.

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24. Why is the use of cattle dung for biogas plant more beneficial than dung cakes?

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25. Why is the BOD of untreated sewage of a city more than that of a river polluted by industrial wastes?

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26. Why do plants of the legume family usually contain more protein than other plants?

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27. Prior to sowing rice, why was a legume crop cultivated and ploughed back into the field?

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28. Why does a farmer add Azotobacter culture to the soil before sowing maize?

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29. Legumes fertilise the soil but cereals do not, why?

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30. Why does a dish washing powder contain enzymes amylase and lipase?

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Practice Questions Very Short Answer Type Questions

1. Who gave the term 'antibiotic'?

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2. Expand the term 'LAB'.

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3. Name two plants which yield green manure.

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4. Which symbiotic nitrogen-fixing cyanobacterium lives in the roots of Cycas?

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5. Name the baker's yeast.

Watch Video Solution

6. Name the microbe which forms acetic acid.

Watch Video Solution

7. What is toddy?

Watch Video Solution

8. What is the cause of large holes in swiss cheese?

Watch Video Solution

9. Name the first organic acid produced by bacterial fermentation.

Watch Video Solution

10. Name two free-living nitrogen-fixing bacteria.

Watch Video Solution

11. Mention the information that the health workers derive by measuring BOD of a water body.

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12. When was the Ganga Action Plan started?

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13. Name two antibiotics of fungal origin.

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14. Expand the term 'STP'.

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15. Name the microbes employed to produce biogas.

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16. Give one example of biofertiliser

Watch Video Solution

17. Give one example of green manure

Watch Video Solution

18. Give one example of bioinsecticide

Watch Video Solution

19. Give one example of naturally occurring pesticide

Watch Video Solution

20. Give one example of pesticide of microbial origin

Watch Video Solution

21. Name the best known symbiotic nitrogen fixing bacterium.

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22. Name a biopesticide obtained from neem

Watch Video Solution

23. Why is it not necessary to supply nitrogenous fertilisers to the leguminous plants?

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24. Name the water fern that is an excellent biofertiliser for rice cultivation.

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25. Write one function of endomycorrhiza.

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26. Expand the VAM

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27. What is the biochemical reaction of yeast fermentation of molasses for alcoholic

fermentation.

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28. Milk starts to coagulate when Lactic Acid Bacteria (LAB) is added to warm milk as a starter. Mention any two other benefits that LAB provides.

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29. Name the group of organisms and the substrate they act on to produce biogas

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30. Name the sources of biofertilisers.

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31. Write the scientific names of microbes which are used in the production of citric acid

and butyric acid.

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32. What is mycorrhiza? Give example.

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33. From which microbe is streptokinase produced and what is its role?

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Practice Questions Short Answer Type I Questions

1. Name two distilled and two undistilled alcoholic beverages.

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2. Name two vitamins produced by bacterial fermentation

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3. Name two varieties of cheese with the names of microbes used.

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4. What is the role of baker's yeast in bread making?

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5. Differentiate between manures and biofertilisers.

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6. How are Rhizobium cultures used as biofertilisers?

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7. What makes cyanobacteria a very good source of biofertilisers?

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8. Why are biofertilisers preferred over chemical fertilisers?

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9. Why do farmers use leguminous crops to provide nitrogen to the soil?

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10. Name the water fern that is an excellent biofertiliser for rice cultivation. What helps the fern to do so?

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11. What is biological significance of Azotobacter in agriculture?

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12. Name the organism that fixes nitrogen in symbiotic association with a water fern. Where does it live in such plants?

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13. Give the name of first commercially used biopesticide in the world.

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14. During secondary treatment of the primary effluent how does the significant decrease in BOD occurs?

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Practice Questions Short Answer Type Ii Questions

1. What are the properties of antibiotics?

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2. Write a note on role of microbes in agriculture.

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3. What are harmful effects of sewage?

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4. What is the role of baculoviruses in the integrated pest management programme?

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5. What is the function of aeration tank in sewage treatment?

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6. Name three groups of organisms used as main source of biofertilisers.

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7. What is ectomycorrhiza? Comment briefly on its functional significance.

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8. Highlight the steps a farmer should follow to apply green manure to crops. Pinpoint the most important advantage of using green manure.

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9. How is green manure prepared?

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10. Why are leguminous plants cultivated as green manure crops?

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11. Describe the importance of mycorrhiza, cyanobacteria and bacteria as biofertilisers.

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12. Explain the scientific reason for growing a leguminous crop like groundnut prior to cereal crop.

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13. What are biopesticides? Mention their two advantages.

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Practice Questions Long Answer Type Questions

1. Write short notes on : IPM

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2. Write short notes on : Rhizobium

Watch Video Solution

3. Write short notes on : Natural insecticides

Watch Video Solution

4. Write short notes on : Biopesticides

Watch Video Solution

5. Write short notes on : Role of VAM in crop improvement

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6. What are pests and pesticides? Give biological methods of pest control.

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7. Why are biopesticides preferred over chemical pesticides? Describe the mechanism of biopesticides for controlling pests.

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8. What are biofertilisers? What are the main sources of biofertilisers? What is biological N_2 fixation? Name two organisms each of which fix nitrogen asymbiotically and symbiotically.

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9. What is biogas? Give its composition. Why is biogas preferred to other conventional energy fuels?

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10. What is sustainable agriculture? Explain the contribution of biopesticides and biofertilisers in sustainable agriculture.

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Previous Year S Board Paper Questions Short Answer Type I Questions

1. Write a short note on bioherbicides.

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2. Why are biofertilisers preferred over chemical fertilisers?

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Previous Year S Board Paper Questions Short Answer Type Ii Questions

1. Study the table given below. Do not copy the table, but write the answers in the correct order.

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2. Give the biological names of the following:

The mould from which penicillin is obtained.

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3. Give the biological names of the following:

Baker's yeast.

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4. Give the biological names of the following:

The microbe used to control insect larvae growing on cotton.

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5. Give the biological names of the following:

The microbe used to produce Swiss cheese.

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6. Give the biological names of the following:

The fungus that is being developed as a bio-control agent.

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7. A symbiotic nitrogen fixing bacterium found in root nodules.

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Previous Year S Board Paper Questions Long Answer Type Questions

1. Integrated pest management stands for

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Review Questions

1. Give a brief answer

What is mycorrhiza?

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2. Give a brief answer

What is toddy?

Watch Video Solution

3. Give a brief answer

What are bioinsecticides?

Watch Video Solution

4. Give a brief answer

Name the baker's yeast.

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5. Bt cotton is resistant to

A. Insects

B. Herbicides

C. Salt

D. Drought

Answer:

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6. Which one is used as a biofertiliser?

A. Nostoc

B. Funaria

C. Volvox

D. Rhizopus

Answer:

Watch Video Solution

7. Which one is a nitrogen fixer?

A. Ulothrix

B. Anabaena

C. Ulva

D. Hydrodictyon

Answer:

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8. Antibiotics are

A. Medicines

B. Toxins

C. Plants

D. Syrups

Answer:

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9. Give scientific term

Large stainless steel vessels in which microbes are grown for commercial uses.

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10. Give scientific term

The sweetened nutrient medium prior to alcoholic fermentation.

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11. Expand the LAB

Watch Video Solution

12. Expand the STP

Watch Video Solution

13. Expand the BOD

Watch Video Solution

14. Expand the VAM

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15. Name the scientist who have contributed to the discovery of antibiotics.

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16. Name the scientists who have contributed to the following:

Coining the term 'enzyme'.

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17. During secondary treatment of the primary effluent how does the significant decrease in BOD occurs?

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18. What are flocs? Discuss their role in sewage treatment.

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19. What is biogas? Give its composition. Why isbiogas preferred to other conventional energy fuels?

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Competition Corner Objective Type Questions Multiple Choice Questions

1. Bacterium Pseudomonas is useful as it can

A. Transfer gene from one plant to another plant

B. Fix atmospheric nitrogen

C. Decompose a variety of organic compounds

D. Produce several antibiotics

Answer: C

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2. Bacillus thuringiensis (Bt) strains have been used for designing novel

A. Biofertilisers

B. Biometallurgical techniques

C. Biomineralisation processes

D. Bioinsecticidal plants

Answer: D

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3. Bt cotton is resistant to

A. Insects

B. Herbicides

C. Salt

D. Drought

Answer: A

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4. For retting of jute, the fermenting microbe is

A. Methanophilic bacteria

B. Clostridium butylicum

C. Helicobacter pylori

D. Streptococcus lactis

Answer: B

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5. 'Bt' toxin is

A. Intracellular lipid

B. Intracellular crystalline protein

C. Extracellular crystalline protein

D. Lipid

Answer: B

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6. Which one is used as a biofertiliser?

A. Nostoc

B. Funaria

C. Volvox

D. Rhizopus

Answer: A

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7. Which one is a nitrogen fixer?

A. Ulothrix

B. Anabaena

C. Ulva

D. Hydrodictyon

Answer: B

8. Purified antibiotic penicillin of Penicillium notatum was obtained by

A. A. Flemming

B. Howard Florey

C. Robert Hooke

D. Carolus Linnaeus

Answer: B

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9. Nitrogen fixation is

A. $N_2 \rightarrow NH_3$

B. $N_2 \rightarrow NO_3$

C. $N_2 \rightarrow$ amino acid

D. both a and b

Answer: D

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10. Supply of oxygen to the biogas plant will have

A. Positive effect

B. Negative effect

C. No effect

D. None of these

Answer: B

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11. Antibiotics are

A. Medicines

B. Toxins

C. Plants

D. Syrups

Answer: A

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12. A free-living aerobic and nonphotosynthetic nitrogen-fixing bacterium is

A. Anabaena

B. Clostridium

C. Azotobacter

D. Rhizobium

Answer: C

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13. Milk is fermented or curdled by

A. Rhizobium

B. Lactobacillus

C. Azotobacter

D. Clostridium

Answer: B

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14. Baker's yeast is

A. S. cerevisiae

B. S. ludwigii

C. S. octosporus

D. Schizosaccharomyces

Answer: A

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15. Usnic acid is an antibiotic obtained from

A. Fungi

B. Bacteria

C. Lichens

D. Algae

Answer: C

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16. Identify a fungus with medicinal importance

A. Penicillium

B. Cercospora

C. Agaricus

D. Saccharomyces

Answer: A

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17. The pesticide more persistent in the soil is

A. DDT

B. BHC

C. Dieldrin

D. Baygon

Answer: C

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18. Cyanobacteria are useful biofertilisers in the fields of

A. Wheat

B. Maize

C. Rice

D. Sugarcane

Answer: C

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19. The enzyme that converts glucose into alcohol is

A. Lipase

B. Zymase

C. Diastase

D. Invertase

Answer: B

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20. Which one is used for preparation of bread?

A. Lactobacillus

B. Streptobacillus

C. Aspergillus

D. S. cerevisiae

Answer: D

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21. Probiotics are

A. New kind of food allergens

B. Safe antibiotics

C. Live microbial food supplement

D. Cancer inducing microbes

Answer: C

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22. Which one statement is correct?

A. Cyanobacteria, such as Anabaena and Nostoc are important mobilisers of phosphates and potassium for plant nutrition in soil.

B. At present, it is not possible to grow maize without chemical fertilisers.

C. Extensive use of chemical fertilisers may lead to eutrophication of nearby waterbodies.

D. Both Azotobacter and Rhizobium fix atmospheric nitrogen in root nodules of plants

Answer: C

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23. Which one is wrongly matched?

A. Streptomyces - Antibiotics

B. Coliforms - Vinegar

C. Methanogens - Gobar gas

D. Yeast - Ethanol

Answer: B

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24. Gober gas contains mainly

A. CH_4 and O_2

B. CH_4 and O_2

C. CH_4 and H_2

D. CH_4 and SO_2

Answer: A

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25. The plant most commonly used as green manure is

A. Dalbergia sissoo

B. Polyalthia

C. Sesbania aculeata

D. None of these

Answer: C

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26. Which bacteria are utilised in gobar gas plant?

A. Methanogenes

B. Nitrifying bacteria

C. Ammonifying bacteria

D. Denitrifying bacteria

Answer: A

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27. In September 2001, which of the following was used as a bioweapon agent in America?

A. Botulinum

B. Anthrax (Bacillus anthracis)

C. Polio virus

D. AIDS virus

Answer: B

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28. Which of the following is not used as a biopesticide?

A. Bacillus thuringiensis

B. Trichoderma harzianum

C. Nucleopolyhedrovirus (NPV)

D. Xanthomonas campestris

Answer: D

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29. Which of the following herbicides and defoliant were used by the US military in its herbicidal warfare programme during the Vietnam war?

A. Agent black

B. Agent orange

C. Super orange

D. Both (b) and (c)

Answer: D

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30. Which of the following can be controlled by using biopesticides?

A. Insects

B. Diseases

C. Weeds

D. All of these

Answer: D

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31. Which of the following plants are used as green manure in crop fields and in sandy soils?

A. Crotalaria juncea and Alhagi camelorum

B. Calotropis procera and phyllanthus niruri

C. Saccharum munja and Lantana camara

D. Dichanthium annulatum and Acacia nilotica

Answer: A

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32. Which one of the following is a systematic insecticide?

A. Malathion

B. Parathion

C. Endrin

D. Furadan

Answer: B

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33. Which of the following insecticides is obtained from the roots of Derris elleptica?

A. Cinerin

B. Nicotine

C. Rotenone

D. Pyrethrum

Answer: C

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34. A common biocontrol agent for the control of plant diseases is

A. Baculovirus

B. Bacillus thuringiensis

C. Glomus

D. Trichoderma

Answer: D

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35. Bacillus thuringiensis is used as

A. Biofungicide

B. Biopesticide

C. Biocontroler

D. Bioweapon

Answer: B

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36. Which one of the following is used as biological insecticide?

A. Tiger beetle

B. Caterpillar

C. Silkmoth

D. Mazra poka

Answer: A

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37. A prokaryotic autotrophic nitrogen fixing symbiont is found in

A. Alnus

B. Cycas

C. Cicer

D. Pisum

Answer: B

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38. The most common substrate used in distilleries for the production of ethanol is

A. Corn meal

B. Soya meal

C. Ground gram

D. Molasses

Answer: D

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39. Which one of the following is not a biofertiliser?

A. Agrobacterium

B. Rhizobium

C. Nostoc

D. Mycorrhiza

Answer: A

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40. Secondary sewage treatment is mainly

A. Physical process

B. Mechanical process

C. Chemical process

D. Biological process

Answer: D

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41. An organism used as a biofertiliser for raising soyabean crop is

A. Azotobacter

B. Azospirillum

C. Rhizobium

D. Nostoc

Answer: C

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42. A technique of micropropagation is

A. Somatic hybridisation

B. Somatic embryogenesis

C. Protoplast fusion

D. Embryo rescue

Answer: B

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43. Which of the following enhance or induces fusion of protoplasts?

A. Sodium chloride and potassium chloride

B. Polyethylene glycol and sodium nitrate

C. IAA and kinetin

D. IAA and gibberellins

Answer: B

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44. Which of the following is wrongly matched in the given table?

	Microbe	Product	Application
(a)	*Streptococcus*	Streptokinase	Removal of clot form blood vessel
(b)	*Clostridium butylicum*	Lipase	Removal of oil stains
(c)	*Trichoderma polysporum*	Cyclosporin A	Immunosuppressive drug
(d)	*Monascus purpureus*	Statins	Lowering of blood cholesterol

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Competition Corner Objective Type Questions

Assertion And Reason Type Questions

1. Assertion: Discovery of penicillin by Alexander Flemming was a serendipity.

Reason: Flemming was working on Penicillium notatum along with Staphylococcus bacteria.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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2. Assertion: BOD indicates the extent of water pollution by organic wastes.

Reason: Increase in BOD decreases dissolved oxygen of wastewater.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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3. Assertion: Polyhedrovirus is called a baculovirus.

Reason: Nucleopolyhedrovirus is employed to control Bacillus bacteria.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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4. Assertion: Anabaena is commonly called a symbiotic biofertiliser.

Reason: Anabaena is found as endosymbiont in the thallus of Anthoceros.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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5. Assertion: Only Lactobacillus lactis causes curdling of milk.

Reason: Only this bacteria can produce lactic acid.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D

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6. Assertion: Insulin is a type of antibiotic.

Reason: Insulin is synthesised by microbes by the process of fermentation.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct

explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D

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7. Assertion: Rotenone is a bioinsecticide.

Reason: Rotenone is obtained from living organisms and is employed to kill bacteria.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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8. Assertion: Chemical fertilisers and pesticides are not only expensive but also pose environmental hazards.

Reason: Any mismanagement during application of chemical fertilisers and pesticides is likely to cause damage not only to crops but also to man.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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9. Assertion: Azolla pinnata is used as biofertiliser in rice cultivation.

Reason: Azolla performs nitrogen fixation with the help of symbiotic bacteria Bacillus sp.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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10. Assertion: Neem is used as a natural insecticide.

Reason: The neem extract contains azadirachtin which acts as an antifeedant compound.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct

explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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11. Assertion: Most of the orchids are dependent on fungi in seedling stage.

Reason: The fungal mycelium penetrates the cortical cells of orchid roots.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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12. Assertion: Biofertilisers are preferred to chemical fertilisers.

Reason: Most of the chemical fertilisers are expensive, hazardous and damage the environment.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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13. Assertion: Leguminous plants are the best preferred for crop rotation.

Reason: They have root nodules which have nitrogen-fixing bacteria Clostridium.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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14. Assertion: Use of fertilisers greatly enhances crop productivity.

Reason: Irrigation is very important in increasing crop productivity.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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15. Assertion: Nitrogen-fixing bacteria of legume nodules live in O_2 depleted cells.

Reason: Leghaemoglobin completely removes O_2 from the nodule cells.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

Watch Video Solution

Multiple Choice Questions

1. Lactic Acid is formed by the process of:

A. Fermentation

B. Glycolysis

C. HMP pathway

D. None of these

Answer: A

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2. Which of the following is maintained for optimum production of Vinegar?

A. Anaerobic condition

B. Aerobic condition

C. Temperature of $65^{\circ} C$

D. Microaerophilic condition

Answer: A

View Text Solution

3. Ethanol is commercially produce through a particular species of:

A. Saccharomyces

B. Clostridium

C. Trichoderma

D. Aspergillus

Answer: A

View Text Solution

4. Which of the following is not an industrial product of microbe?

A. Antibiotics

B. Bioactive molecules

C. Toddy

D. Beverages

Answer: C

View Text Solution

5. What does antibiotic mean?

A. Against life

B. Towards life

C. Without life

D. With biotics

Answer: A

View Text Solution

6. The sugar present in milk is:

A. Glucose

B. Lactose

C. Fructose

D. Sucrose

Answer: B

View Text Solution

7. Bacteriophages kill:

A. Fungi

B. Parasites

C. Bacteria

D. Viruses

Answer: C

View Text Solution

8. To speed up the malting process in brewing industry, the growth hormone used is:

A. Auxin

B. Gibberellic acid

C. Kinetin

D. Ethylene

Answer: B

View Text Solution

9. Continuous addition of sugar in 'fed batch' fermentation is done to:

A. produce methane

B. obtain antibiotics

C. purify enzymes

D. degrade sewage

Answer: C

View Text Solution

10. Which of the following antibiotic is active against fungus ?

A. Streptomycin

B. Penicillin

C. Tetracycline

D. Neomycin

Answer: B

View Text Solution

11. The purpose of biological treatment of waste water is to:

A. reduce BOD

B. increase BOD

C. reduce sedimentation

D. increase sedimentation

Answer: A

View Text Solution

12. Methanogens growing anaerobically on cellulosic material produce:

A. Methane

B. Methane and carbon dioxide

C. Methane and hydrogen

D. Methane, carbon dioxide and hydrogen

Answer: D

View Text Solution

13. Methanogens do not produce:

A. oxygen

B. methane

C. hydrogen sulphide

D. carbon dioxide

Answer: A

View Text Solution

14. Biogas production is carried out by:

A. thermoacidophiles

B. methanogens

C. halophyles

D. luminants

Answer: B

View Text Solution

15. A common biocontrol agent for the control of plant disease is:

A. Trichoderma

B. Baculovirus

C. Bacillus thuringiensis

D. Glomus

Answer: A

View Text Solution

16. Which one of the following is used as biological insecticides?

A. Tiger beetle

B. Caterpillar

C. Silk moth

D. Majua poka

Answer: A

View Text Solution

17. Which one of these is not used as a bioweapons ?

A. Bacillus anthracis

B. Botulinum toxin

C. Bacillus thuringiensis

D. Small pox

Answer: C

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18. Rotenone is a:

A. Bioherbicides

B. Bioinsecticide

C. Commonly used biofertilizer

D. Juvenile hormone

Answer: B

View Text Solution

19. Which one of the following is not a biofertilizer?

A. Agrobacterium

B. Rhizobium

C. Nostoc

D. Mycorrhiza

Answer: A

View Text Solution

20. A good example of organic fertilizer which improves phosphorus uptake is:

A. Actinomycetes fungi

B. Azospirillum

C. Rhizobium

D. None of these

Answer: D

View Text Solution

21. Nitrogen fixation in root nodules of Alnus is brought about by:

A. Frankia

B. Azorhizobium

C. Bradyhizobium

D. Clostridium

Answer: A

View Text Solution

22. Mycorrhiza does not help the host plant in:

A. Enhancing its phosphorus uptake capacity

B. Increasing its tolerance to drought

C. Enhancing its resistance to root pathogens

D. Increasing its resistance to insect

Answer: D

View Text Solution

23. The common nitrogen fixer in Paddy field is:

A. Frankia

B. Rhizobium

C. Azospirillum

D. Oscillatorlia

Answer: C

View Text Solution

24. The main source of biofertilisers are:

A. bacteria

B. cyanobacteria

C. fungi

D. all of these

Answer: D

View Text Solution

25. Nitrogen is absorbed by plant in the form of:

A. NO_3^-

B. NH_3

C. NO_2^-

D. Both (a) and (c)

Answer: D

View Text Solution

26. Which one of the following help in the absorption of phosphorus from soil by plants?

A. Glomus

B. Rhizobium

C. Frankia

D. Anabaena

Answer: A

View Text Solution

27. Microorganisms or microbes are found in:

A. soil, air, water and inside the bodies of living organisms.

B. thermal vents deep in soil.

C. under snow as well as acidic environment.

D. All of the above

Answer: D

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28. The microscopic protein aceous infectious agents are:

A. viroids

B. prions

C. protozoa

D. bacteria

Answer: B

View Text Solution

29. Which of the following food items is produced by the fermenting activity of microbes?

A.Ida

B.Dosa

C.Toddy

D.Cheese

A. A and C

B. C and D

C. A,B and C

D. A,B,C and D

Answer: D

View Text Solution

30. The nutritive medium for growing bacteria and many fungi in the laboratory is called:

A. culture media

B. fermentation media

C. baking media

D. None of the above

Answer: A

View Text Solution

31. Which gas is released during the process of fermentation that gives the puffy appearance to dough for making bread?

A. CO_2

B. CO

C. O_2

D. H_2

Answer: A

View Text Solution

32. Swiss cheese is formed by the bacterium:

A. Aspergillus niger

B. Lactobacillus

C. Propionibacterium shermanii

D. Penicillium roqueforti

Answer: C

View Text Solution

33. Which of the following is the first organic acid produced through fermentation?

A. Acetic Acid

B. Lactic Acid

C. Citric Acid

D. Gallic Acid

Answer: B

View Text Solution

34. On which medium do certain bacteria grow to produce biogas?

A. Lignin

B. Cellulose

C. Chitin

D. Cheese

Answer: B

View Text Solution

35. Which one of the following antibiotics was extensively used to treat American soldiers wounded in World War II?

A. Streptokinase

B. Penicillin

C. Statins

D. Neomycin

Answer: B

View Text Solution

36. Which of the following is used as 'clot-buster' for removing clots from blood vessels of patient who have undergone myocardial infarction?

A. Ethanol

B. Statins

C. Cyclosporin-A

D. Streptokinase

Answer: D

View Text Solution

37. Primary treatment is the:

A. physical removal of large and small particles from sewage.

B. biological removal of large and small particles from sewage

C. Both (a) and (b)

D. chemical removal of large and small particles from sewage.

Answer: A

View Text Solution

38. In the biological treatment of sewage, the masses of bacteria held together by fungal filament to form mesh like structures called as:

A. activated sludge

B. aerobic process

C. flocs

D. anaerobic sludge

Answer: C

View Text Solution

39. Nitrogen fixation in root nodules of Alnus is brought about by:

A. Frankia

B. Azorhizobium

C. Bradyrhizobium

D. Clostridium

Answer: A

View Text Solution

40. A common biocontrol agent for the control of plant diseases is:

A. baculovirus

B. Bacillus thuringiensis

C. Glomus

D. Trichoderma

Answer: D

View Text Solution

41. The common nitrogen-fixer in paddy fields is:

A. Trichoderma

B. Azospirillum

C. Both (a) and (b)

D. Frankia

Answer: B

View Text Solution

42. An example of endomycorrhiza is:

A. Nostoc

B. Glomus

C. Agaricus

D. Rhizobium

Answer: B

View Text Solution

43. Trichoderma species, free-living fungi, are present in root ecosystems are potentially useful as:

A. biopesticides

B. biofertilisers

C. methanogens

D. vectors for genetic engineering.

Answer: A

View Text Solution

44. The symbiotic association of fungi with the roots of higher plants is called:

A. Eubacteria

B. Actinomycetes

C. Mycorrhiza

D. Lichen

Answer: C

View Text Solution

45. The most common fungal partner of mycorrhiza belongs to genus:

A. Azotobacter

B. Glomus

C. Azolla

D. Frankia

Answer: B

View Text Solution

46. Which of the following serve as biofertiliser in paddy fields?

A. Anabaena

B. Azospirillum

C. Nostoc

D. Both (a) and (c)

Answer: D

View Text Solution

47. Benefits of mycorrhizae are:

(i) resistance to root-borne pathogens.

(ii) tolerance of salinity and absorption of phosphorus.

(iii) tolerance to drought.

(iv) overall increase in the plant growth and development

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. All of these

Answer: D

View Text Solution

48. What are the advantages of gobar gas over conventional utilization?

(i) It is most efficient source of energy.

(ii) It is used as good fertilizer.

(iii) It reduces the chances of spreading of pathogens,

A. (i) and (ii) only

B. (ii) and (iii) only

C. (i) and (iii) only

D. all of these

Answer: D

View Text Solution

49. What would happen if oxygen availability to activated sludge flocs is reduced?

A. It will slow down the rate of degradation of organic matter.

B. The centre of flocs will become anoxic, which would cause death of bacteria and eventually breakage of flocs

C. Flocs would increase in size as anaerobic bacteria would grow around flocs

D. Protozoa would grow in large numbers.

Answer: B

View Text Solution

Numericals

1. What do we collectively call the biogas producing bacteria?

A. Archaebacteria

B. Cyanobacteria

C. Eubacteria

D. Methanogen

Answer: D

View Text Solution

Choose The Odd One Out

1. Which of the following is odd one out with reference to nitrogen-fixing algae?

A. Nostoc

B. Anabaena

C. Streptococci

D. Oscillatoria

Answer: C

View Text Solution

2. Which of the following is odd one out with reference to Microbes which is used to produce industrial products?

A. lactic acid

B. acetic acid

C. alcohol

D. Nitric acid

Answer: D

View Text Solution

Fill In The Blanks

1. Roquefort cheese is formed by ripening with ..... A ..... for a particular flavour. Here A refers to:

A. yeast

B. fungi

C. bacteria

D. None of the above

Answer: B

View Text Solution

2. Read the following statement having two blanks (A and B). "A drug used for ..... A..... patients is obtained from a species

of the organism .....B..... . The one correct option for the two blanks is:

A. A-Heart, B-Penicillium

B. A-Organ-transplant, B-Trichoderma

C. A-Swine flu, B-Monascus

D. A-AIDS, B-Pseudomonas

Answer: B

View Text Solution

3. Choose the correct option:

(i) ..... B ....., ... C ..... and ..... D..... are the three main sources of biofertilisers. (ii) .... absorb phosphorus from soil and passes it to the plant. (iii) ..... F ..... increase the soil fertility by adding organic matter to the soil through their photosynthetic nature.

B to F in above statements can be

A. B-Protozoan, C-Bacteria, D-Fungi, E-Mycorrhiza, F-Cyanobacteria

B. B-Bacteria, C-Fungi, D-Cyanobacteria, E-Mycorrhiza, F-Blue-green algae

C. B-Bacteria, C-Blue-green algae, D-Prions, E-Lichen, F-Blue-green algae

D. B-Virus, C-Cyanobacteria, D-Viroids, E-Lichen, F-Cyanobacteria

Answer: B

View Text Solution

4. ..... serve as biofertilizer in paddy fields?

A. Bacteria

B. Yeast

C. Cyanobacteria (blue-green algae)

D. Fungi

Answer: C

View Text Solution

5. A free - living nitrogen-fixing cyanobacterium which can also form symbiotic association with the water fern Azolla is .....

A. Anabaena

B. Tolypothrix

C. Chlorella

D. Nostoc

Answer: A

View Text Solution

6. The vitamin whose content increases following the conversion of milk into curd by lactic acid bacteria is .....

A. vitamin C

B. vitamin D

C. vitamin B_{12}

D. vitamin E

Answer: C

View Text Solution

7. Wastewater treatment generates a large quantity of sludge, which can be treated by .....

A. anaerobic digesters

B. floc

C. chemicals

D. oxidation pond

Answer: A

View Text Solution

8. Methanogenic bacteria are not found in .....

A. rumen of cattle

B. gobar gas plant

C. bottom of water-logged paddy fields

D. activated sludge

Answer: D

View Text Solution

9. BOD of waste water is estimated by measuring the amount of .....

A. total organic matter.

B. biodegradable organic matter.

C. oxygen evolution.

D. oxygen consumption.

Answer: D

View Text Solution

10. ..... alcoholic drinks is produced without distillation?

A. Wine

B. Whisky

C. Rum

D. Brandy

Answer: A

View Text Solution

11. The free-living fungus Trichoderma can be used for .....

A. killing insects

B. biological control of plant diseases

C. controlling butterfly caterpillars

D. producing antibiotics

Answer: B

View Text Solution

Match

1. Match column I with column II and select the correct option using the codes given below:

Column I	Column II
A. Citric acid	(i) Trichoderma
B. Cyclosporin A	(ii) Clostridium
C. Statins	(iii) Aspergillus
D. Butyric acid	(iv) Monascus

A. A-(iii),B-(i),C-(ii),D-(iv)

B. A-(iii),B-(i),C-(iv),D-(ii)

C. A-(i),B-(iv),C-(ii),D-(iii)

D. A-(iii),B-(iv),C-(i),D-(ii)

Answer: B

View Text Solution

2. Match the following columns:

Column I	Column II
A. Symbiotic nitrogen-fixing bacteria	(i) Mosquitoes
B. Dragonflies	(ii) Rhizobium
C. *Bacillus thuringiensis*	(iii) Azotobacter
D. Free-living N_2-fixingbacteria	(iv) Butterfly, caterpillars

A. A-(ii),B-(i),C-(iv),D-(iii)

B. A-(ii),B-(iii),C-(iv),D-(i)

C. A-(i),B-(iii),C-(ii),D-(iv)

D. A-(ii),B-(iv),C-(i),D-(iii)

Answer: A

View Text Solution

3. Match the following list of bacteria and their commercially important products:

Column I (Bacterium)	Column II (Product)
A. *Aspergillus niger*	(i) Lactic acid
B. *Acetobacter aceti*	(ii) Butyric acid
C. *Clostridium butylicum*	(iii) Acetic acid
D. *Lactobacillus*	(iv) Citric acid

Choose the correct match

A. A-(ii),B-(iii),C-(iv),D-(i)

B. A-(ii),B-(iv),C-(iii),D-(i)

C. A-(iv),B-(iii),C-(ii),D-(i)

D. A-(iv),B-(i),C-(iii),D-(ii)

Answer: C

View Text Solution

4. Match the following list of bioactive substances and their roles:

Bioactive substance	Role
A. Statin	(i) Removal of oil stains
B. Cyclosporin A	(ii) Removal of clots from blood vessels
C. Streptokinase	(iii) Lowering of blood cholesterol
D. Lipase	(iv) Immuno-suppressive agent

A. A-(ii),B-(iii),C-(i),D-(iv)

B. A-(iv),B-(ii),C-(i),D-(iii)

C. A-(iv),B-(i),C-(ii),D-(iii)

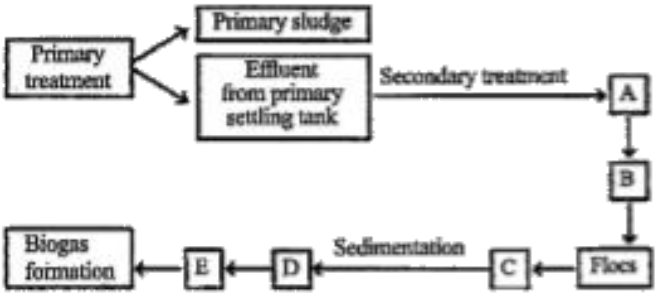
D. A-(iii),B-(iv),C-(ii),D-(i)

Answer: D

View Text Solution

Figure Based

1. Given below is the flow chart of sewage treatment. Identify A, B, C, D and E and select the correct option



A. A-Small aeration tank, B-Microbial digestion, C-High BOD, D-Activated sludge, E-Aerobic sludge digesters

B. A-Large aeration tank, B-Mechanical agitation, C-Increased BOD, D-Activated sludge, E-Aerobic sludge digesters

C. A-small aeration tank, B-Microbial digestion, C-Low BOD, D-Activated sludge, E-Anaerobic sludge digesters

D. A-Large aeration tank, B-Mechanical agitation, C-Reduced BOD, D-Activated sludge, E-Anaerobic sludge digesters

Answer: D

View Text Solution

Assertion And Reason

1. Assertion: Disadvantages of synthetic pesticides can be overcome by the use of

natural or biopesticides.

Reason: Biopesticides are harmless agents which are used to control weeds and pest without causing any damage.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

2. Assertion: Biogas is used as fuel for cooking and lighting.

Reason: It is considered as eco-friendly and pollution free source of energy.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

3. Assertion: Use of fertilisers greatly enhances crop productivity.

Reason: Irrigation is very important in increasing crop productivity.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of

assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

4. Assertion: Biofertilisers are preferred to chemical fertilisers.

Reason: Chemical fertilisers are generally more expensive and hazardous to environment.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: A

View Text Solution

5. Assertion: Nucleopolyhedrovirus used as biocontrol agent.

Reason: It kills insects and pests.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: A

View Text Solution

Source Based

1. Read the passages and answer the questions that follow:

An organic farmer relies on natural predation

rather than the chemicals introduced to kill the pests. Hence, he works to create a system, where the insects, called pests, are not eradicated, but are kept at a manageable level by various methods. It is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriads of organisms that constitute the field flora and fauna. Thus, the use of biocontrol measures will greatly reduce the dependence on toxic chemicals and pesticides.

Which of the following statements is true about organic farming?

A. It improves quality of farm produce.

B. It increases health benefits.

C. It reduces the dependence on toxic chemicals and pesticides.

D. All of these

Answer: D

View Text Solution

2. Read the passages and answer the questions that follow:

An organic farmer relies on natural predation rather than the chemicals introduced to kill the pests. Hence, he works to create a system, where the insects, called pests, are not eradicated, but are kept at a manageable level by various methods. It is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriads of organisms that constitute the field flora and fauna. Thus, the use of biocontrol measures

will greatly reduce the dependence on toxic chemicals and pesticides.

The ladybird beetles are useful to get rid of:

A. mosquitoes

B. aphids

C. grasshoppers

D. tse-tse flies

Answer: B

View Text Solution

3. Read the passages and answer the questions that follow:

An organic farmer relies on natural predation rather than the chemicals introduced to kill the pests. Hence, he works to create a system, where the insects, called pests, are not eradicated, but are kept at a manageable level by various methods. It is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriads of organisms that constitute the field flora and fauna. Thus, the use of biocontrol measures

will greatly reduce the dependence on toxic chemicals and pesticides.

The microbial biocontrol agent, a bacterium, whose dried spores arc used to kill the insect larvae eating brassicas, is:

A. Agrobacterium tumefaciens

B. Bacillus thuringiensis

C. Salmonella typhimurium

D. Methanobacterium sp.

Answer: B

View Text Solution

4. Read the passages and answer the questions that follow:

An organic farmer relies on natural predation rather than the chemicals introduced to kill the pests. Hence, he works to create a system, where the insects, called pests, are not eradicated, but are kept at a manageable level by various methods. It is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriads of

organisms that constitute the field flora and fauna. Thus, the use of biocontrol measures will greatly reduce the dependence on toxic chemicals and pesticides.

The fish which is introduced into water bodies to control mosquitoes, is:

A. pomphret

B. rohu

C. catla

D. Gambusia

Answer: D

View Text Solution

5. Read the passages and answer the questions that follow:

An organic farmer relies on natural predation rather than the chemicals introduced to kill the pests. Hence, he works to create a system, where the insects, called pests, are not eradicated, but are kept at a manageable level by various methods. It is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriads of

organisms that constitute the field flora and fauna. Thus, the use of biocontrol measures will greatly reduce the dependence on toxic chemicals and pesticides.

Which of the following is not an example of performing biological control of diseases/ pests using microbes:

A. Bt-cotton to increase yield

B. Trichoderma sp. against some plant pathogens

C. Nucleopolyhedrovirus against insects and other arthropods

D. Ladybird beetle against aphids

Answer: A

View Text Solution

6. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing microbes. They are regarded as one of the

most significant discoveries of the twentieth century. They have greatly contributed towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

The first antibiotic discovered is _____ which are used to treat the American soldiers, wounded in:

A. Penicillin, World War I

B. Penicillin, World War II

C. Streptomycin , World War I

D. Streptomycin, World War II

Answer: B

View Text Solution

7. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing microbes. They are regarded as one of the most significant discoveries of the twentieth century. They have greatly contributed

towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

The scientist who discovered the first antibiotic was:

A. Walkman

B. Ernst Chain

C. Alexander Flemming

D. Howard florey

Answer: C

View Text Solution

8. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing microbes. They are regarded as one of the most significant discoveries of the twentieth century. They have greatly contributed towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

The organism/bacterium which the discoverer of the first antibiotic worked on, was:

A. Staphylococcus

B. Streptococcus

C. Agrobacterium

D. Methanococcus

Answer: B

View Text Solution

9. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing microbes. They are regarded as one of the most significant discoveries of the twentieth century. They have greatly contributed towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

Antibiotics are found to be most effective on:

A. Virus

B. Bacteria

C. Fungi

D. None of the above

Answer: B

View Text Solution

10. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing

microbes. They are regarded as one of the most significant discoveries of the twentieth century. They have greatly contributed towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

Antibiotics are used in the treatment of disease:

A. Diptheria

B. polio

C. hepatitis

D. common cold

Answer: A

View Text Solution

11. Antibiotics are the chemical substances which are produced by some microbes and kill or retard the growth of other disease causing microbes. They are regarded as one of the most significant discoveries of the twentieth century. They have greatly contributed

towards the welfare of human society. The word antibiotic' actually means against life' in the context of disease causing microbes and 'pro life' with regard to human beings.

Bacillus thuringiensis is used for

A. Biopesticide

B. Fermentation of beer

C. Antibiotic

D. None of the above

Answer: A

View Text Solution

12. Microbes are a very important component of life on the earth. Not all microbes are pathogenic. Many microbes are very useful to human beings. We use microbes and microbially derived products almost everyday. Bacteria called lactic acid bacteria (LAB) grow in milk to convert it into curd. Certain dishes like idli and dosa are made from dough fermented by microbe. Bacteria and fungi are used to impart particular texture, taste and

flavour to cheese. Several microbes are used to produce industrial products like lactic acid, acetic acid and alcohol which are used in a variety of processes in the industry. Antibiotic like penicillin produced by useful microbes are used to kill disease causing harmful microbes. Antibiotics have played a major role in controlling infectious diseases like diphtheria, whooping cough and pneumonia. Microbes can also be used to kill harmful pests, a process called biocontrol. The biocontrol measures help us to avoid heavy use of toxic pesticides.

Which of the following microbes is used for making bread?

A. Penicillin

B. Aspergillus

C. Saccharomyces

D. LAB

Answer: A

View Text Solution

13. Microbes are a very important component of life on the earth. Not all microbes are pathogenic. Many microbes are very useful to human beings. We use microbes and microbially derived products almost everyday. Bacteria called lactic acid bacteria (LAB) grow in milk to convert it into curd. Certain dishes like idli and dosa are made from dough fermented by microbe. Bacteria and fungi are used to impart particular texture, taste and flavour to cheese. Several microbes are used to produce industrial products like lactic acid,

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Penicillin was first discovered from the fungus:

A. Aspergillus niger

B. Penicillium notatum

C. Penicillium chrysogenum

D. Penicillium griseofulvum

Answer: B

View Text Solution

14. Microbes are a very important component of life on the earth. Not all microbes are pathogenic. Many microbes are very useful to

human beings. We use microbes and microbially derived products almost everyday. Bacteria called lactic acid bacteria (LAB) grow in milk to convert it into curd. Certain dishes like idli and dosa are made from dough fermented by microbe. Bacteria and fungi are used to impart particular texture, taste and flavour to cheese. Several microbes are used to produce industrial products like lactic acid, acetic acid and alcohol which are used in a variety of processes in the industry. Antibiotic like penicillin produced by useful microbes are used to kill disease causing harmful microbes.

Antibiotics have played a major role in controlling infectious diseases like diphtheria, whooping cough and pneumonia. Microbes can also be used to kill harmful pests, a process called biocontrol. The biocontrol measures help us to avoid heavy use of toxic pesticides.

Puffed up appearance of dough is due to release of:

A. Ethyl alcohol

B. CO_2 gas

C. Methane

D. Hydrogen

Answer: B

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Curd is more nutritious than milk due to presence of:

A. More milk protein

B. More milk sugar

C. Increased amount of vitamin B_{12}

D. More vitamin C

Answer: C

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pesticides.

Ethanol can be produced using .....

A. Pseudomonas syringae

B. Saccharomyces cerevisiae

C. Escherichia coli

D. None of the above

Answer: B

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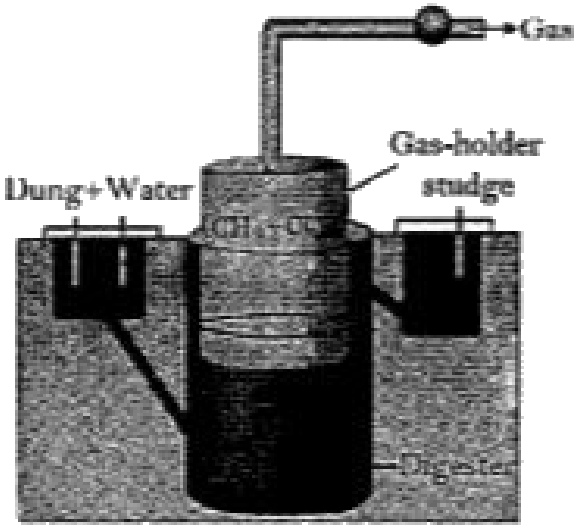
17. In a village, a group of people have established a biogas plant in their village to obtain the energy and manure. It consists of a concrete tank in which the biowastes and a slurry of cow dung is fed. A floating cover is placed on the slurry, which keeps on rising, the gas is produced in the tank due to the microbial activity. The biogas plant has an outlet that is connected to a pipe for supply of biogas to the nearby houses. The biogas plant can be used more efficiently and economically and does not add to pollution.



The bacterium that mainly carries out the formation of biogas, is:

A. Escherichia

B. Methanobacterium

C. Nitrobacter

D. Corynebacterium

Answer: B

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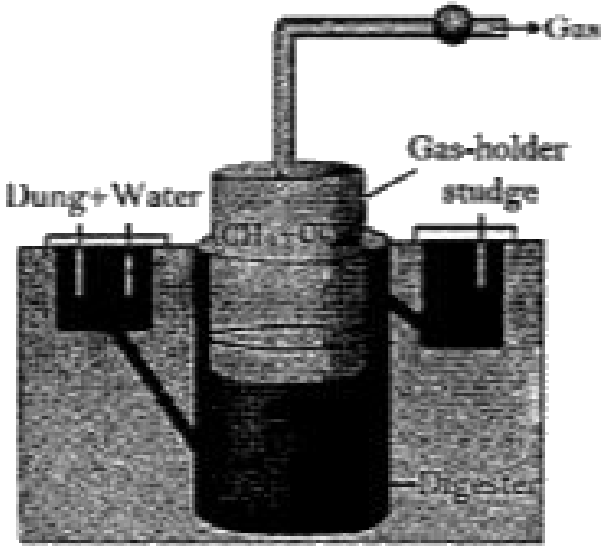

Biogas is predominantly a mixture of:

A. methane and carbon dioxide

B. butane and hydrogen sulphide

C. methane and hydrogen sulphide

D. butane and carbon dioxide

Answer: A

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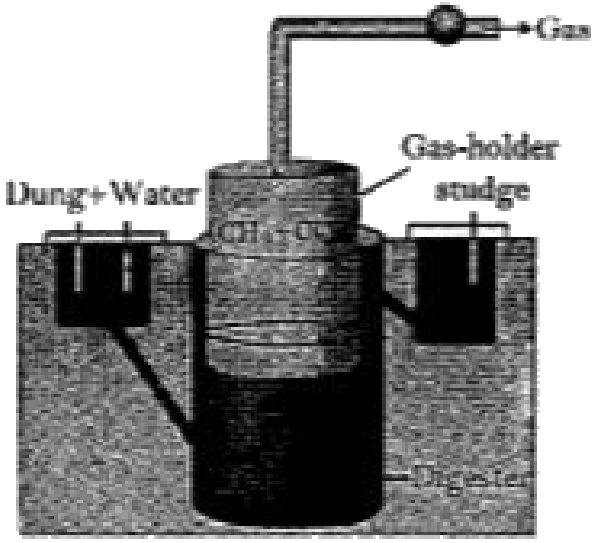

Wastewater treatment produces a large amount of sludge, which can be treated by:

A. oxidation pond

B. anaerobic digesters

C. flocs

D. chemicals

Answer: B

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