



BIOLOGY

BOOKS - SARAS PUBLICATION

MICROBES IN HUMAN WELFARE

Example

1. What is biological oxygen demand ?



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2. What is SCP ?



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3. What are antibiotics?



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4. What is antibiosis ?



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5. What is zymology ?



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6. What is oenology ?



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7. What is fermented grape juice?



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8. What is biogas ?



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9. What are methanogens?



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10. What is Bioremediation ?



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11. What is Pasteur effect ?



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12. Define wine coolers.



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13. What does LAB stands for ? Give two examples.



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14. What is sewage treatment?



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15. What are bioherbicides?



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16. Differentiate bactericidal antibiotic and bacteriostatic antibiotic.



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17. Differentiate probiotics and prebiotics.



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



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19. Differentiate between Probiotics and Pathogenic bacteria.



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20. Compare Broad spectrum antibiotics with narrow spectrum antibiotics.



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21. Give any two bioactive molecules produced by microbes and state their uses.



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22. What is biological demand?



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23. How is milk converted into curd ? Explain the process of curd formation.



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24. Write the key features of organic farming.



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25. List the advantages of biogas plants in rural areas.



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26. When does antibiotics resistance develop ?



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27. Explain the role of cry-genes in genetically modified crops.



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28. Justify the role of microbes as a bio-fertilizer.



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29. Bacteria are biofertilizer'- Justify.



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30. Write fungi as a biofertilizer.



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31. Cyanobacteria is a biofertilizer-Justify.



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32. Write notes on Brewer's Yeast



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33. Write notes on *Idenella sakaiensis*.



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34. Write notes on Microbial fuel cell.



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



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36. Differentiate probiotics and prebiotics.



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37. How is paneer prepared?



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38. What is SCP ?



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39. What are antibiotics?



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40. What is antibiosis ?



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41. Compare Broad spectrum antibiotics with narrow spectrum antibiotics.



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42. Why penicillin is referred to as the queen of drugs?



[Watch Video Solution](#)

43. Differentiate bactericidal antibiotic and bacteriostatic antibiotic.



[Watch Video Solution](#)

44. What is the allergic reaction to penicillin?
List out its symptoms. How is it tested?



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45. What is zymology ?



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46. What is oenology ?



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47. What is fermented grape juice? Write note on its types.



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48. What is the fermented sap of palms? How it is collected? Explain the products obtained from it?



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49. Write a short note on bio diesel.



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50. What is biogas ?



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51. What are methanogens?



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52. List some viruses that act as biocontrol agents.



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53. What is bioremediation? Give its advantages.



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54. What are the types of bioremediation and explain them.



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55. Expand the following: NRCP



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56. Expand the following: MFC



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57. Expand the following: IARI



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58. Expand the following: SCP



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59. Expand the following: KVIC



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60. Expand the following: GEM



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61. Which diary product is more nutritious-
Curd or milk? Give reason.



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62. Why should antibiotics be used only when
prescribed by a certified health professional?



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63. What are the two most common types of biofuels that are in use today?



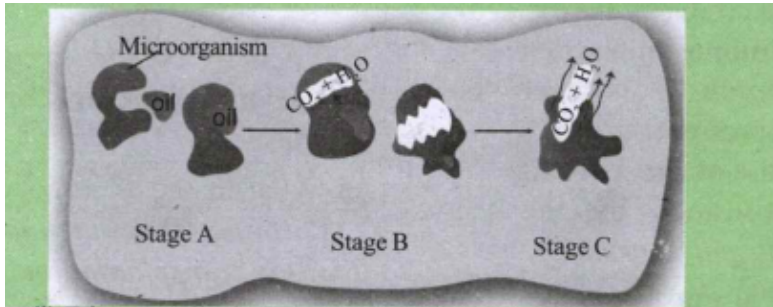
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64. Why sewage disposal into natural bodies is not advised?



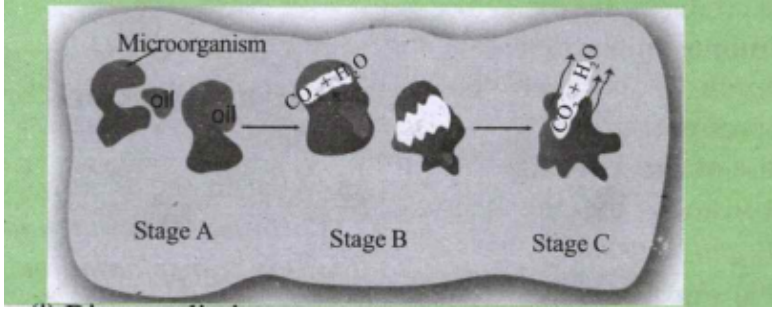
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65. Observe the diagram and answer the questions: Identify the diagram



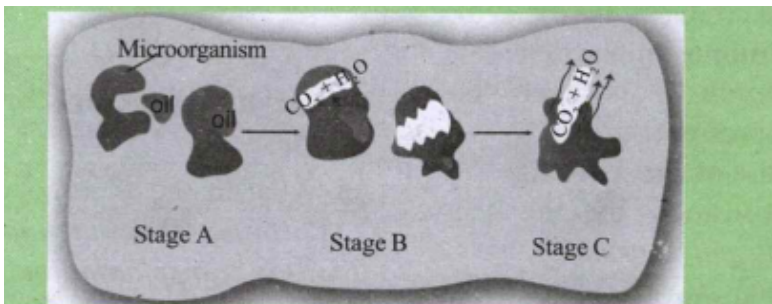
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66. Observe the diagram and answer the questions: What happens in stage A



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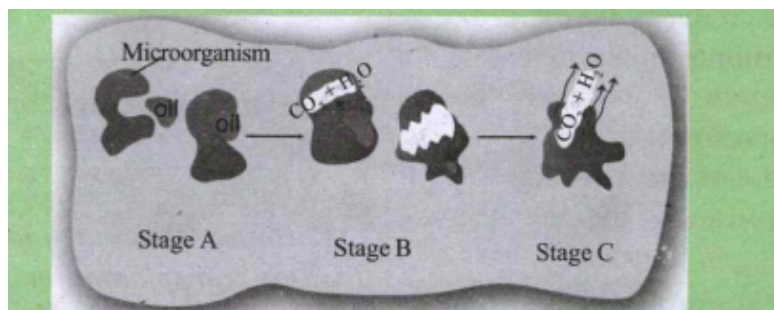
67. Observe the diagram and answer the questions: What is the reaction occurring in stage B





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68. Observe the diagram and answer the questions: What happens in stage C



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69. Name the substrates used for production of industrial alcohol.



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70. What is meant by Pasteur effect?



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71. Define wine coolers. Give the alcohol content of it.



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72. What is the role of fungal amylase in industrial ethanol production?



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73. Name the enzyme used as clotbuster?

Explain its medicinal use?



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74. Mention the microbes used for the production of the clot buster.



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75. Name the bioactive molecule used as an immunosuppressant. Name the microbe that produces this molecule.



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76. Name the organisms used for the production of recombinant human insulin.



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77. Name the full potential and effective antibiotic. Name the organisms that produces it. Write about its therapeutic action?



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78. Name the biocative molecule produced by *Monascus purpureus*. Give its medical use action?



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79. What are the uses of cyclosporin A?



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80. Name the antibiotic that is produced by *S. aureofaciens*. Write about its therapeutic action.



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81. Write about the antibiotic that is especially used against *Mycobacterium tuberculosis*?



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82. In sewage treatment process, UV process replaces chlorination system Justify



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83. Write about the bacteria that degrade compounds or pollutants anaerobically in bioremediation.



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84. What is the fungus which degrades pesticides? Write about it.



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85. Give a note on Dehalococcoides.



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86. Write about the endophytic fungus used in bioremediation.



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87. What is LAB? Write short notes on it.



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88. Explain the process of yogurt production.



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89. What causes the leavening of dough used in the preparation of idly, dosa and bread?



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90. Differentiate probiotics and prebiotics.



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91. Explain the process of primary treatment of sewage.



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92. Write a note on the tertiary treatment of Sewage water.



[Watch Video Solution](#)

93. Write about the aerobic micro-organisms used in bioremediation.



[Watch Video Solution](#)

94. List the anaerobic microorganisms used in bioremediation.



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95. What is a fermentor ?



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96. What is sewage treatment?



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97. What are bioweedicides?



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98. Explain the role of microbes in the production of cheese.



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99. who discovered penicillin ?





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100. Write about the industrial production of fuel that is used as a biofuel additive for gasoline. Give its uses.



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101. Explain the secondary treatment of sewage.



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102. What actions did the government of India take to conserve water bodies?



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103. Explain gobar gas or biogas production.



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104. What is the microbe used to degrade benzene? Mention about it and its other

roles?



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Exercise

1. Cry toxins obtained from *Bacillus thuringiensis* is are effective against for _____

A. Mosquitos

B. Flies

C. Nematodes

D. Bollworms

Answer:



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2. Which of the following is not involved in nitrogen fixation ?

A. Pseudomonas

B. Azotobacter

C. Anabaena

D. Nostoc

Answer:



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3. The purpose of biological treatment of waste water is to _____ .

A. Reduce BOD

B. Increase BOD

C. Reduce sedimentation

D. Increase sedimentation

Answer:



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4. is used as an immunosuppressant in organ transplantation.

A. Rennet

B. Statins

C. Insulin

D. Cyclosporin A

Answer:



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5. Which alcoholic beverage contains highest alcohol content?

A. Beer

B. Wine

C. Wine coolers

D. Vodka

Answer:



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6. Give any two bioactive molecules produced by microbes and state their uses.



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18. Write notes on *Idenella sakaiensis*.



[Watch Video Solution](#)

19. What actions did the government of India take to conserve water bodies?



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20. Which of the following microorganism is used for production of citric acid in industries ?

A. *Lactobacillus bulgaricus*

B. *Penicillium citrinum*

C. *Aspergillus niger*

D. *Rhizopus nigricans*

Answer:



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21. Which of the following pair is correctly matched for the product produced by them ?

A. *Acetobacter aceti* - Antibiotics

B. *Methanobacterium* - Lactic acid

C. *Penicillium* - Acetic acid

D. *Saccharomyces cerevisiae* - Ethanol

Answer:



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

A. Soyameal

B. Groundgram

C. Molasses

D. Corn meal

Answer:



Watch Video Solution

23. Cry toxins obtained from *Bacillus thuringiensis* are effective against for _____

A. Mosquitoes

B. Flies

C. Nematodes

D. Bollworms

Answer:



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24. Cyclosporin - A is an immunosuppressive drug produced from

- A. *Aspergillus niger*
- B. *Monascus purpureus*
- C. *Penicillium notatum*
- D. *Trichoderma polysporum*

Answer:



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25. Which of the following bacteria is used extensively as a bio - pesticide ?

A. *Bacillus thuringiensis*

B. *Bacillus subtilis*

C. *Lactobacillus acidophilus*

D. *Streptococcus lactis*

Answer:



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26. Which of the following is not involved in nitrogen fixation ?

A. Pseudomonas

B. Azotobacter

C. Anabaena

D. Nostoc

Answer:



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27. CO_2 is not released during

- A. Alcoholic fermentation
- B. Lactate fermentation
- C. Aerobic respiration in animals
- D. Aerobic respiration in plants.

Answer:



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28. The purpose of biological treatment of waste water is to _____ .

- A. Reduce BOD
- B. Increase BOD
- C. Reduce sedimentation
- D. Increase sedimentation

Answer:



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29. The gases produced in anaerobic sludge digesters are

A. Methane, oxygen and hydrogen sulphide.

B. Hydrogen sulphide, methane and sulphur dioxide.

C. Hydrogen sulphide, nitrogen and methane.

D. Methane, hydrogen sulphide and CO_2

Answer:



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30. Name the person who was the first to use the term antibiotic.

A. Alexander Fleming

B. Selman Waksman

C. Ernst Chain

D. Howard Florey

Answer:



31. ----- is referred to as the "queen of drugs".

A. Streptomycin

B. Tetracycline

C. Chlortetracyclin

D. Penicillin

Answer:



32. ----- were awarded Nobel prize for the discovery of Penicillin in the year 1945

A. Selman Waksman, Alexander Fleming and Howard Florey

B. Alexander Fleming, Ernst Chain and Sleman Waksman.

C. Alexander Fleming, Ernst Chain and Howard Florey

D. Selman Waksman, Ernst Chain and

Howard Florey

Answer:



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33. ----- can also be used to separate milk into solid for cheese making.

A. Pectinase

B. Protease

C. Rennet

D. Cellulase

Answer:



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34. The main sources of biofertilizers are

A. Bacteria, fungi, virus

B. Bacteria, fungi, Cyanobacteria

C. Bacteria, fungi, Rhizobacteria

D. Vrius, Cyanobacteria, fungi

Answer:



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35. The cow dung is commonly known as

A. Methane

B. Gobar

C. Ethane

D. Biogas

Answer:



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36. Which is the prokaryotic free-living organism that fixes nitrogen.

A. Cyabobacteria

B. E. coli

C. Rhizobium

D. Yeast

Answer:



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37. Mycoherbicide is derived from the fungus.....

- A. *Phytophthora palmivora*
- B. *Saccharomyce cerevisiae*
- C. *Saccharomyces carlsbergensis*
- D. *Phytophthora infestans*

Answer:



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38. World biofuel day is observed every year on

- A. 10th August
- B. 15th October
- C. 28th March
- D. 23rd August

Answer:



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39. identify the incorrect pair

A. Fermente- Bioreactor

B. Antibiotic - against life

C. Oenology- study of wine

D. Zymology- sewage treatment

Answer:



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40. Which is used in bread making?

A. *Saccharomyces cerevisiae*

B. *Streptococcus thermophilus*

C. *Leuconostoc mesenteroides*

D. *Phytophthora palmivora*

Answer:



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41. ----- produced by the bacterium Streptococcus is used as 'clot buster'

A. Streptococciase

B. Streptocynase

C. Streptokinase

D. Streptolipase

Answer:



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42. What is the term used to describe the strains of bacteria that resist to the majority of antibiotics?

- A. Cry toxin
- B. Superbug
- C. Clot buster
- D. Antibiotic

Answer:



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43. Paneer is made by curdling of milk with -----

A. Vinegar

B. Lemon juice

C. Edible acids

D. All the above

Answer:



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44. Example of single cell protein _____

A. Lactobacillus

B. Streptococcus

C. Spirulina

D. Penicillin

Answer:



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45. In yogurt production, ----- is produced as by-product when fermenting milk.

- A. Lactic acid
- B. Ethyl alcohol
- C. Cheese
- D. Paneer

Answer:



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46. Streptomycin is isolated from the actinomycetes, -----

A. *Streptomyces aureofaciens*

B. *Streptomyces griseus*

C. *Saccharomyces cerevisiae*

D. *Sarcina ventriculi*

Answer:



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47. Streptomycin is used as an antibiotic especially against -----

A. E. coli

B. Mycobacterium tuberculosis

C. Streptomyces aureofaciens

D. Streptomyces griseus

Answer:



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48. ----- is used in the production of wine, beer, pathaneer, ethanol, enzymes etc.,

- A. *Aspergillus niger*
- B. *Aspergillus aceti*
- C. *Saccharomyces cerevisiae*
- D. *Lactobacillus*

Answer:



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49. Pectinase, protease and cellulase can be used to clarify-----

A. Bottled juices

B. Detergents

C. Wastewater

D. Milk

Answer:



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50. is used as an immunosuppressant in organ transplantation.

A. Rennet

B. Statins

C. Insulin

D. Cyclosporin A

Answer:



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51. Statins are produced by -----

- A. *Monascus purpureus*
- B. *Saccharomyce cerevisiae*
- C. *Trichoderma polysporum*
- D. *Streptococcus*

Answer:



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52. Secondary sewage treatment uses -----
method

A. Physical

B. Chemical

C. Biological

D. UV radiation

Answer:



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53. ----- percentage of methane is present in biogas

A. 43

B. 20

C. 63

D. 75

Answer:



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54. In tertiary sewage treatment, UV treatment is an alternative for -----

A. Biological treatment

B. Sedimentation

C. Chlorination

D. Sequential filtration.

Answer:



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55. National river conservation plan (NRCP)

was enacted in-----

A. 1993

B. 1992

C. 1991

D. 1995

Answer:



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56. The Ganga action plan was launched on

..... .

- A. 14th January 1986
- B. 14th February 1986
- C. 14th March 1986
- D. 14th April 1986

Answer:



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57. The Yamuna action plan is a bilateral project between Government of India and -----

--

A. Germany

B. USA

C. China

D. Japan

Answer:



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58. The Yamuna action plan was launched on----

A. `April 1991

B. `April 1993

C. `April 1996

D. `April 1990

Answer:



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59. Bacterial respiration is a ----- reaction

- A. Biological
- B. Redox
- C. Decomposition
- D. Combustion

Answer:



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60. ----- is used to control mosquito larvae.

A. Rhizobium

B. Dragonflies

C. Bacillus thuringiensis

D. Trichoderma

Answer:



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61. Lady bird beetles are useful as biocontrol agent against -----

A. Mosquito larvae

B. Aphids

C. Baculovirus

D. Strangler vine

Answer:



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62. Cry-genes encode ----- a crystal protein.

A. Botulin toxin

B. Insulin

C. Delta-endotoxin

D. Protease

Answer:



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63. During -----, *Bacillus thuringiensis* produces delta-endotoxin

A. Bacteria respiration

B. Sporulation

C. Cell lysis

D. Maturation

Answer:



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64. ----- was the first bioherbicide developed in 1981.

A. Delta-endotoxin

B. Mycorrhiza

C. Mycoherbicide

D. Baeulovirus

Answer:



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65. ----- is a symbiotic bacteria which fixes nitrogen in leguminous plants.

A. Glamus

B. Rhizobium

C. Bacillus thuringiensis

D. Phytophthora Palmivora

Answer:



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66. Symbiotic association between a fungus and plant roots is called -----

- A. Rhizobium
- B. Mycorrhiza
- C. Mycoherbicide
- D. Mycobium

Answer:



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67. Mycorrhiza provides ----- nutrient to plants.

A. Ammonia

B. Nitrogen

C. Phosphorus

D. Sodium

Answer:



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68. ----- is an example of mycorrhiza

A. Rhizobium

B. Glomus

C. Bacillus thuringiensis

D. Phytophthora Palmivora

Answer:



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69. ----- obtained patent for *Pseudomonas putida*.

A. Alexander Fleming

B. Anand Mohan Chakrabarty

C. Selman Waksman

D. Ernst Chain

Answer:



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70. Which alcoholic beverage contains highest alcohol content?

A. Beer

B. Wine

C. Wine coolers

D. Vodka

Answer:



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71. What is the alcohol content of wine coolers?

A. 4-6%

B. 3-5%

C. 9-14%

D. 35-50%

Answer:



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72. What is the alcohol content of distilled spirits?

A. 35-50%

B. 3-5%

C. 9-14%

D. 4-6%

Answer:



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73. Which bacterium is not commonly used as a starter bacterium in cheese production?

- A. Lactococcus
- B. Streptomyces
- C. Lactobacillus
- D. Streptococcus lactis

Answer:



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74. Who discovered streptomycin?

A. Alexander Fleming

B. Selman Waksman

C. Howard Florey

D. Ernst Chain

Answer:



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75. High value of BOD (biochemical oxygen demand) indicates that:

- A. Water is less polluted
- B. Water is good for drinking
- C. Water is highly polluted
- D. Water is safe for animals.

Answer:



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76. Which alcoholic beverage is produced without distillation?

A. Beer

B. Vodka

C. Gin

D. Whisky

Answer:



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77.

| | | |
|-----------------|---|---------------------------------------|
| 1. Yogurt | - | a. <i>Leuconostoc mesenteroides</i> |
| 2. Swiss Cheese | - | b. <i>Streptococcus thermophilus</i> |
| 3. Dosa dough | - | c. <i>Saccharomyces cerevisiae</i> |
| 4. Bread | - | d. <i>Propionibacterium shermanii</i> |

A. 1-b, 2-d, 3-a, 4-c

B. 1-c, 2-a, 3-b, 4-d

C. 1-b, 2-d, 3-c, 4-a

D. 1-a, 2-c, 3-d, 4-a

Answer:



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78.

| | | |
|----------------------|---|---------------------|
| 1. Beer | - | a. 4-6% alcohol |
| 2. Wine | - | b. 35- 50 % alcohol |
| 3. Wine Cooler | - | c. 3-5 % alcohol |
| 4. Distilled spirits | - | d. 9-14 % alcohol |

A. 1-a, 2-c, 3-b, 4-a

B. 1-c, 2-d, 3-a, 4-b

C. 1-b, 2-a, 3-c, 4-d

D. 1-b, 2-c, 3-d, 4-a

Answer:



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79.

| | | |
|---------------------------------|---|-----------------|
| 1. <i>Aspergillus niger</i> | - | a. fumaric acid |
| 2. <i>Acetobacter aceti</i> | - | b. butyric acid |
| 3. <i>Rhizopus oryzae</i> | - | c. acetic acid |
| 4. <i>Clostridium butyricum</i> | - | d. lactic acid |
| 5. <i>Lactobacillus</i> | - | e. citric acid |

A. 1-a, 2-c, 3-b, 4-d, 5-e

B. 1-c, 2-a, 3-d, 4-e, 5-b

C. 1-d, 2-e, 3-b, 4-c, 5-a

D. 1-e, 2-c, 3-a, 4-b, 5-d

Answer:



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