BIOLOGY

BOOKS - CHETAN BIOLOGY (TAMIL ENGLISH)

INTRODUCTION TO MICROBIOLOGY

Fill In The Blanks

1. Cheese is produced with the help of .....

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2. Lactose sugar of the milk is converted into .....

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3. Diacetyl has the flavour of .....

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4. Yoghurt is a milk product produced with the help of .....

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5. Enzyme protease obtained from fungi is used to produced .....cheesse.

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6. Dough rises up due to .....

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7. Chemically vinegar is 4 % .....

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8. Very small quantity of .....gas is mixed to produce vinegar.

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9. Rifamycin is effective against .....

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10. .....an alcohol is a clean fuel.

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11. .....is considered to be the fuel of future

.

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12. Phenol oxidizing bacteria decompose the ..... Chemicals present in sewage.

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13. ....., a by - product of fermentation is a biopesticide.

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14. Salts which can be used as supplement of calcium and iron are obtained from ..... Acid.

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15. Process of ..... Of milk proteins occurs due to lactic acid .

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16. Harmful bacteria like ..... in the intestine are destroyed due to probiotics.

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17. Acetic acid is bleached with the help of .....

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18. ..... Imparts thickness to ice - creams.

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19. For maintaining the protein content in yoghurt , ... Is mixed with milk.

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20. Shelf life of yoghurt and its probiotic properties can be improved by .....

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21. An enzyme ..... Obtained from alimentary canal of cattle was traditionally used to produce cheese.

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22. For making bread , the yeast ..... Is used.

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23. Mixture of bacterial strains like ..... and ..... is mixed with ethanol for its microbial degradation.

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24. Microbe ..... Is used for the production of coffee.

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25. ..... And ..... Syrup can be obtained from corn flour by action of enzymes obtained from bacilli and Streptomyces.

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26. ..... Acid is used in paper , taxtile , plastic industry and gum production.

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27. ..... Acid is used for production of monosodium glutamate. (Ajinomoto).

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28. Polysaccharides and glycolipids are used as .....

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29. Xylitol and aspartame are used as .....

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30. Metals are converted into compounds before leaching with the help of ..... And .....

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31. ..... and ..... Bacteria are used to clear the oil spills .

A.

B.

C.

D.

Answer:

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32. Plastic bottles are formed from a chemical substance ..... .

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33. Species like ..... and ..... can decompose PET.

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34. ..... And ..... Can control the soil pollution occuring due to acid rain.

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35. ..... Convert salts of uranium into insoluble salts.

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36. Solution containing ..... And ..... Is used in organic farming.

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37. ..... Chemicals are mixed with the soil due to use of chemical pesticides in agriculture.

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38. Bacteria used to clear oil spills are called .....

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Find The Odd Word Out

1. Chesse , kefir , yoghurt , vinegar .

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2. Lactobacillus lactis , Lactobacillus delbrueckii, Lactobacillus cremoris , Streptococcus thermophilus.

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3. Cutting , washing , rubbing , scrubbing .

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4. Acidophilus , Bifidobacterium bifidum, Clostridium , Lactobacillus casei.

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5. Spirulina, Chlorella, Blue green algae , Actinomycetes.

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6. Chilli sauce, soya sauce , vinegar , monosodium glutamate.

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7. Oxidoreductases, tranferases , ligases , papain.

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8. Penicillin , erythromycin , gentamycin , acetic acid.

Watch Video Solution

9. Actinomycetes , Streptomyces, Nocardia, Pseudomonas.

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10. Citric acid , Malic acid , Glutamic acid , Lactic acid .

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11. Beta carotene , lycopene, xanthene ,xanthan.

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12. Gentamycin , streptomycin , natamycin , neomycin.

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Complete The Correlation

1. Lactobacilli : Yogurt production : : Azotobactor : .....

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2. Ideonella sakaiensis : PET : : Actinomycetes : .....

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3. Phenol oxidising bacteria : Sewage :: Hydrocarbonoclastic bacteria : .....

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4. Enzyme rennet : Alimentary canal of cattle : :

Enzyme protease : .....

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5. Probiotic : Diarrhoea : : Antibiotic Rifamycin :

.....

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6. Flour cereal : Bread : : Sugar molasses : .....

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7. Dirt removal : Detergents : Corn flour : .....

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8. Pseudomonas spp. : Oil spills : : Acidophillium spp.: .....

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9. Cocoa : Theobroma cacao : : Coffee : .....

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10. Yoghurt : Lactobacilli delbrueckii : : coffee : .....

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11. Gluconic acid : Aspergillus niger : : Itaconic acid : .....

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12. Polysaccharides : Emulsifiers : : Aspartame : .....

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Difference In One Sentence One Point

1. Explain the difference between Applied Microbiology and industrial Microbiology.

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2. Explain the difference between sweet cream butter and cultured variety of butter .

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Match The Following

1. 

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2. 

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3. 

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4. 

View Text Solution

5. 

View Text Solution

6. 

View Text Solution

7. 

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True False

1. Industrial microbiology uses microbes for garbage management and pollution control .

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2. Various products like food and cosmetics are produced on a large scale with the help of micro organisms.

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3. Milk is converted into various products for its preservation purpose.

4. Basic process for production of yoghurt , cheese and cream is different.

5. Milk is pasteurized at the beginning to destroy unwanted microbes .

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6. Bacterial strains of Streptococcus thermophilus and Lactobacillus delbrueckii are added to warm temperature milk in 2 : 1 proportion .

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7. Cheese is produced on large scale from abundantly available cow milk all over the world.

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8. Whey is separated from yoghurt in the production of cheese.

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9. Enzyme protease obtained from fungi is used to produce vegetarian cheese.

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10. Useful microbes become inactive due to antibiotics , probiotics make them active again.

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11. Ajinomoto , a popular chinese food is produced by microbial fermentation .

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12. Probiotic s are used for treatment of cough and cold.

Watch Video Solution

13. Microbial enzymes are inactive at low temperature .

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14. Bio - fuel is among non - renewable source of good energy .

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15. In villages , domestic sewage is disposed off in nearby soil .

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16. Soyabean sauce is produced with the help of fungus Aspergillus niger .

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17. Mozzarella cheese is very hard cheese.

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18. On storing for 3 to 12 months , very hard cheese called parmesan cheese is formed.

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19. Antibiotics maintain the balance of intestinal microoraganisms.

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20. Nowadays , probiotics are used for treatment of diarrhoea and treatment of poultry.

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21. Acetic acid is bleached with the help of potassium permanganate.

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22. L - glutamic acid is used for production of monosodium glutamate (Ajinomoto).

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23. Microbes are used for bioremediation of environment polluted due to sewage.

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24. Bacteria used to clear oil spills are called .....

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Name The Following

1. Fermented food items

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2. Acid , present in Yoghurt

3. Sugar present in Yoghurt

4. Dairy product produced with the help of fungi

5. Bacterial strains which convert milk to Yoghurt .

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6. Water in Yoghurt

Watch Video Solution

7. Microbes used in produciton of cheese.

Watch Video Solution

8. Enzyme from which vegetarian cheese is produced

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9. Steps for process of cheese production .

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10. Yeast used in commercial bakery industry .

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11. Ingredients of popular chinese food produce by microbial fermentation .

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12. Chemical used to impart sour taste and to preserve.

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13. Alcohol obtained by fermentation of carbon compounds .

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14. Yeast used for production of Ethanol.

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15. Bacterial strains added to ethanol to produce acetic acid.

Watch Video Solution

16. Fungus used in production of soya sauce.

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17. What are microbial enzymes ?

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18. Industries in which microbial enzymes are used .

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19. Microbe acting on fruit apple and grapes.

Watch Video Solution

20. Microbe acting on fruit Theobroma cacao.

Watch Video Solution

21. Microbe acting on fruit Caffea arabica.

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22. Amino acid obtained from Aspergillus itaconius

Watch Video Solution

23. Amino acid obtained from Lactobacillus delbrueckii.

Watch Video Solution

24. Amino acid obtained from Aspergillus niger .

Watch Video Solution

25. Amino acid obtained from Brevibacterium Corynobacterium

Watch Video Solution

26. Substances which impart acidity.

Watch Video Solution

27. Substance which help in protein binding.

Watch Video Solution

28. Substances which are microbial restrictors .

Watch Video Solution

29. Substances which are antioxidants and vitamins.

Watch Video Solution

30. Substances which are edible colours .

Watch Video Solution

31. Substances which are used as emulisifers.

Watch Video Solution

32. Substances which are artificial sweeteners (low calorie)

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33. Substances which are used as essence.

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34. Antibiotics obtained from various strains of gram positive and gram negative bacteria.

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35. Solid Bio - fuel

Watch Video Solution

36. Liquid Bio - fuel

Watch Video Solution

37. Gaseous Bio fuel

Watch Video Solution

38. Antibiotic effective against tuberculosis .

Watch Video Solution

39. Metals which leach into the environment from low quality metalloids .

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40. Hydrocarbonoclastic bacteria (HCB)

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41. Chemical substance from which plastic bottles are made.

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42. Species of bacteria which decompose PET.

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43. Species of fungi which decompose rubber from garbage

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44. A biopesticide

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45. Bacteria which use sulphuric acid as a source of energy.

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Write The Correct Option

1. Milk is ..... At the beginning to destroy unwanted microbes .

A. heated

B. cooled

C. pasteurized

D. Powdered

Answer: C

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2. Very hard ..... Chesse is formed after ripening for 12 - 18 months .

A. mozzarella

B. cheddar

C. parmesan

D. cottage

Answer: C

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3. Most appropriate method of disposal of dry waste is .....

A. sanitary landfill

B. composting

C. incineration

D. recycling

Answer: D

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4. ..... bacteria present in Root nodules of leguminous plants help in nitrogen fixation.

A. Rhizobium

B. Azotobacter

C. Geobacter

D. Pseudomonas

Answer: A

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5. Substance prepared by using yeast is .....

A. bread

B. honey

C. butter

D. yoghurt

Answer: A

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6. Yeast reproduces by ..... method of asexual reproduction .

A. spores

B. budding

C. binary fission

D. vegetative reproduction

Answer: B

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Define The Following Terms

1. Applied microbiology .

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2. Industrial microbiology .

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Answer The One Or Two Sentence

1. What for probiotic food is famous ?

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2. In the earlier class, you had prepared the solution of dry yeast for observation of Yeast. Which substance is prepared by its use on commercial basis ?

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3. Which function are performed by enzymes secreted in human digestive system ? Give name of such enzymes .

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4. Food materials like cold drinks , ice - creams , juices are available in various colors and flavors . Whether these colors and flavors are really derived from fruits ?

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5. Which different materials are decomposed in a bio - gas plant ?

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6. Which useful materials are obtained through it ? Which is the fuel out of those ?

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7. Decomposition occurs through which organisms ?

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8. Why it is asked to segregate wet and dry waste in each home ?

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9. What is done with the segregated waste ?

Watch Video Solution

10. Most appropriate method of disposal of dry waste is .....

Watch Video Solution

11. How the bacteria present in soil and root nodules of leguminous plants are usefull ?

Watch Video Solution

12. Which plants are cultivated to obtain the fuel ?

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13. Which fuels are obtained from biomass ?

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14. Which materials should not be present in garbage for its proper microbial

decomposition ?

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Short Notes

1. Industrial microbiology .

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2. Dairy produts.

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3. Probiotics

Watch Video Solution

4. Yoghurt.

Watch Video Solution

5. Vinegar Production.

Watch Video Solution

6. Microbial enzymes.

Watch Video Solution

7. Write a short notes on Xanthan gum.

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8. What are antibiotics ?

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9. Land - filling sites.

Watch Video Solution

10. Sewage Management.

Watch Video Solution

11. Clean Technology.

Watch Video Solution

12. Microbial Inoculants.

Watch Video Solution

13. Bioinsecticides.

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Concept Maps

1. Complete the following table :

	Animal	Organ for locomotion	Example
(1)			Arthropoda
(2)	Pigeon		

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2. Complete the following conceptual picture with respect to uses.

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3. Complete the following conceptual picture related to environment management.

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Distinguish Between

1. Yoghurt and Cheese

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2. Chemical cataylst and Microbial enzymes

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Give Scientific Reasons

1. Give scientific reason : Milk is pasteurized at the beginning .

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2. Whey is removed during cheese production.

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3. Microbial enzymes are used instead of chemical catalysts in chemical industry.

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4. Enzymes obtained by microbial process are mixed with detergents.

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5. Use of mutant strains has been increased in industrial microbiology.

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Question Based On Any Incident

1. Priya's mother has left for office, asking her to set curds for the meals, suggest ways in

which Priya will set curds.

2. Suresh is down with diarrhoea. Suggest food that can help him with his stomach trouble.

3. Swati was sufferigng with tuberculosis. She was advised a course on antibiotics . Suggest

methods by which swati can improve her health by her food.

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4. Bhikaji Tambe a farmer in Kolhapur has planned a big harvest of sugarcane in his field. Suggest him ways and means for a high yield with organic farming.

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Complete The Paragraph

1. Compressed waste is ..... In the pit. It is covered with layers of ..... , ... , leafy waste and .... Are mixed at some places. ..... Present in the soil and other top layers ..... the waste . Completely filled pit is ..... With soil ..... , Best quality ..... is formed after few days.

Choose the correct alternative from below .

(comost , microbes , saw dust , slurry sealed ,

soil dumped , bioreactors , biochemicals , decompose)

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Complete The Table

1. Enlist different microbes and their role in production of bevarges .

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2. Enlist the sources of various organic acids, the microbes used to produce them and their uses.

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Figure Based Question

1. Observe the following diagram and answer the questions :

Solar energy + $CO_{(2)}$ contributes to which process ?

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2. Observe the following diagram and answer the questions :

What is biomass ?

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3. Observe the following diagram and answer the questions :

Name the liquid fuel produced through Fermentation.

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4. Observe the following diagram and answer the questions :

Classify the fuels .

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5. Observe the following diagram and answer the questions :

Who ferments sugar into liquid fuel ?

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Answer The Following

1. Which type of cheese is used in western food like pizza , burger , sandwich , etc ?

What is the difference between those types of cheese .

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2. What do you mean by antibiotic ?

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3. Which precautions should be taken about their consumption ?

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4. Observe the garbage vans of grampanchayat and municipality . Nowaday, there is facility of decreasing the volume of garbage by compaction in those vans. Explain the advantages of this activity.

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5. You must have seen or read the news of dead fishes or oily water accumulating at the sea coasts. Why does this happen ?

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6. Explain the importance of biopesticides in organic farming.

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7. Which are the reasons for increasing the popularity of probiotic product ?

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8. How the bread and other products produced using baker's yeast are nutritious ?

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9. Which different microbes are useful to us ?

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10. Which different products can be produced with the help of microbes ?

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11. We use the fermentation process while conversion of milk into Yoghurt . Which microbes are useful for this process ?

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12. How does the bread become spongy ? OR How is bread produced ?

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13. Explain the production of cheese .

Watch Video Solution

14. Explain the role of microbes in farming .

Watch Video Solution

15. Which precaution are necessary for proper decomposition of domestic waste ?

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16. What are the benefits of mixing ethanol with petrol and diesel ?

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17. How can the oil spills of rivers and oceans be cleaned ?

Watch Video Solution

18. What are the different types of cheese ?

Watch Video Solution

19. Why it is necessary to ban the use of plastic bags ?

Watch Video Solution

20. How can the soil polluted by acid rain be made fertile again ?

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Answer In Detail

1. Describe in brief Biofuel production with the help of a neat labeled diagram.

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2. Complete the flow chart and answer the questions given below.

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3. What is the basic purpose behind conversion of milk into various dairy products ?

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4. Give example of one microbe used in any two of the above dairy cheese products.

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5. Explain the role of microbes in chemical pollution.

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6. Which fuels can be obtained by microbial processes ? Why is it necessary to increase the use of such fuels ?

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7. What is the role of microbes in compost production ?

Watch Video Solution

8. Explain the process of Land - filling site with a neet labelled diagram .

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9. How the sewage generated in your house or apartment is disposed off ?

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Paragraph Based Question

1. In cities sewage needs to be carried to processing unit and acted upon by microbial process. Microbes which can decompose any compound as well as destroy the pathogens of cholera , typhoid are mixed with sewage . They release methane and carbondioxide by decomposition of the carbon compounds present in sewage. Phenoi oxidising bacteria decompose the xenobiotic chemicals present in sewage.

Where is sewage in cities disposed off ?

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2. In cities sewage needs to be carried to processing unit and acted upon by microbial process. Microbes which can decompose any compound as well as destroy the pathogens of cholera , typhoid are mixed with sewage . They release methane and carbondioxide by decomposition of the carbon compounds present in sewage. Phenoi oxidising bacteria decompose the xenobiotic chemicals present in sewage.

Which disease pathogens are destroyed by microbes ?

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3. In cities sewage needs to be carried to processing unit and acted upon by microbial process. Microbes which can decompose any compound as well as destroy the pathogens of cholera , typhoid are mixed with sewage . They release methane and carbondioxide by decomposition of the carbon compounds

present in sewage. Phenoi oxidising bacteria decompose the xenobiotic chemicals present in sewage.

Which gases are released by decomposition of carbon compounds ?

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4. In cities sewage needs to be carried to processing unit and acted upon by microbial process. Microbes which can decompose any compound as well as destroy the pathogens of

cholera , typhoid are mixed with sewage . They release methane and carbondioxide by decomposition of the carbon compounds present in sewage. Phenoi oxidising bacteria decompose the xenobiotic chemicals present in sewage.

What is the role of Phenol Oxidising bacteria ?

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5. In cities sewage needs to be carried to processing unit and acted upon by microbial

process. Microbes which can decompose any compound as well as destroy the pathogens of cholera , typhoid are mixed with sewage . They release methane and carbondioxide by decomposition of the carbon compounds present in sewage. Phenoi oxidising bacteria decompose the xenobiotic chemicals present in sewage.

Give a heading to the paragraph .

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Assignment 7

1. Acetic acid is bleached with the help of .....

2. Find the odd man out : Penicillin , erythromycin , gentamycin , acetic acid

3. Complete the analogy : Yoghurt : Bacteria : : Cheese : .....

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4. Most appropriate method of disposal of dry waste is .....

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5. ..... bacteria present in Root nodules of leguminous plants help in nitrogen fixation.

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6. Write a note on importance of probiotics .

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7. Give scientific reason : Milk is pasteurized at the beginning .

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8. What is the role of microbes in compost production ?

Watch Video Solution

9. Explain the importance of biopesticides in organic farming.

Watch Video Solution

10. Write a short notes on Xanthan gum.

Watch Video Solution

11. Describe in brief Biofuel production with the help of a neat labeled diagram.

Watch Video Solution

12. Describe the process of Land filling site with a neat labelled diagram.

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