



## BIOLOGY

### BOOKS - TRUEMAN BIOLOGY

### MICROBES IN HUMAN WELFARE

#### Multiple Choice Question

1. The aquatic fern which is an excellent biofertilizer is

- A. 1)Salvinia
- B. 2)Azolla
- C. 3)Marselia
- D. 4)Pteridium

**Answer: 2**



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2. Cyanobacteria help farmers by

- A. reducing the alkalinity of soil
- B. reducing the acidity of the soil
- C. neutralizing the alkalinity of soil
- D. water logging

**Answer: 2**



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3. VAM is important for

- A. water uptake
- B. yield decrease
- C. retarding flowering

D. phosphate nutrition

**Answer: 4**



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4. Third generation pesticides are

- A. insects repellants
- B. pheromones
- C. pathogens
- D. insect hormone analogues

**Answer: 4**



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5. Which one is a nonsymbiotic nitrogen fixer

- A. Rhizobium
- B. Oscillatoria
- C. Nostoc
- D. Lactobacillus

**Answer: 3**

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**6. Farmers have reported 50% higher yield of rice by using biofertilizer**

- A. Azolla pinnata
- B. legume-rhizobium symbiosis
- C. cyanobacteria
- D. mycorrhiza

**Answer: 1**

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7. Which of the following can use molecule nitrogen as nutrient

A. Methanomonas

B. Mucor

C. Rhizobium

D. Spirogyra

**Answer: 3**



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8. Most famous symbiotic nitrogen fixing bacterium/biofertilizer is

A. 1) Nitrobacter

B. 2) Nitrosomonas

C. 3) Nitrococcus

D. 4)Rhizobium

**Answer: 4**



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**9. which of the following is included in biopesticide ?**

- A. Viruses and bacteria
- B. Viruses, bacteria and fungi
- C. Viruses, bacteria, fungi, protozoa and mites
- D. Viruses, bacteria, fungi and protozoa

**Answer: 3**



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**10. Biofertilizers include**

- A. Blue-green algae, rhizobia, other nitrogen-fixing bacteria and mycorrhizal fungi
- B. Blue-green, algae, rhizobia and other nitrogen-fixing bacteria
- C. Rhizobia, other nitrogen-fixing bacteria and mycorrhizal fungi
- D. Blue-green algae, rhizobia and mycorrhizal fungi

**Answer: 1**



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**11. Bt gen is -**

- A. Cry
- B. cry
- C. trp
- D. Trp

**Answer: 2**



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12. Commercial acetic acid is used in the preparation of

- A. mead
- B. vinegar
- C. wine
- D. alcohol

**Answer: 2**



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13. The enzyme extracted from stomach of calf and used in cheese making is

- A. lactase
- B. rennin



C. calfine

D. chyme

**Answer: 2**



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**14.** Microorganisms can be grown in the bioreactors by

A. support growth system

B. agitated growth system

C. suspended growth system

D. both (1) and (3)

**Answer: 4**



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15. One of the earliest alcoholic beverage obtained by fermentation is probably

- A. country made vinegar
- B. fermented milk
- C. fermented honey
- D. beer

**Answer: 3**



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16. Riboflavin is

- A. 1) Vitamin  $B_{12}$
- B. 2) Vitamin  $B_6$
- C. 3) Vitamin  $B_2$
- D. 4) Vitamin  $B_9$

**Answer: 3**



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**17. Name the fungus used for steroid synthesis**

- A. 1) *Aspergillus oryzae*
- B. 2) *Torulopsis utilis*
- C. 3) *Rhizopus stolonifer*
- D. 4) *Neurospora crassa*

**Answer: 3**



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**18. Which one of the following is not used in the production of yoghurt**

- A. 1) *Acetobacter aceti*

B. 2)Streptococcus thermophilus

C. 3)Streptococcus lactis

D. 4)Lactobacillus bulgaricus

**Answer: 2**



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**19.** Pasteurization makes foodstuffs free from:

A. all living organisms

B. vegetative forms of milk borne pathogens

C. all vegetative forms of bacteria

D. all bacteria

**Answer: 2**



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20. Which of the following microbiologists won, the Nobel Prize in physiology and medicine in 1952 ?

- A. Paul Ehrlich
- B. Selman A. Waksman
- C. Emil A. von Behring
- D. Sir Alexander Fleming

**Answer: 2**



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21. Spirullina is

- A. biofertilizer
- B. biopesticide
- C. edible fungus
- D. single cell protein

**Answer: 4**



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**22.** Some blue green algae are used as biofertilizers because they

- A. 1)fix nitrogen
- B. 2)secrete mucilage
- C. 3)perform photosynthesis
- D. 4)grow everywhere

**Answer: 1**



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**23.** Azolla is used as biofertilizer because it

- A. forms massive biomass

B. has association of nitrogen fixing Rhizobium

C. possesses association with nitrogen fixing cyanobacteria

D. has association with mycorrhiza

**Answer: 3**



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**24.** Enzyme tissue plasminogen activator (TPA) is used for:

A. 1) dissolving blood clots

B. 2) maintaining plasma content

C. 3) clearing turbidity of juices

D. 4) stimulating thromboplastin production

**Answer: 1**



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25. Yeast is used in preparation of

- A. 1) acetic acid
- B. 2) curd
- C. 3) ethyl alcohol
- D. 4) cheese

**Answer: 3**



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26. Scientist first to isolate streptomycin was

- A. Fleming
- B. Koch
- C. Burkholder
- D. Waksman



**Answer: 4**



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**27.** Erythromycin and Chloramphenicol are got from

- A. Penicillium species
- B. Aspergillus species
- C. Streptomyces species
- D. Bacillus species

**Answer: 1**



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**28.** Curd is prepared from pasteurised milk by the process by curdling. It is initiated by add- ing a starter culture of

- A. Lactobacillus bulgariens
- B. Pseudomonas fluorescence
- C. Clostridium butylieum
- D. Bacterium streptomyces

**Answer: 3**

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**29.** A major component of gobar gas is

- A. 1)butane
- B. 2)ammonia
- C. 3)methane
- D. 4)ethane

**Answer: 1**

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30. An insect repellent neem product is

- A. 1) Rotenone
- B. 2) Azadirachtin
- C. 3) Parathion
- D. 4) Endrin

**Answer: 2**



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31. Supply of oxygen to the biogas plant will have

- A. positive effect
- B. negative effect
- C. no effect

D. none of these

**Answer: 2**



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**32. Baker's yeast is :**

A. *S. cerevisiae*

B. *S. ludwingii*

C. *S. octosporus*

D. *Schizosaccharomyces*

**Answer: 1**



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**33. Bt-cotton is resistant to:**

- A. insects
- B. herbicides
- C. salt
- D. drought

**Answer: 1**

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**34.** Yeast is important source of

- A. vitamin C
- B. riboflavin
- C. sugars
- D. proteins

**Answer: 2**

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**35.** Antibiotic flavicin is obtained from

- A. *Aspergillus fumigatus*
- B. *Aspergillus flavus*
- C. *Streptomyces griesus*
- D. *Streptomyces fradiae*

**Answer: 2**



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**36.** The microorganism grown on molasses and sold as a food flavouring substance is

- A. *Saccharomyces* (Baker's yeast)
- B. *Rhizopus*
- C. *Acetobacter*

D. Lactobacillus

**Answer: 1**



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**37. Formation of vinegar from alcohol is caused by**

A. 1) Bacillus subtilis

B. 2) Clostridium

C. 3) Acetobacter aceti

D. 4) Azotobacter

**Answer: 3**



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

- A. Chlorella
- B. Nostoc
- C. Anabaena
- D. Tolypothrix

**Answer: 3**



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

- A. bioinsecticidal plants
- B. biomineralization process
- C. biofertilizers
- D. bio-metallurgical techniques



**Answer: 2**



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**40.** The bacterium capable of anaerobic  $N_2$  fixations known as

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

**Answer: 2**



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

A. *Crotolaria juncea* and *Alhagi camelorum*

B. *Calotropis procera* and *Phyllanthus niruri*

C. *Saccharum munja* and *Lantana camara*

D. *Dichanthium annulatum* and *Azolla nilotica*

**Answer: 1**



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**42.** Which one acts as a biofertilizer

A. *E. coli*

B. Yeast

C. *Rhizobium*

D. *Chlamydomonas*

**Answer: 3**



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43. Which one is a biofertilizer

A. VAM

B. CMU

C. DCMU

D. Agent lemon

Answer: 1



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44. Select a best fertilizer.

A. Bacillus thuringiensis and lichens

B. synthetic fertilizers

C. Azolla and cyanobacteria

D. all of the above

**Answer: 3**



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**45.** Group of bacteria used in biogas production is

A. eubacteria

B. organotrophs

C. methanotrophs

D. methanogens

**Answer: 4**



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46. Industrial production of ethanol from which is brought about by a certain species of:

- A. Penicillin
- B. Azotobacter
- C. Saccharomyces
- D. Lactobacillus

**Answer: 3**



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47. Which of the following was an accidental discovery?

- A. Penicillin
- B. Insulin
- C. Chloramphenicol
- D. DNA

**Answer: 1**



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**48. Bacterium useful in dairy and curdling of milk is :**

- A. 1) Micrococcus
- B. 2) Streptococcus lactis
- C. 3) Streptomyces rimosus
- D. 4) Diplococcus pneumoniae

**Answer: 2**



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**49. Sour taste of vinegar is due to:**

- A. 1) lactic acid

B. 2)acetic acid.

C. 3) butyric acid

D. 4)fumaric acid

**Answer: 2**



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**50. Antibiotics inhibit the growth of or destroy**

A. bacteria and fungi

B. bacteria and viruses

C. bacteria, fungi and viruses

D. bacteria, algae and viruses

**Answer: 3**



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51. Term Antibiotics was introduced by S.A. Waksman. Which species produce more than 60 antibiotics

- A. Streptomyces griseus
- B. Bacillus subtilis
- C. Penicillium notatum
- D. Pseudomonas

**Answer: 2**



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52. The phenomenon of antibiosis (i.e., secretion of one microbe) was discovered by

- A. Pasteur
- B. Babes
- C. Vuilenin



D. Fleming

**Answer: 2**



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**53. Waksman isolated**

A. actinomycin

B. streptomycin

C. both (1) and (2)

D. penicillin

**Answer: 3**



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54. The main reason why antibiotics could not always treat the bacteria-mediated diseases is

- A. inactivation of antibiotics of bacterial enzymes
- B. decreased efficiency of the immune system
- C. the development of mutant strains resistant to antibiotics
- D. insensitivity of the individual following long exposure to antibiotics.

**Answer: 3**



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55. Genetically engineered human insulin is synthesized with the help of

- A. 1) rhizopus
- B. 2) rabbit/guinea pig
- C. 3) E. coli
- D. 4) Pseudomonas

**Answer: 3**



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**56.** Yeasts are used in the production of

- A. idli
- B. beer
- C. bread
- D. all of these

**Answer: 4**



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**57.** Who showed that yeast causes fermentation to produce beer and buttermilk

A. Louis Pasteur

B. Buchner

C. Kuhne

D. Cruickshan

**Answer: 1**

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**58.** When yeast ferments glucose, the products are:

A.  $H_2O + CO_2$

B. methanol and water

C. methanol and  $CO_2$

D. ethanol and  $CO_2$

**Answer: 4**

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59. Who isolated rennet, a cheese producing enzyme from Calf's stomach

A. Fleming

B. Hensen

C. Waksman

D. Smith and Norths

**Answer: 2**



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60. The first organic acid to be produced industrially by fermentation was

:

A. Acetic acid

B. Citric acid

C. Gluconic acid

D. Lactic acid

**Answer: 4**



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**61.** Majority of industrial enzymes are produced from :

- A. Gram-positive bacteria
- B. Gram-negative bacteria
- C. mycoplasma
- D. algae

**Answer: 1**



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**62.** Antibiotics are mostly produced commercially from:

A. viruses and other pathogenic microbes

B. saprophytic bacteria

C. immune host

D. parasitic host.

**Answer: 2**



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**63.** Terramycin is obtained from:

A. *Streptomyces rimosus*

B. *S. venezuelae*

C. *S. aureofaciens*

D. *S. fradiae*

**Answer: 1**



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64. A new strain of bacteria produced by biotechnology in alcohol industry is:

- A. *Escherichia coli*
- B. *Pseudomonas putida*
- C. *Bacillus subtilis*
- D. *Saccharomyces cerevisiae*

**Answer: 2**



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65. *Torulopsis utilis* is

1. a microorganism that yields third generation vaccines
2. a food yeast
3. an important intestinal commensal
4. employed for the citric acid synthesis



A. a microorganism that yields third generation vaccines

B. a food yeast

C. an important intestinal commensal

D. employed for the citric acid synthesis

**Answer: 2**



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**66.** Yeasts are single celled fungi The most common yeast is

1. *Saccharomyces sake*

2. *Saccharomyces cerevisiae*

3. *Saccharomyces ellipsoides*

4. *Saccharomyces pireformis*

A. *Saccharomyces sake*

B. *Saceharomyces cerevisiae*

C. *Saccharomyces ellipsoides*

D. *Saccharomyces cerevisiae*

**Answer: 2**



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67. The antibiotic cephalosporin is obtained from a species of:

1. algae
2. bacillus
3. fungus
4. streptomyces

A. algae

B. bacillus

C. fungus

D. streptomyces

**Answer: 3**



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**68. Biofertilizer is**

1. farmyard manure consisting of a mixture of cattle dung and crop residue
  2. green manure in which quick growing crop is cultivated and ploughed under the soil
  3. a cyanobacteria like *Anabaena* species living in the cavities of *Azolla* species
  4. symbiotic bacteria like *Azotobacter* which fix atmospheric nitrogen
- A. farm yard manure consisting of a mixture of cattle dung and crop residue
- B. green manure in which quick growing crop is cultivated and ploughed under the soil
- C. a cyanobacteria like *Anabaena* species living in the cavities of *Azolla* species
- D. symbiotic bacteria like *Azotobacter* which fix atmospheric nitrogen

**Answer: 3**



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**69.** Penicillin is obtained from

- A. *Aspergillus fumigatus*
- B. *Penicillium chrysogenum*
- C. *Penicillium griseofulvum*
- D. *Streptomyces griseus*

**Answer: 2**



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**70.** Which one of the following is not true about antibiotics

- A. First antibiotic was discovered by Alexander Fleming.

- B. The term 'antibiotic' was coined by S. Waksman in 1942.
- C. Some persons can be allergic to a particular antibiotic.
- D. Each antibiotic is effective only against one particular kind of germ.

**Answer: 4**

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**71. From which microorganism is streptomycin prepared**

- A. *Streptomyces griseus*
- B. *Streptomyces ramosus*
- C. *Streptomyces antibiotics*
- D. *Streptomyces nodosus*

**Answer: 1**

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72. Antibiotics are mostly obtained from

- A. fungi
- B. actinomycetes
- C. cyanobacteria
- D. (1) and (2)

**Answer: 4**



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73. Which of the microorganisms is used for production of citric acid in industries ?

- A. *Lactobacillus bulgaricus*
- B. *Penicillium citrinum*
- C. *Aspergillus niger*
- D. *Rhizopus nigricans*

**Answer: 3**



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**74.** Integrated pest management stands for

- A. biological control
- B. chemical control
- C. host plant resistance
- D. integration of all three.

**Answer: 4**



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**75.** Bacteria showing loose association with root of certain grasses

- A. Rhizobia

B. Frankia

C. Azospirillum

D. Spirulina

**Answer: 3**



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**76.** Yields of paddy can be increased by

A. symbiotic bacteria

B. non-symbiotic bacteria

C. Nostoc/Anabaena

D. Sulphur bacteria

**Answer: 3**



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77. Green manure plants belong to

- A. Gramineae
- B. Leguminosae
- C. Solanaceae
- D. Compositae

**Answer: 2**



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

- A. Anabaena
- B. Azospirillum
- C. Azotobacter
- D. Rhizobium

**Answer: 3**



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**79.** Farmers have reported 50% higher yield of rice by using biofertilizer

- A. Rhizobium culture
- B. Cyanobacteria
- C. Mycorrhizae
- D. Azolla pinnata

**Answer: 4**



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**80.** Yoghurt is produced with the help of

- A. Lactobacillus bulgaricus

- B. *Lactobacillus thermophilus*
- C. *Streptococcus thermophilus*
- D. Both (1) and (3)

**Answer: 4**



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**81.** Citric acid is obtained from

- A. *Aspergillus niger*
- B. *Rhizobium nigricans*
- C. *Penicillium citrinum*
- D. *Lactobacillus bulgaricus*

**Answer: 1**



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82. Which one of the following is used in the production of alcohol ?

- A. *Saccharomyces cerevisiae*
- B. *Torulopsis utilis*
- C. *Clostridium botulinum*
- D. *Leuconostoc citrovorum*

**Answer: 1**



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83. Besides dung ,the weed that can be used in biogas production is

- A. Hydrilla
- B. *Solanum nigrum*
- C. *Eichhornia crassipes*
- D. *Parthenium hysterophorus*

**Answer: 3**



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**84.** First bioinsecticide developed commercially was

- A. sporeine
- B. devine
- C. DDT
- D. organophosphate

**Answer: 1**



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**85.** *Streptomyces venezuelae* is used to obtain:

- A. chloromycetin

B. aureomycin

C. tetracycline

D. streptomycin

**Answer: 1**



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**86.** If BOD of sample water is very high, the sample is

A. highly polluted

B. less polluted

C. not polluted

D. potable

**Answer: 1**



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87. The microorganism used in production of biogas

- A. Methanogen bacterium
- B. Chorolla
- C. Nostoc
- D. Saccharomyces

**Answer: 1**



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88. In 1928 , a scientist discovered an antibiotic which was found to be very effective. The name of the scientist and the antibiotic respectively are:

- A. Fleming - Streptomycin
- B. Fleming - Penicillin
- C. Waksman - Penicillin

D. Waksman - Streptomycin

**Answer: 2**



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**89.** Devine and Collego are two trade names for

- A. bioinsecticides
- B. biofungicides
- C. bioherbicides
- D. rodenticides

**Answer: 3**



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**90.** Penicillin inhibits bacterial multiplication because



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

**Answer: 4**

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**91.** Biogas production from waste biomass with the help of methanogenic bacteria is

- A. one-step process
- B. two-step process
- C. three-step process
- D. multi step process

**Answer: 3**

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**92.** Rennet was isolated by

- A. Khune
- B. Hansen
- C. Pasteur
- D. Payen and Persoz.

**Answer: 2**

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**93.** Besides dung ,the weed that can be used in biogas production is

- A. Hydrilla
- B. Solanum nigrum
- C. Eichhornia crassipes

D. Parthenium hysterophorus

**Answer: 2**



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**94.** Bt toxin is :

1. intracellular lipid
2. intracellular crystalline protein
3. extracellular crystalline protein
4. lipid

A. intracellular lipid

B. intracellular crystalline protein

C. extracellular crystalline protein

D. lipid

**Answer: 3**



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95. Which one is used for preparation of bread?

1. Lactobacillus
2. Streptobacillus
3. Aspergillus
4. S. cerevisiae

A. Lactobacillus

B. Streptobacillus

C. Aspergillus

D. S. cerevisiae

**Answer: 4**



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96. An enzyme that can stimulate germination of barley seeds is

A. invertase

B.  $\alpha$  amylase

C. lipase

D. protease

**Answer: 2**



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**97.** the enzyme that converts glucose into alcohol is

A. lipase

B. zymase

C. diastase

D. invertase

**Answer: 2**



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98. Which one of the following statements is correct

- A. Both Azotobacter and Rhizobium fix atmospheric nitrogen in root nodules of plants.
- B. Cyanobacteria such as Anabaena and Nostoc are important mobilizers of phosphates and for plant nutrition in soil.
- C. At present it is not possible to grow maize without chemical fertilizers
- D. Extensive use of chemical fertilizers may lead to eutrophication of nearby water bodies.

**Answer: 4**



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99. Which one of the following pairs is wrongly matched

- A. Yeast - Ethanol
- B. Streptomyces - Antibiotic
- C. Coliforms - Vinegar
- D. Methanogens - - Gobar gas

**Answer: 3**

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**100. Probiotics are**

- A. cancer inducing microbes
- B. new kind of food allergens
- C. live microbial food supplement
- D. safe antibiotics

**Answer: 3**

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**101.** Genetically engineered microorganism used successfully in bioremediation of oil spills is:

- A. Trichoderma
- B. Xanthomonas
- C. Bacillus
- D. Pseudomonas

**Answer: 4**



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

- A. certain types of bacteria
- B. all viruses
- C. most virus-infected cells



D. certain fungi

**Answer: 1**



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**103.** Which of the following enzymes is not used in making biological detergent

A. Amylase

B. Cellulase

C. Protease

D. Peptidase

**Answer: 4**



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**104.** Mycorrhiza is found in

- A. oligotrophic soil deficient in nutrients
- B. eutrophic soil rich in nutrients
- C. oligotrophic soil rich in humus
- D. eutrophic soil deficient in nutrients

**Answer: 1**



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**105.** Find out the pairs which are correctly matched

- |                           |                                |
|---------------------------|--------------------------------|
| a. Cyanobacteria          | 1. Biopesticide                |
| b. Mycorrhiza             | 2. Solubilisation of phosphate |
| c. Bacillus thuringiensis | 3. Cry protein                 |
| d. single cell protein    | 4. Rhizobia                    |

i. a and 2

ii. b and 3

iii. c and 3

iv. a and 3

A. A and 2

B. B and 3

C. C and 4

D. A and 3

**Answer: 3**



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**106.** Which one of the following pairs is wrongly matched?

A. Fruit juice - pectinase

B. Textile - amylase

C. Detergents - lipase

D. Alcohol - nitrogenase

**Answer: 4**



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107. Which of the following is not used as a biopesticide

- A. Nuclear Polyhedrosis Virus (NPV)
- B. *Xanthomonas campestris*
- C. *Bacillus thuringiensis*
- D. *Trichoderma harzianum*

Answer: 2



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108. Which of the following is a symbiotic nitrogen fixer ?

1. Frankia
2. Azolla
3. Glomus
4. Azotobacter

A. Frankia

B. Azolla

C. Glomus

D. Azotobacter

**Answer: 2**



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**109.** An example of endomycorrhiza is

A. Nostoc

B. Glomus

C. Agaricus

D. Rhizobium

**Answer: 2**



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**110.** Select the correct statement from the following

- A. Activated sludge-sediment in settlement tanks of sewage treatment plant is a rich source of aerobic bacteria
- B. Biogas is produced by the activity of aerobic bacteria on animal waste
- C. Methanobacterium is an aerobic bacterium found in rumen of cattle
- D. Biogas, commonly called gobar gas, is pure methane

**Answer: 1**



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**111.** which one of the following is not used in organic farming

- A. Snail
- B. Glomus
- C. Earthworm
- D. Oscillatoria

**Answer: 1**

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**112.**  $N_2$  fixing microbe associated with azolla in paddy field is -

- A. Frankia
- B. Rhizobium
- C. Azospirillum
- D. Oscillatoria

**Answer: 4**

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113. In the sewage treatment, bacterial flocs are allowed to sediment in a settling tank. This sediment is called as

- A. Primary sludge
- B. Activated sludge
- C. Effluent
- D. Grit

**Answer: 2**



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114. A prokaryotic autotrophic nitrogen fixing symbiont is found in

- A. Alnus
- B. Cycas
- C. Cicer



D. Pisum

**Answer: 2**



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**115.** Which one of the following is not a biofertilizer

A. Agrobacterium

B. Rhizobium

C. Nostoc

D. Mycorrhiza

**Answer: 1**



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**116.** Secondary sewage treatment is mainly a

- A. Physical process
- B. Mechanical process
- C. Chemical process
- D. Biological process

**Answer: 4**

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**117.** Which of the following is mainly produced by the activity of anaerobic bacteria on sewage

- A. Laughing gas
- B. Propane
- C. Mustard gas
- D. Marsh gas

**Answer: 4**

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**118.** Ethanol is commercially produced through a particular species of:-

- A. Saccharomyces
- B. Clostridium
- C. Trichoderma
- D. Aspergillus

**Answer: 1**

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**119.** which one of the following helps in absorption of phosphorus from soil by plants?

- A. Glomus
- B. Rhizobium

C. Frankia

D. Anabaena

**Answer: 1**



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**120.** Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct,

A. Yeast - statins

B. *Acetobacter aceti* - acetic acid

C. *Clostridium butylicum* - lactic acid

D. *Aspergillus niger* - citric acid

**Answer: 3**



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121. Cyclosporine-A: an immunosuppressive agent is produced by the fungus

- A. *Fusarium graminearum*
- B. *Trichoderma polysporum*
- C. *Aspergillus niger*
- D. *Chaetomium cellulolyticum*

**Answer: 2**



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122. A Bioactive molecule, Cyclosporin-A used as an immuno-suppressive agent in organ- transplant patients is produced by

- A. *Aspergillus niger*
- B. *Saccharomyces cerevisiae*
- C. *Monascus purpurens*

D. *Trichoderma polysporum*

**Answer: 4**



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**123.** Baker's yeast is

A. *Saccharomyces cerevisiae*

B. *Monascus purpurens*

C. *Trichoderma polysporum*

D. *Aspergillus niger*

**Answer: 1**



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**124.** The majority of Baculo viruses are used as biological control agents because

- A. These are excellent candidates for species -specific applications
- B. they have been no negative impact on non-target plants and animals
- C. Beneficial insects are being conserved
- D. All the above

**Answer: 4**



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**125.** The large holes in 'Swiss cheese' are because of

- A. Propioni bacterium sharmanii
- B. Saccharomyces cerevisiae
- C. Trichoderma polysporum

D. *Clostridium butylicum*

**Answer: 1**



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**126.** Blood cholesterol lowering statins are obtained from

A. *Trichoderma polysporum*

B. *Acetobacter aceti*

C. *Monascus purpurens*

D. *Aspergillus niger*

**Answer: 3**



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127. Which organic compound is produced by fermentation and is used to replace fossil fuel?

- A. Ethanol
- B. Butanol
- C. Methanol
- D. Propanol

**Answer: 1**



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128. Which one of the following is a wrong matching of a microbe and its industrial product, while the remaining three are correct,

- A. Yeast - statins
- B. Acetobacter aceti - acetic acid
- C. Clostridium butylicum - lactic acid

D. *Aspergillus niger* - citric acid

**Answer: 3**



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**129.** Yeast is used in the production of

- A. Lipase and pectinase
- B. Bread and beer
- C. Cheese and butter
- D. Citric acid and lactic acid

**Answer: 2**



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**130.** Which one of the following is an example of carrying out biological control of pests/diseases using microbes

- A. Nucleopolyhedrovirus against white rust in Brassica
- B. St-cotton to increase cotton yield
- C. Lady bird beetle against aphids in mus- tard
- D. Trichoderma sp. against certain plant pathogens

**Answer: 4**



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**131.** *Monascus purpureus* is a yeast used commercially in the production of

- A. streptokinase for removing clots from the blood vessels
- B. citric acid
- C. blood cholesterol lowering statins

D. ethanol

**Answer: 3**



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**132.** Which one of the following helps in absorption of phosphorus from soil by plants

or

Which one of the following microbes forms symbiotic association with plants and helps them in their nutrition

A. Aspergillus

B. Glomus

C. Trichoderma

D. Azotobacter

**Answer: 2**



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**133.** A patient brought to a hospital with myocardial infarction is normally immediately given

- A. Streptokinase
- B. Cyclosporin-A
- C. Statins
- D. Penicillin

**Answer: 1**

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**134.** The most abundant prokaryotes helpful to humans in making curd and in production of antibiotics are ones categorised as:

- A. Archaeobacteria
- B. Chemosynthetic autotrophs

C. Heterotrophic bacteria

D. Cyanobacteria

**Answer: 3**



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**135.** A good producer of citric acid is :

A. Clostridium

B. Saccharomyces

C. Aspergillus

D. Pseudomonas

**Answer: 3**



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136. During sewage treatment, biogases are produced which includes :

- A. hydrogensulphide, methane, sulphur dioxide
- B. hydrogensulphide, nitrogen, methane
- C. methane, hydrogensulphide, Carbon dioxide
- D. methane, oxygen, hydrogensulphide

Answer: 3



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137. What gases are produced in anaerobic sludge digesters

- A. Hydrogen Sulphide and  $CO_2$
- B. Methane and  $CO_2$  only
- C. Methane, Hydrogen Sulphide and  $CO_2$
- D. Methane, Hydrogen Sulphide and  $O_2$

Answer: 3



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138. Match the following list of microbes and their important

(A) <i>Sacharomyces cerevisiae</i>	(i) Production of immunospup-pressive agents
(B) <i>Monascus purpureus</i>	(ii) Ripening of Swiss cheese
(C) <i>Trichoderma polysporum</i>	(iii) Commercial production of ethanol
(D) <i>Propioni-bacterium sharmanii</i>	(iv) Production of blood-cholesterol lowering agents

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



**Answer: 1**



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

A.

	Microbe	Product	Application
1	Monascus purpureus	Statins	Lowering of blood cholesterol

B.

	Microbe	Product	Application
2	Streptococcus	Streptokinase	Removal of clot from

C.

	Microbe	Product	Application
3	Clostridium	Lipase	Removal of oil stains

D.

	Microbe	Product	Application
4	Trichoderma	Cyclosporin A	Immuno suppressive drug

**Answer: 3**



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**140.** Match Column -1 with Column-2 and select the correct option using the codes given below

	Column - I	Column - II
1	Citric acid	(i) <i>Trichoderma</i>
2	Cyclosporin A	(ii) <i>Clostridium</i>
3	Statins	(iii) <i>Aspergillus</i>
4	Butyric acid	(iv) <i>Monascus</i>

- A.      1      2      3      4  
           (iii) (i) (ii) (iv)
- B.      1      2      3      4  
           (iii) (i) (iv) (ii)
- C.      1      2      3      4  
           (i) (iv) (ii) (iii)
- D.      1      2      3      4  
           (iii) (iv) (i) (ii)

**Answer: 2**



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**141.** Which of the following in sewage treatment removes suspended solids.

- A. Tertiary treatment
- B. Secondary treatment
- C. Primary treatment

## D. Sludge treatment

**Answer: 3**



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**142.** Which of the following is correctly matched for the product produced by them

- A. *Acetobacter aceti* : Antibiotics
- B. *Methanobacterium* : Lactic acid
- C. *Penicillium notatum* : Acetic acid
- D. *Sacchromyces cerevisiae* : Ethanol

**Answer: 4**



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143. Conversion of milk to curd improves its nutritional value of increasing the amount of

- A. Vitamin E
- B. Vitamin  $B_{12}$
- C. Vitamin A
- D. Vitamin D

**Answer: 2**



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