



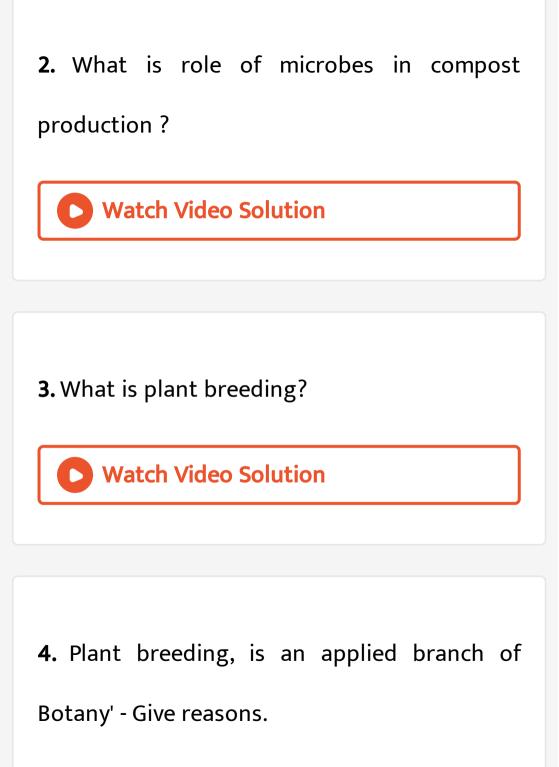
BIOLOGY

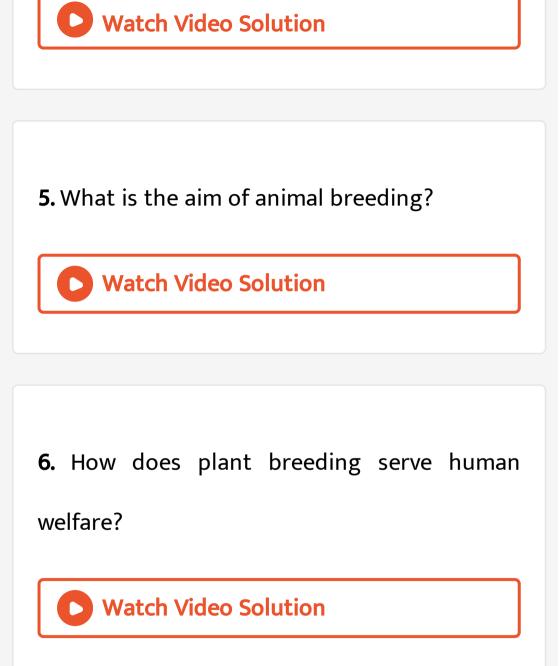
BOOKS - CHETANA PUBLICATION

Enhancement of Food production

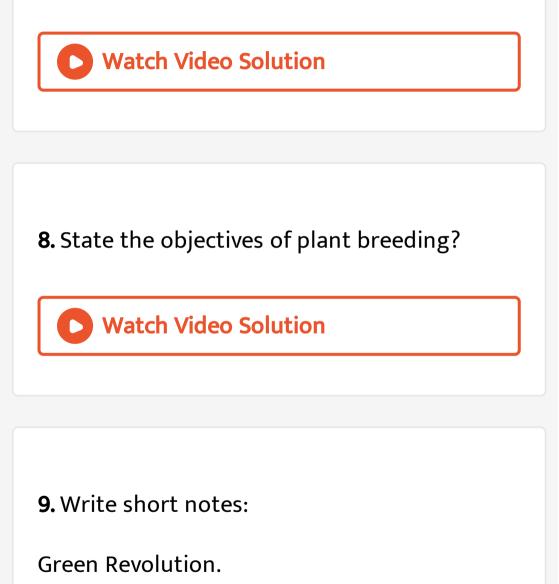


1. How do plants produce their own food?

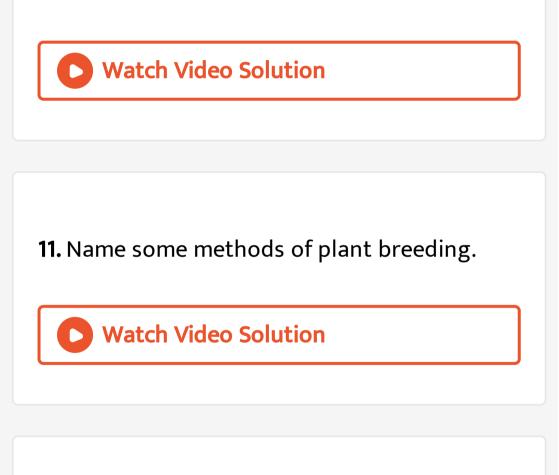




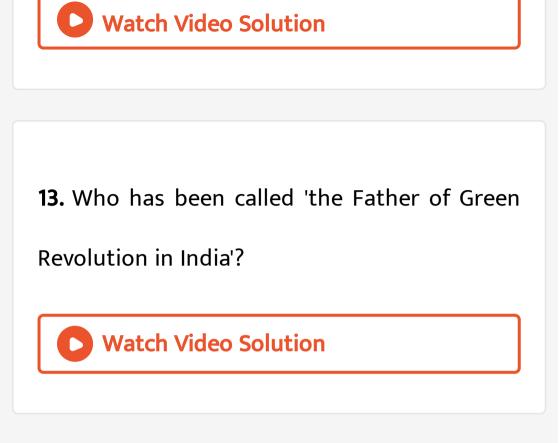
7. State the objectives of plant breeding?



10. The vitamin present in chloroplast is



12. Who is called the 'Father of the Green Revolution?



14. What was the contribution of Dr. M.S. Swaminathan in the field of plant breeding and agriculture in India?

15. What are the objectives of hybridization technique?

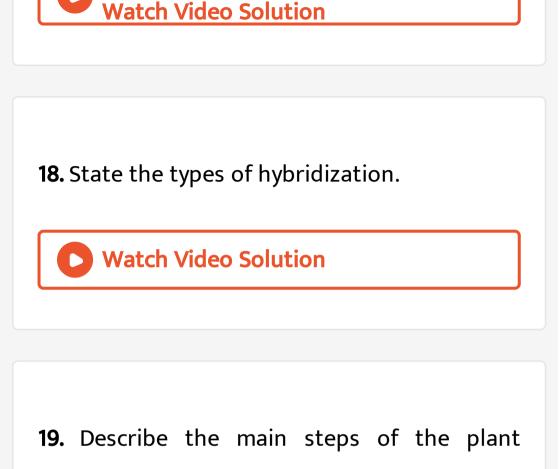
Watch Video Solution

16. What is hybrid-vigour?

Watch Video Solution

17. Give another term for hybrid vigour.





breeding program/Hybridization.

20. Describe briefly various steps of plant breeding methods.

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21. Who developed semi-dwarf varieties of

wheat?



22. Name two varieties of hybrid wheat grain

in India.

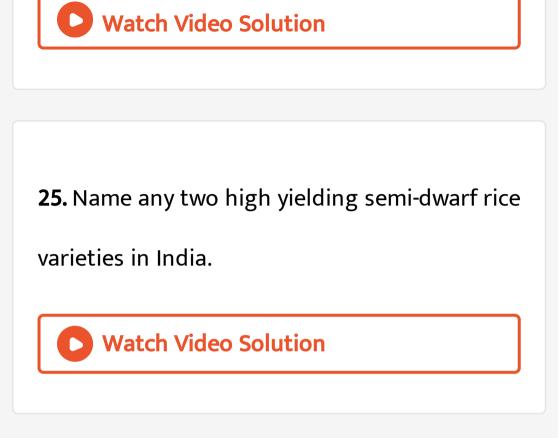
Watch Video Solution

23. Which one was of the first sources of semi-

dwarf rice variety?

Watch Video Solution

24. Where was IR-8 developed?



26. State the two sources of semi=dwarf rice

varieties introduced in India.



27. Write a note on hybrid sugarcane.



28. Which variety of sugarcane has a thicker stem and high sugar content but does not grow well in North India?

29. What characteristics are observed in hybrid

millets? Give any one example of a hybrid millet.



30. Name the disease caused by bacteria in crucifers.

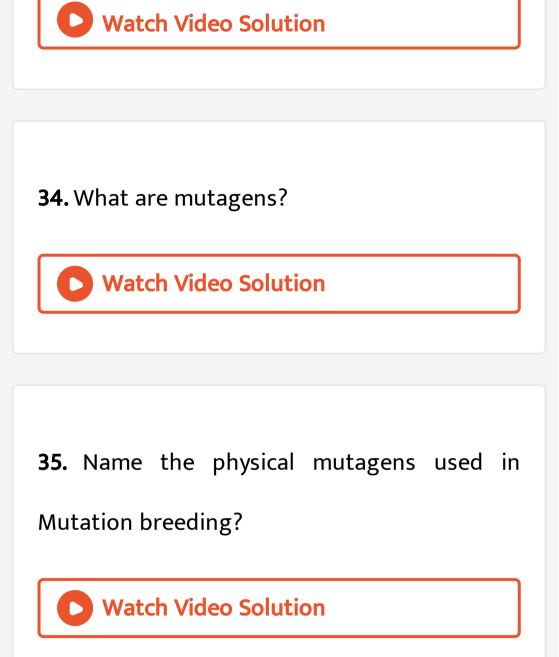
31. Name any two plant diseases caused by fungi in monocots.
Watch Video Solution

32. What is the main objective of plant

breeding for disease resistance?

Watch Video Solution

33. What are mutations?



36. Name the chemical mutagens used in Mutation breeding.Watch Video Solution

37. Name any two hybrid plants obtained by

Mutation breeding.



38. Match the columns:

Column 'A' Mutation breeding plant variety		Column 'B' Disease to which resistance is developed	
(1)	Jagannath	(a)	Rust resistant
(2)	Indore - 2	(b)	Bacterial rot
(3)	NP 836	(c)	Resistant to blast
(4)	Regina II	(d)	Bollworm disease

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39. Give an account of mutation breeding with

examples.



40. How are plant breeding for developing resistance to insect pests useful?

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41. What is plant breeding?

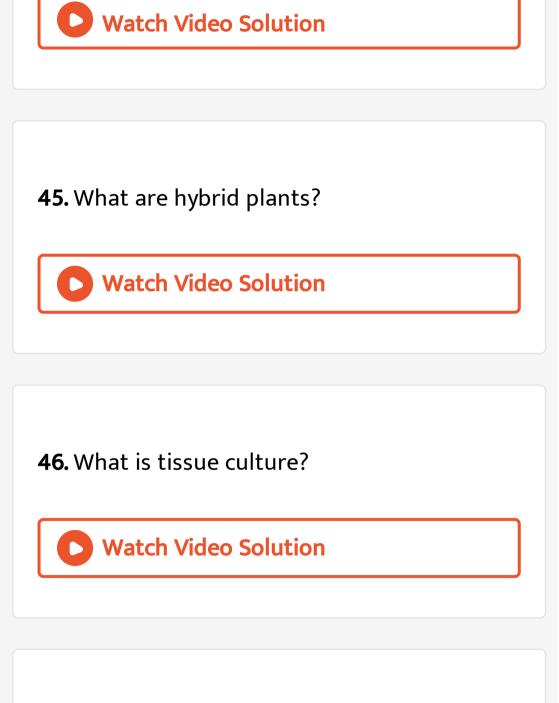
42. Name one pest resistant variety of Brassica.
Watch Video Solution

43. Name two pest resistant varieties of flat

bean.

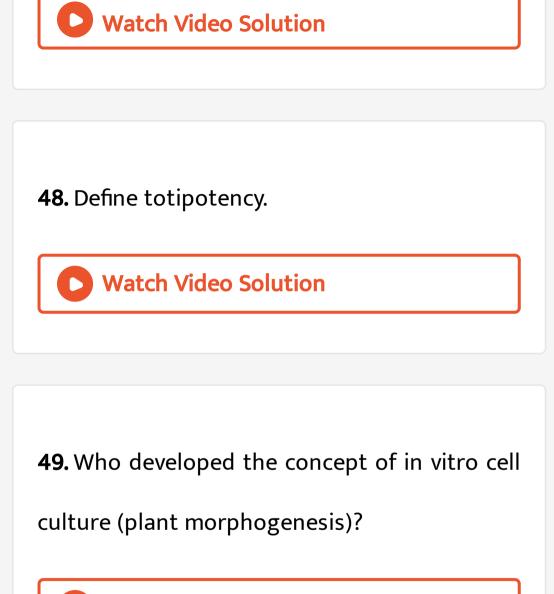


44. Name two pest resistant varieties of Okra.



47. What is 'explant'?

Г





 50. Name the most commonly preferred

 medium for tissue culture.

 Vatch Video Solution

51. What are the contents of a plant tissue

culture medium?

52. Name the types of tissue culture based on

the nature of the explants.

Watch Video Solution

53. Name the types of tissue culture based on

the type of in vitro growth.

54. Why are aseptic conditions essential in

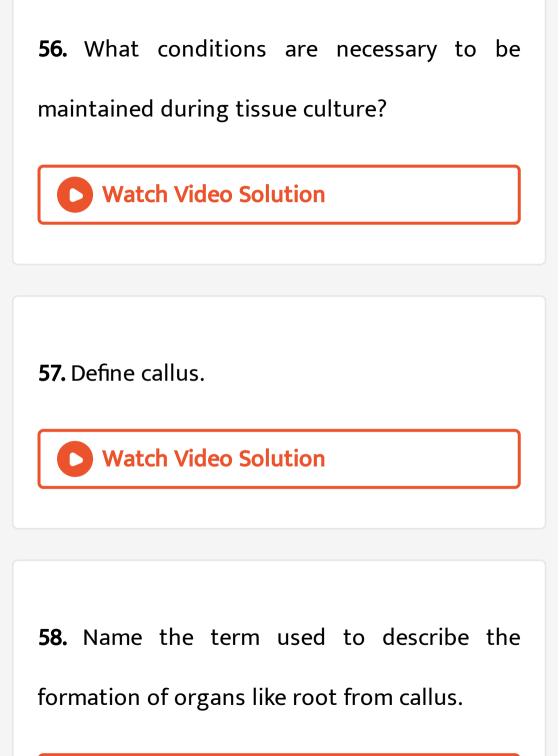
tissue culture?

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55. How are aseptic conditions accomplished

for tissue cultuer?





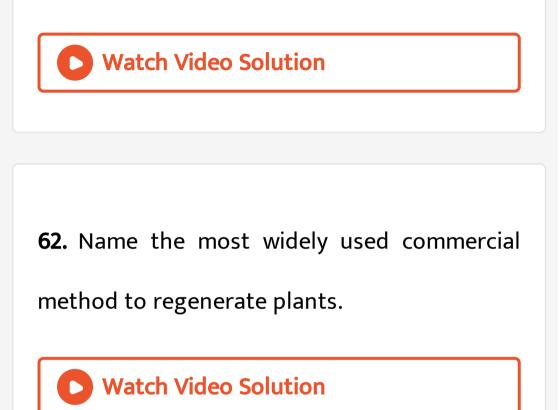


59. Name the term used to describe the formation of a shoot from callus?

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60. What is callus culture?

61. What is suspension culture?



63. Which is the most commonly used sugar.

64. What is another term used for?

'Micropropagation'.

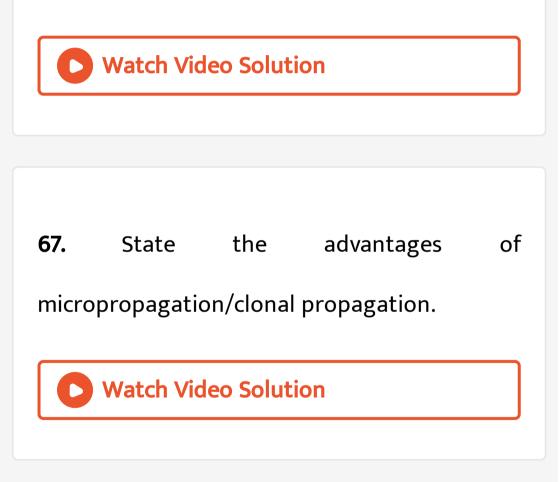


65. State the applications of tissue culture.



66. With the help of a flow chart enlist the

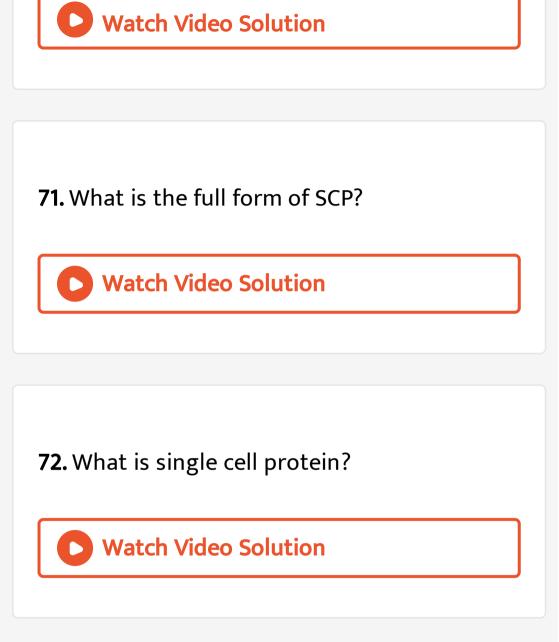
steps involved in tissue culture technique.



68. Name some high-yielding varieties of Banana mostly used in Maharashtra. Watch Video Solution 69. What is 'hardening'? Watch Video Solution

70. Which are the various processes in tissue

culture?



73. Which microorganisms have very high

protein content in their biomass?

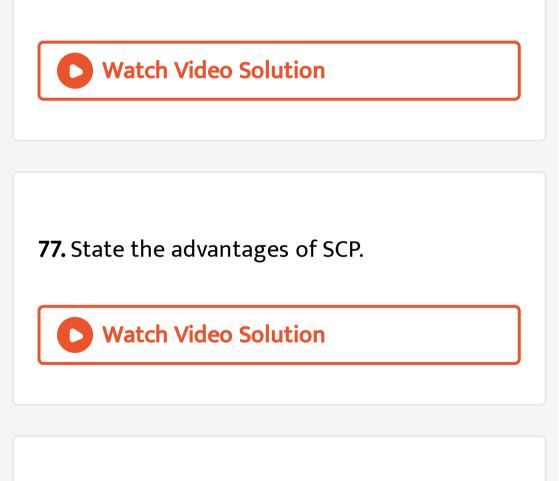


74. How can SCP yielding organisms be grown?

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75. Write a note on SCP.

76. Name two SCP yielding organisms.



78. What are the advantages of SCP.



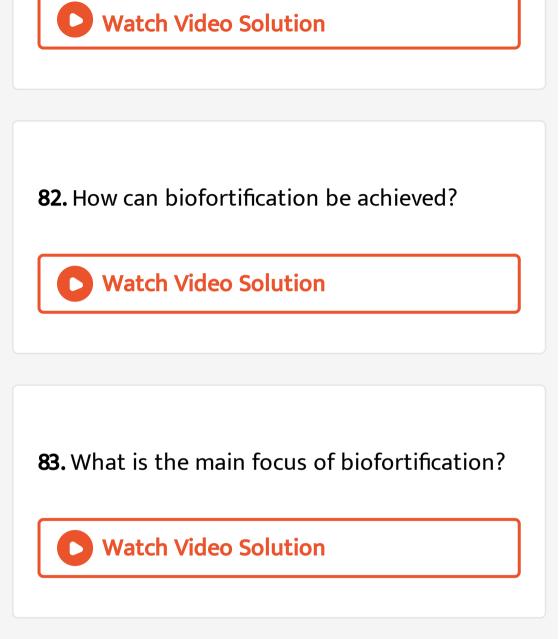


80. What is biofortification?

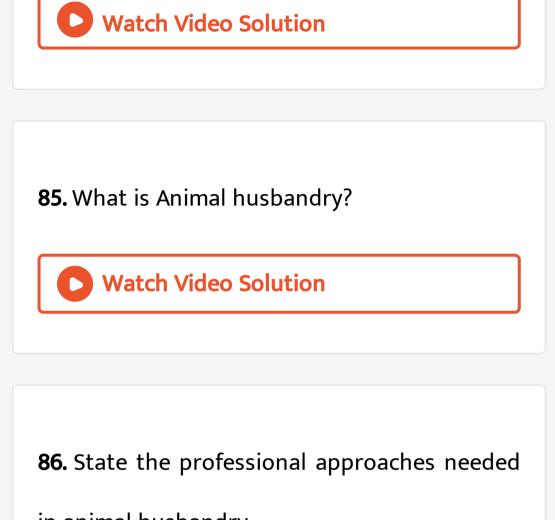
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81. State the objectives of biofortification

program.

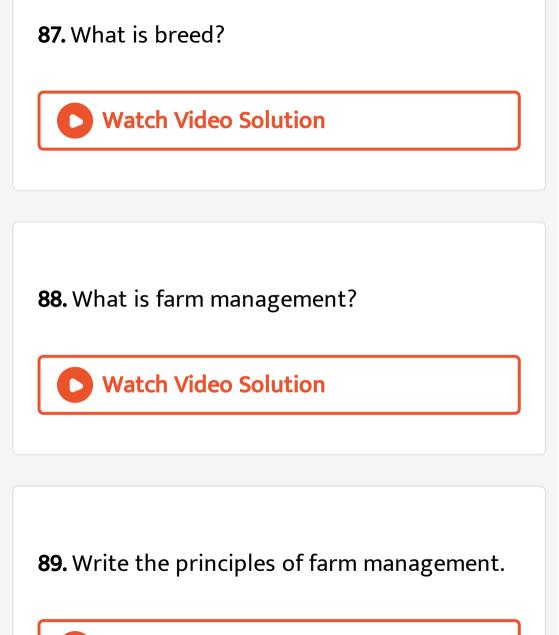


84. Give an example of a bio-fortified crop.

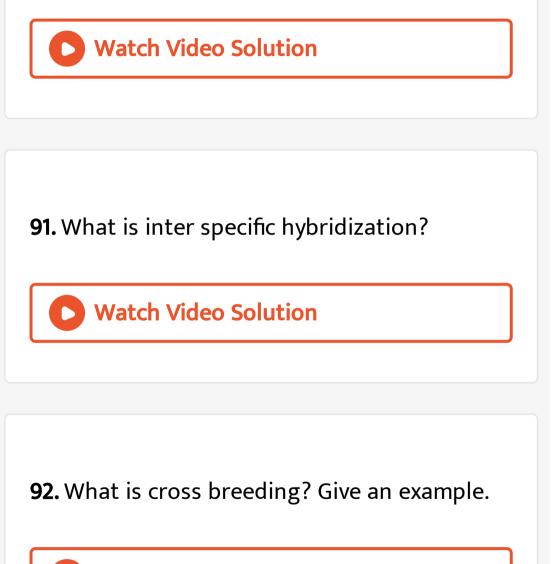


in animal husbandry.





90. What is the aim of animal breeding?



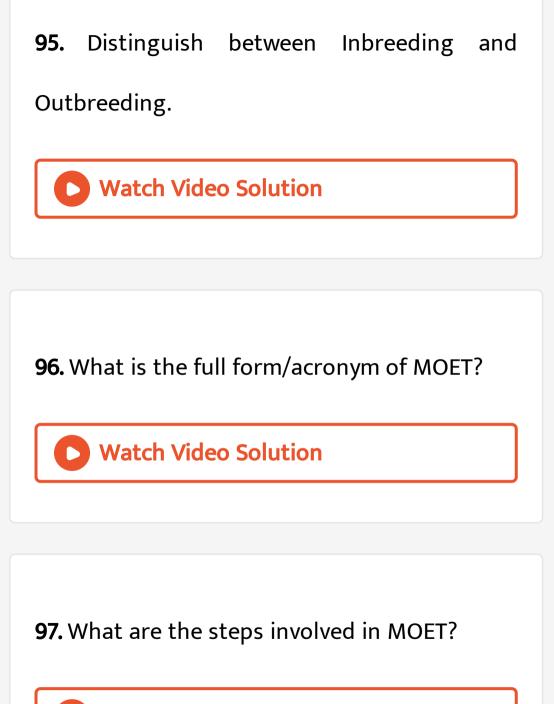
93. What is artifical insemination technique?

How is it useful?

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94. Explain the 2 main types of animal breeding.





98. What is dairy farming?

Watch Video Solution

99. Name Indian breeds of cattle used in dairy

farms.



100. Name exotic breeds of cattle used in dairy

farms.



101. Which Indian breeds produce plenty of milk?



102. Name few Indian breeds of good milk producing dairy cattle. Watch Video Solution **103.** What is silage? Watch Video Solution

104. What food is fed to dairy cattle?

105. What is a source of additional income in

cattle farms?

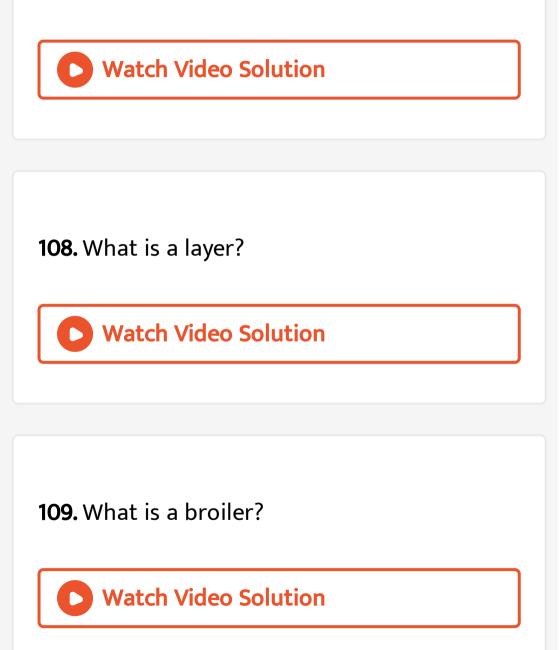


106. Regular visit of veterinary doctor to dairy

farm is mandatory, why?



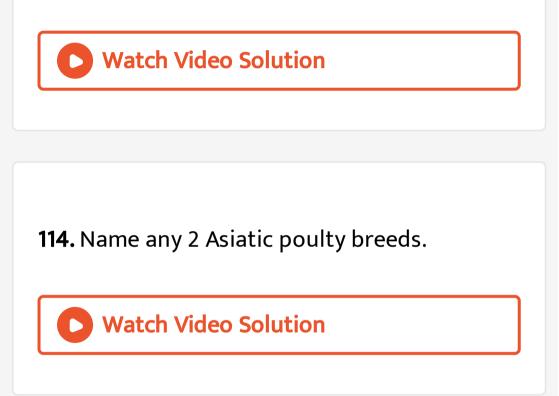
107. Give significance of dairy farming.



110. What are the important requirements of a poulty farm? Watch Video Solution **111.** Which is the best layer? Watch Video Solution

112. Name two preferred broilers.

113. Name 2 Mediterranean breeds of poultry.



115. Name any 2 American popultry breeds.

116. What are the requirements to manage

layers?



117. What are the requirements to manage

broilers?

118. What are the different types of poultry diseases? Explain any 4 types of poultry diseases.



119. What are the different types of poultry diseases? Explain any 4 types of poultry diseases.



120. State the economic importance of poultry

farming.

Watch Video Solution	
121. What is Apiculture?	
Watch Video Solution	

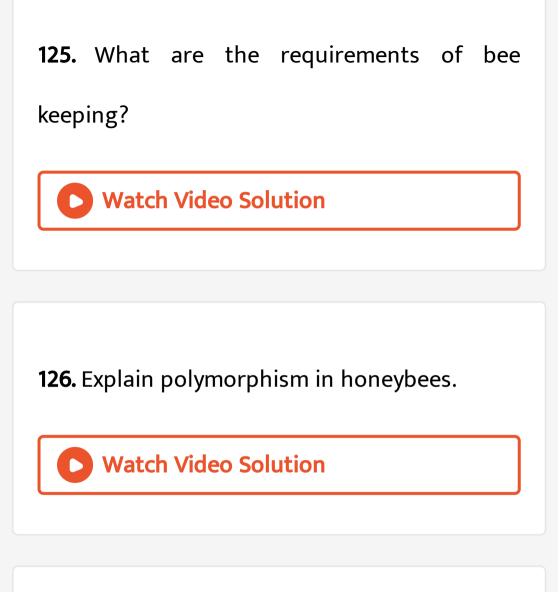
122. Name the bee species found in India.

123. Which two species of bees are known as

domesticated species?

Watch Video Solution

124. Why are honey bees called as best pollinators?



127. Sketch and label an Artificial bee hive.

128. What are the requirements of bee keeping?



129. Many Indian crop fields need the services

of honeybees as pollinators.-Give reasons.



130. Enlist the species of honey bee mentioning their specific uses.
Watch Video Solution

131. Give the economic importance of honey

bee.



132. What is fishery? Name its divisions.



133. What is inland fishery? Give an example of

fish cultured by this method.

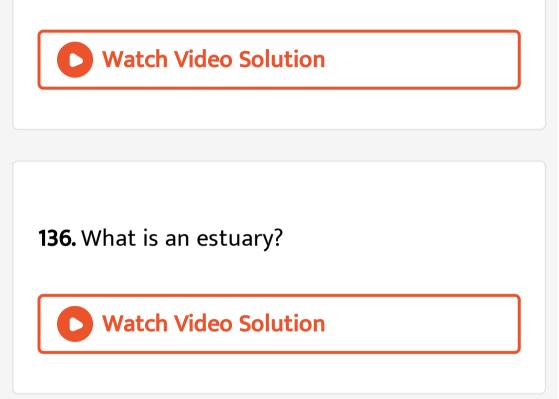
Watch Video Solution

134. Where is fish farming carried out?



135. What is marine fishery? Give 2 examples of

commercially important marine fish.



137. Define ether.

138. What is estuarine fishery?

Watch Video Solution

139. Give the name of estuaries found in Maharashtra and where these estuaries are located.

140. Name the different fish and aquatic organisms found in an estuary.
Watch Video Solution

141. Name the different techniques used in

analysis or characterisation of nanomaterials.

Watch Video Solution

142. Name fishes found in Indian estuaries.



143. What factors are involved to maintain fish

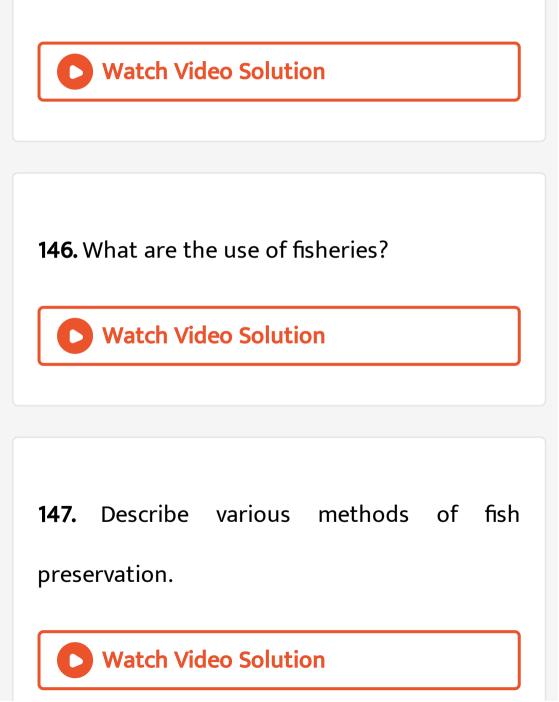
farms?

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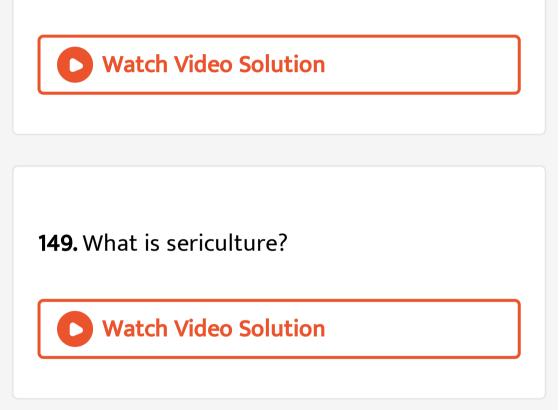
144. State the methods of fish preservation.



145. Whar are the by-products of fisheries?



148. Give economic importance of Fishery.



150. What are the advantages of sericulature?

151. Which is the best quality of silk? Name the

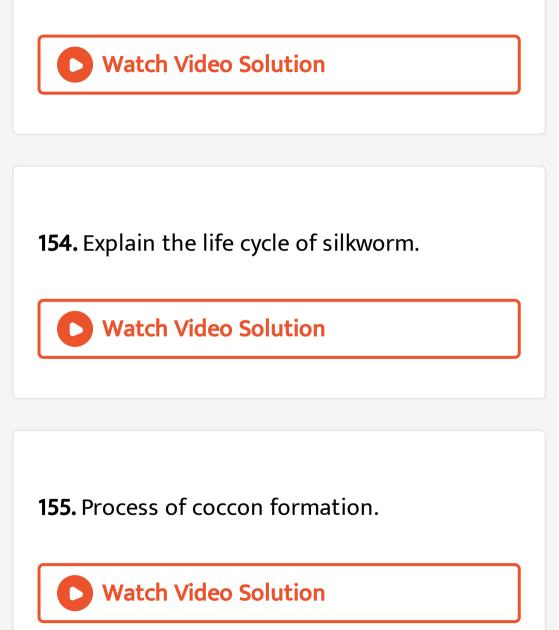
silk worm involved.



152. Which factors determine the quality and

quantity of silk?

153. Explain the life cycle of silkworm.



156. Write about the process involved in silk

production from cocoon?

Watch Video Solution

157. Give the importance of sericulture.

Watch Video Solution

158. Which insect produces lac?

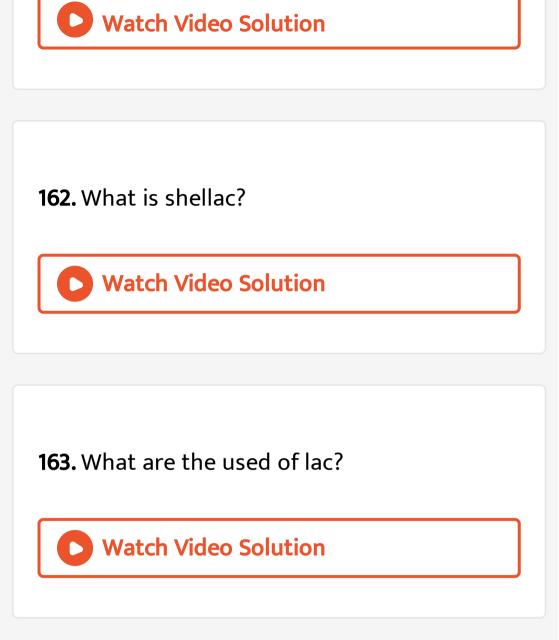
159. Which glands of the female lac insect produces lac?



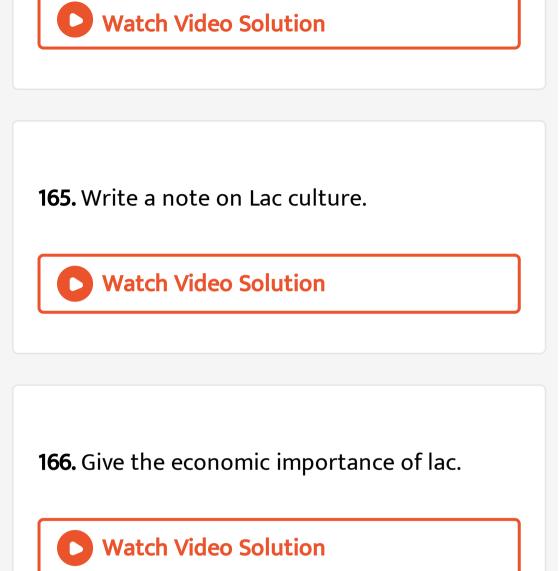
160. How is lac produced?



161. What is lac?



164. How is lac produced?



167. Name the microbes used in fermaentation

of dhokla.

Watch Video Solution

168. What causes the dough of dhokla to puff

up?



169. What does make idlies puffy?

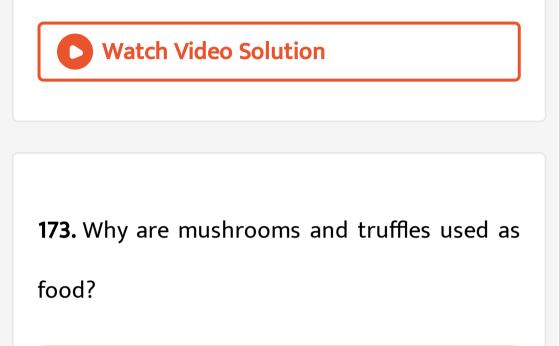


170. Many microbes are used at home during preparation of food items. Comment on some useful ones with exampls.

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171. Name some edible mushrooms.

172. Name some poisonous mushrooms.



Watch Video Solution

174. Which lactic acid bacterium is added to

milk for fermentation?





175. What is the role of lactic acid in diary

industry?



176. Which bacterium is involved in the

preparation of Indian curd?

177. Milk starts to coagulate when Lactic Acid Bacteria (LAB) is added to warm milk as a starter. Mentions any two other benefits of LAB.

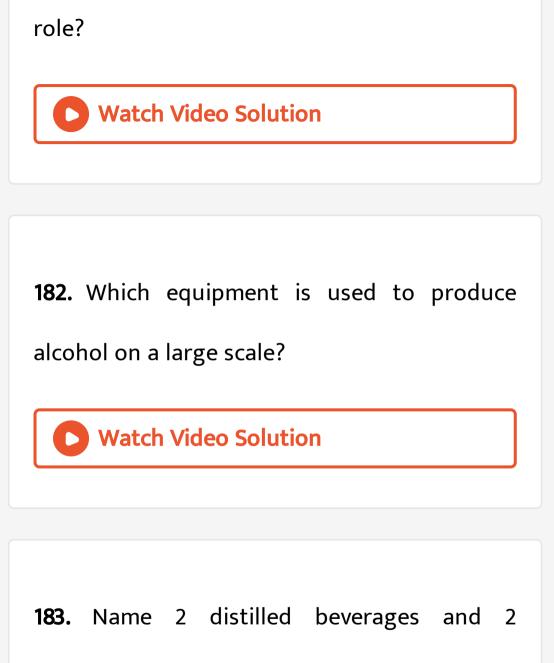


178. Name the microbes involved in the

ripening of Roquefort and camembert cheese.

179. Swiss cheese has large holes in it'-Give reasons. Watch Video Solution **180.** What is idio phase? Watch Video Solution

181. Name the microorganism which is commonly called as 'Brewer's Yeast'. What is its



beverages produced without distillation.

184. What is 'feni'? How is it made?

Watch Video Solution

185. Sketch and label tubular tower fermenter.

Watch Video Solution

186. How are organic acids produced?

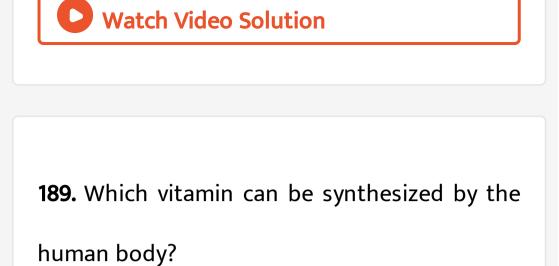
187. Match the columns:

Column 'A' (Organic acid)		Column 'B' (Microbes used)	
(2)	Acetic Acid	(b)	Aspergillus niger
(3)	Lactic Acid	(c)	Rhizopus arrhizus
(4)	Fumaric acid	(d)	Lactobacillus

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188. State the uses of organic acids giving examples.

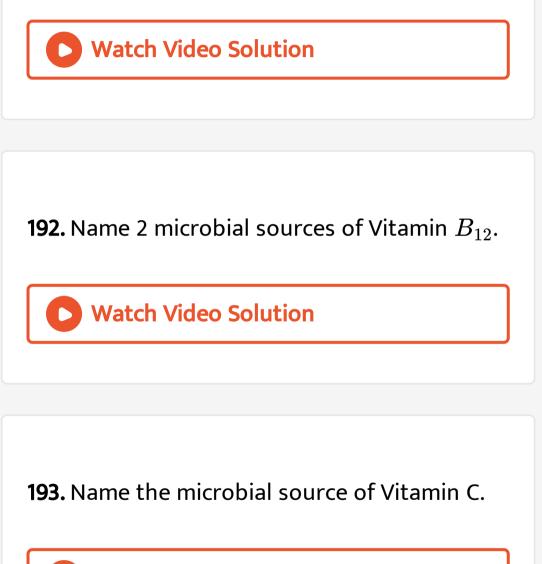


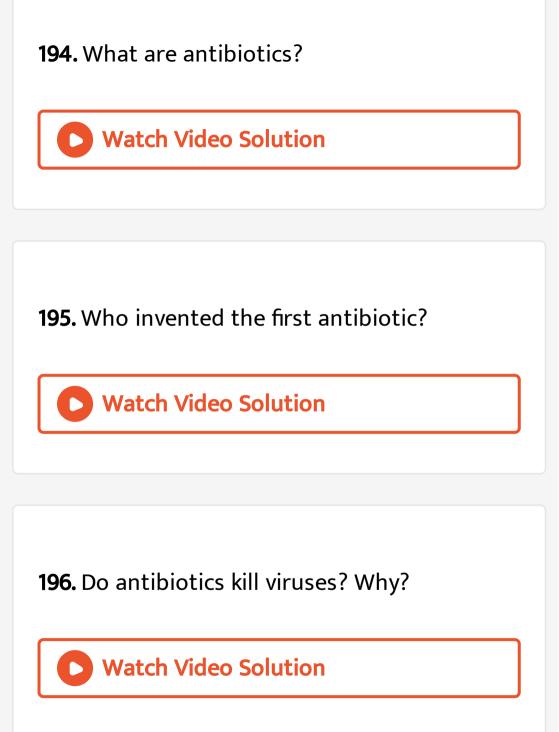


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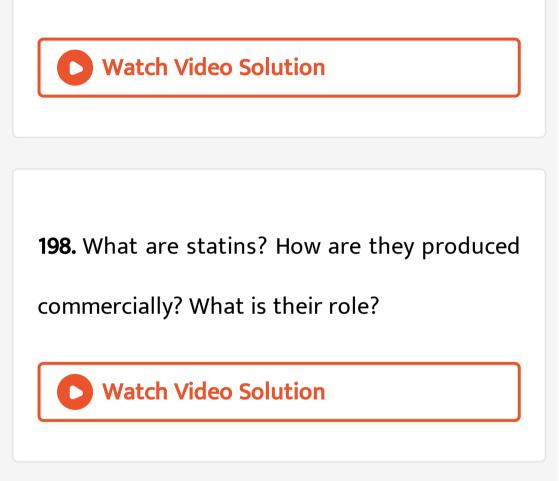
190. What are vitamins?

191. Name 2 microbial sources of Vitamin B_2 .





197. Enlist the uses of enzymes.



199. Which enzyme produced by streptococcus

spp. Is a 'clot buster' in cardiac patients?



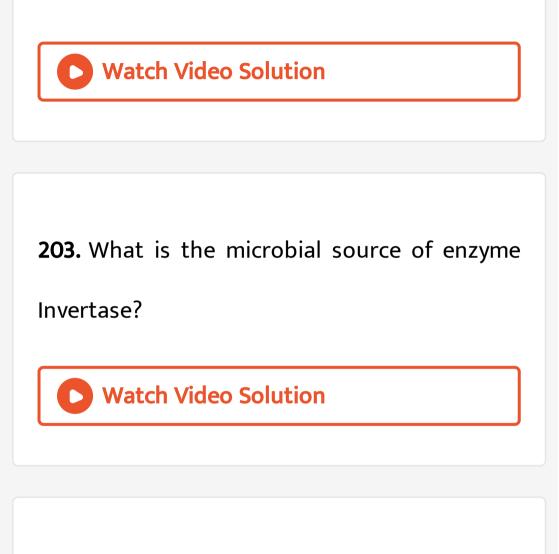
200. Which fungus was the fist source of gibberellins?

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201. Name the two Japanese scientists who

isolated the first gibberellins?

202. State the applications of gibberellins.



204. Name the enzyme produced by streptococcus bacterium. Explain its

importance in medical sciences.



205. Name any 2 enzymes and antibiotics with

their microbial source.

Watch Video Solution

206. What are A, B, C and D in the table given

table.

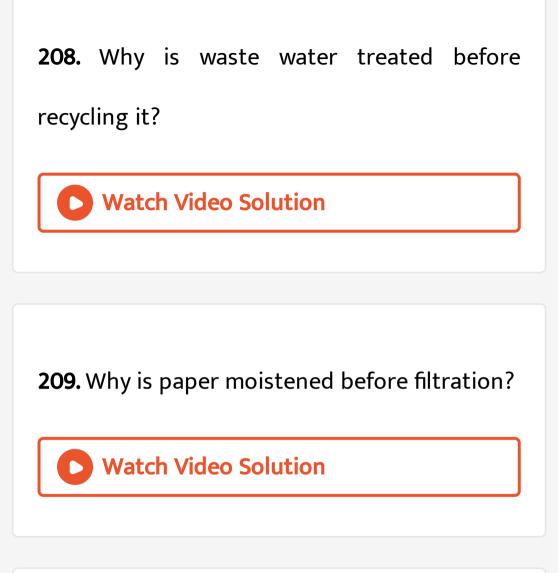
Types of microbe	Name	Commercial Product
Fungus	А	Penicillin
Bacterium	Acetobacter aceti	В
С	Aspergillus niger	Citric acid
Yeast	D	Ethanol

C

Watch Video Solution

207. What comprises sewage?





210. Give a diagrammatic representation of the

various stages in waste treatement.

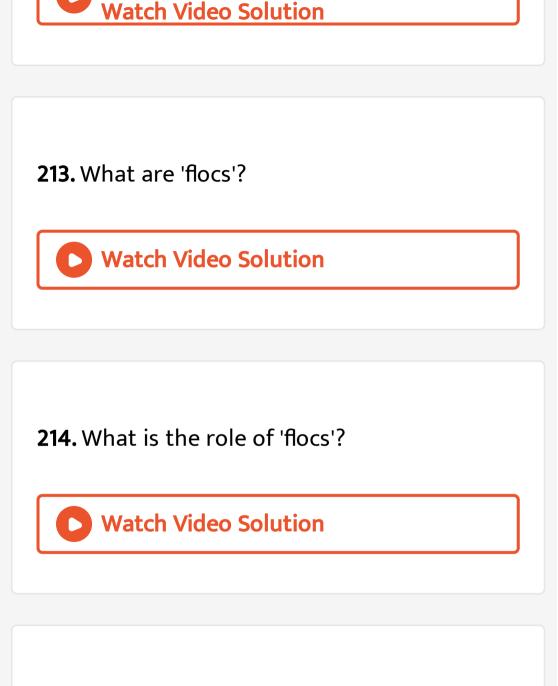


211. Explain the basic steps of sewage treatment.

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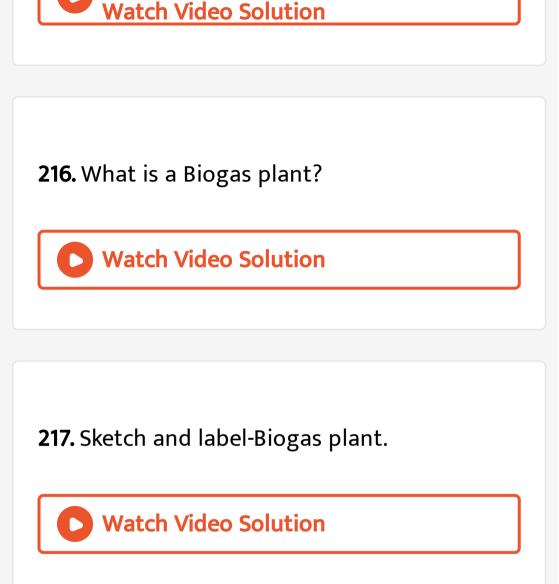
212. Explain the process of sewage water treatment before it can be discharged into natural bodies. Why this treatment is essential?





215. What are the constituents of Biogas?





218. Which substances can be used to generate biogas?

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219. Name the most commonly used models of

Biogas plants.



220. State the uses of biogas.



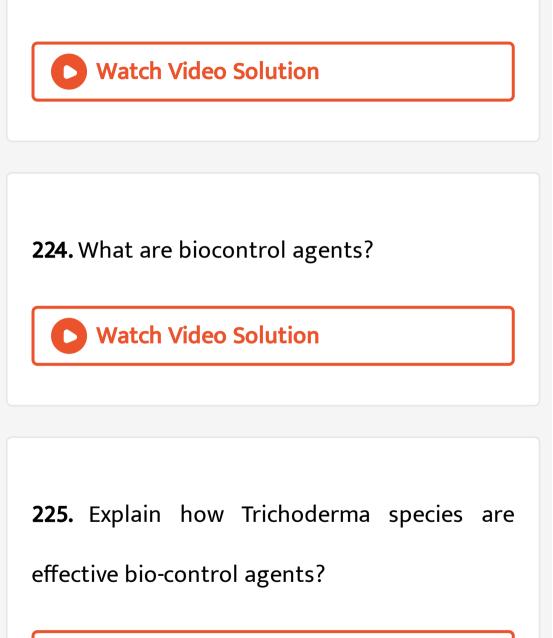
221. Explain the steps involved in anaerobic digestion.

Watch Video Solution

222. What is biogas? Write in brief about the

production process.

223. What is bio control?



226. Match the following:

Column 'A' Antibiotic		Column 'B'	
		(Microbes used)	
(1)	Bacillus thuringiensis (Bt)	(a)	Aphids, mealy bugs
(2)	Nosema lacustae	(b)	Gypsy moth, ants, wasps and beetles.
(3)	Beavueria bassiana	(c)	cabbage worm
(4)	Granulovirus	(d)	Grasshopper, crickets



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227. Why do weeds threaten crop plants?

 228. What are fertilizers? How are they

 classified?

 Watch Video Solution

229. What are the disadvantages of inorganic

fertilizers?



230. What are the benefits of organic fertilizers? Give examples.
Watch Video Solution
231. What are biofertilizers? Give their

applications.



232. Use of Biofertilizers is cost effective and

eco-friendly'-Give reasons.

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233. Classify Biofertilizers on the basis of their

nature and function citing exmples.



234. Enlist the benefits of Mycorrhizae.



235. Why are healthy root nodules pink in colour?

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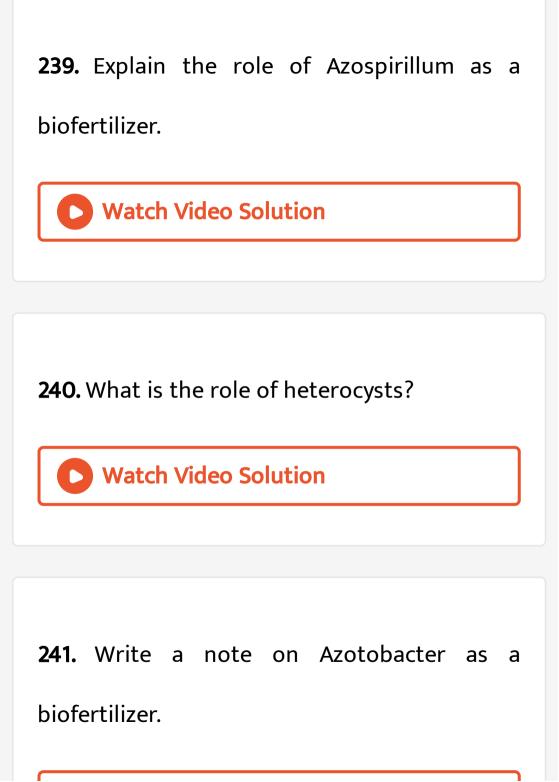
236. Explain the role of Rhizobium as a biofertilizer.

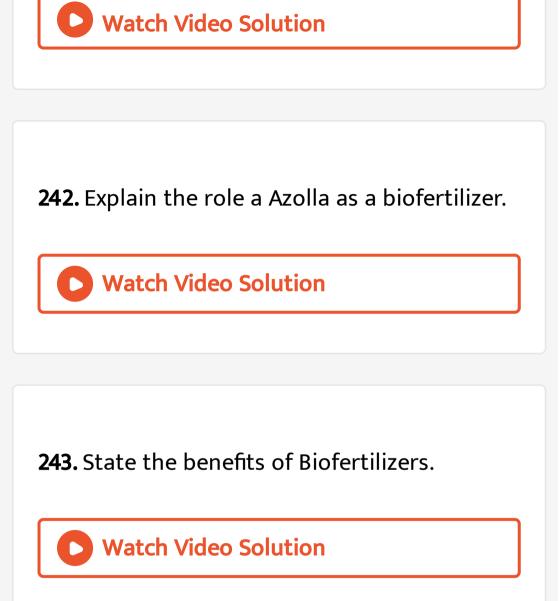
237. Name the special genes found in

Rhizobium for N_2 fixation.



238. Write a note on Azotobacter as a biofertilizer.





244. Sketch and label the L.S. of Azolla leaf

showing filamentous Anabaena.



245. Sketch and label the root system of a leguminous plant.



246. Answer the following questions:

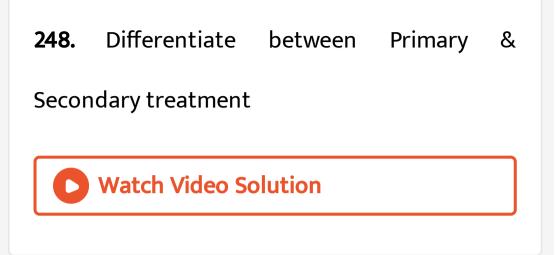
Write two bacterial examples of biofertilizers.



247. Differentiate between edible and non-

edible mushroom





249. Differentiate between Chemical fertilizer

and bio-fertilizer.





1. Antibiotic Chloromycetin is obtained from

- A. Streptomyces erythreus
- B. Penicillium chrysogenum
- C. Streptomyces venezuelae
- D. Streptomyces griseus

Answer:

2. Removal of large floating debris, oily substances, etc. during sewage treatement is called

A. primary treatment

B. secondary treatment

C. final treatment

D. amplification

Answer:

3. Which of the following is free living biological biofertilizer?

A. Azotobacter

B. Rhizobium

C. Nostoc

D. Bacillus thuringiensis

Answer:

4. Most commonly used substracte for

industrial production of beer is _____

A. barley

B. wheat

C. corn

D. sugarcane molasses

Answer:

5. Ethanol is commercially produced through a

particular species of_____

A. Aspergillus

B. Saccharomyces

C. Clostridium

D. Trichoderma

Answer:

6. One of the free-living anaerobic nitrogen-

fixer is _____

A. Azotobacter

B. Beijerinckia

C. Rhodospirillum

D. Rhizobium

Answer:

7. Microorganisms can also help in production

of food like_____

A. bread

B. alcoholic beverages

C. vegetables

D. pluses

Answer:

8. The ability of a plant cell to divide and

generate a whole new plant is called_____

A. organogenesis

B. cloning

C. totipotency

D. mutation breeding

Answer:

9. Pusa Gaurave' is an insect resistant variety

of which of the following plants?

A. Okra

B. Brassica

C. Cowpea

D. Chilly

Answer:

10. Germ plasm includes	10.	Germ	plasm	includes
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A. only improved crop varieties

- B. all hgybridized crop varieties and wild relatives
- C. all mutant crop varieties
- D. all cultivated varieties and wild varieties

of a particular crop.

Answer:

11. Ex-situ conservation is done through_____

A. Forests

- **B. Natural Reserves**
- C. Seed banks
- D. Sanctuaries

Answer:

12. During emasculation, the _____ are

removed from a flower.

A. anthers

B. sepals

C. petals

D. carpels

Answer:

13. Hybridization between members of the

same variety is turned as _____

A. Intravarietal

B. interspecific

C. Intervarietal

D. intergeneric

Answer:

14. Sonalika and kalyan sona are hybrid

varieties of _____

A. millets

B. rice

C. sugarcane

D. wheat

Answer:

15. Better-yielding, semi dwarf rice varities are

A. Sonalika and Kalyan soan

- B. Co-419 and CO-453
- C. Jaya and Ratna
- D. Ganga-3 and Co-12

Answer:

16. _____ is a hybrid variety of Jowar.

A. CO-419

B. CO-12

C. CO-421

D. CO-453

Answer:

17. Ganga-5 is a hybrid variety of _____

A. rice

B. maize

C. wheat

D. cabbage

Answer:

18. Pusa Sadabahar is a disease resitant _____pant

A. wheat

B. chilli

C. rice

D. cauliflower

Answer:

A. Pusa sadabahar

B. Pusa Swarnim

C. Pusa shubra

D. Himgiri

Answer:

20. Taichung Native-I is a rice variety form

A. China

B. Japan

C. Korea

D. Taiwan

Answer:

21. Padma, Ratna, Jaya are high yielding

varieties of ____

A. jowar

B. bajra

C. rice

D. wheat

Answer:

22. Wheat variety resistant to Hill blunt

disease is _____

A. Pusa Shubhra

B. Himgiri

C. Pusa Gaurav

D. Pusa sawani

Answer:

A. high proteins

B. high carbohydrates

C. high fats

D. high vitamins

Answer:

24. Pusa sem 2 and Pusa sem 3 are pest-

resistant varieties of _____

A. chilli

B. okra

C. flat bean

D. brassica

Answer:

25. Which of these is not a high yielding

variety of Banana?

A. Shrimati

B. Basrai

C. G-9

D. Ganga-3

Answer:

26. The microorganism used in the production

of acetic acid is _____

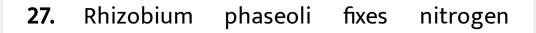
A. Aspergillus niger

B. Neurospora gossypii

C. Rhizopus arrhizus

D. Acetobacter aceti

Answer:



symbiotically in _____

A. pea

B. bean

C. jowar

D. maize

Answer:

28. Dead and dried cell mass of microbes having nutritive value is also known as _____

A. BGA

B. STP

C. SCP

D. VAM

Answer:

29. Trichoderma konigii is a source of _____

A. invertase

B. lipase

C. pectinase

D. cellulase

Answer:



30. Alcoholic fermentation is brought about by

A. Lactobacillus

B. Saccharomyces

C. Trichoderma

D. Streptomyces venezuelae

Answer:

31. Hisardale is a new breed of _____

A. pigs

B. sheep

C. goats

D. cattle

Answer:



32. Mule is a product obtained by ____

A. cross breeding

B. Outcrossing

C. Artificial insemination

D. Interspecific hybridization

Answer:

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33. MOET Technology is typically used in

A. goats and cows

- B. cows and sheep
- C. pigs
- D. sheep

Answer:



34. Sahiwal, Gir, Sindhi are Indian breeds of

A. cattle

B. sheep

C. goats

D. rabbits

Answer:

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35. Pullorum disease in poultry is caused by

A. viruses

B. fungi

C. bacteria

D. protozoa

Answer:

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36. Avian influenza is caused by _____

A. Viruses

B. Protozoa

C. Bacteria

D. Fungi

Answer:

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37. Indian breed of cow is _____

A. Jersey

B. Brown Swiss

C. Holstein

D. Mehsana

Answer:



38._____ is a exotic breed of cows.

A. Sahiwal

B.gir

C. Sidhi

D. Jersey

Answer:

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39. Coccidiosis is a disease in poultry caused

by _____

A. Viruses

B. Fungi

C. Bacteria

D. protozoa

Answer:

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40._____ is the best layer.

A. Rhode Island Red

B. Leghorn

C. Kadaknath

D. Brahma

Answer:



41._____is not a preferred broiler.

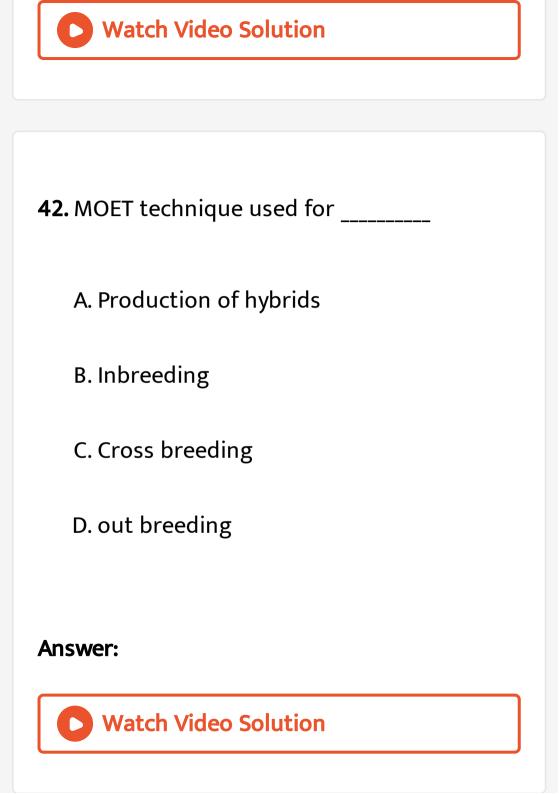
A. Kadaknath

B. Aseel

C. Leghorn

D. Brahma

Answer:



43. Shellac is the ______form of lac.

A. Natural

B. contaminated

C. pure

D. artifical

Answer:

44. The best silk is produced by _____

A. Bombyx mori

B. tussar

C. Eri silkworm

D. muga

Answer:

45. A common fresh water fish is _____

A. Rohu

B. Sardine

C. Pomphret

D. Prawn

Answer:

- **46.**_____ is also called as European bee.
 - A. Apis indica
 - B. Apis florea
 - C. Apis mellifera
 - D. Apis dorsata

Answer:

47. The high yeilding vareities, CO-421 and CO-

419 of _____ developed at Coimbatore.

A. jowar

B. rice

C. sugarcane

D. wheat

Answer:

48. Which is not an advantage of biogas?

- A. It burns with a blue flame without smoke.
- B. It improves sanitation of the

surrounding

C. It si highly expensive

D. it can be used for small scale industries.

Answer:

49. Treated sewage water has_____

A. maximum BOD

B. moderate BOD

C. low BOD

D. least BOD

Answer:

50. Mycorrhizae is a symbiotic association of

A. bacteria and algae

B. algae and fungi

C. fungi and roots of higher plants

D. BGA and roots of higher plants

Answer:

51. Pseudomonas denitrificans is used as a

microbial source to produce_____

A. Gluconic acid

B. Pectinase

C. Vit B_{12}

D. Vit B_2

Answer:

52. Which of the following are water soluble

pigments

A. Nosema lacustae

B. NPV

C. Beavueria bassiana

D. Alternaria crassa

Answer:

53. Chicken raised for eggs are

called_____

A. broods

B. broilers

C. layers

D. turkeys

Answer:

54. Super ovulation and embryo transplant is

used to improve_____

A. poultry

B. fishes

C. cattle

D. bees

Answer:

55. _____ is a product of apiculture.

A. Wax and Honey

B. Silk

C. Lac

D. Butter

Answer:

56. Blastocyst at which state is transferred to

surrogate mothers in MOET technology?

A. 4-8 cell stage

B. 8-32 cell stage

C. 8-16 cell stage

D. 6-8 cell stage

Answer:

57. Which of the following is an English breed?

A. Rhode Island Red

B. Leghorn

C. Australorp

D. Plymouth Rock

Answer:

58. Isinglass obtained in fishery as a byproduct, is useful for _____

A. making glasses

B. filtering wines

C. polishing

D. making gems

Answer:

59. Gobar gas produces additional income to

farmers from_____

A. sericulture

B. dairy farming

C. poultry farming

D. fish farming

Answer:

60. Hormone used in MOET technology is

GH FSH LH TSH

A. GH

B. FSH

C. LH

D. TSH

Answer:

61. Inbreeding for 4-6 generation

increase_____

A. Homozygosity

B. Heterozygosity

C. Hemizygosity

D. heterosis

Answer:

62. Fish glue is obtined from which part of the fish?

A. air bladder and skin

B. bones and skin

C. liver and skin

D. scales and skin

Answer:

63. Which is a parasite in poultry?

A. silk worm

B. guinea worm

C. round worm

D. ring worm

Answer:

64. Which Indian breeds produce plenty of milk?

A. Jersy, Holsein, Nili

B. Nagpuri, Murrah, Surati

C. Murrah, Sahiwal, Brown Swiss

D. Mehsana, Gir and Nili

Answer:

65. Methanogenic bacteria are not found in

A. activated sludge

B. rumen of cattle

C. gobar gas plant

D. bottom of water logged paddy fields

Answer:

66. A nutritional disease found in poultry is

A. ranikhet

B. rickets

C. cholera

D. rinder pest

Answer:

67._____ is the best table bird among native

brids.

A. Aseel

B. Ghahus

C. Cochin

D. Busra

Answer:

68. Which is known as 'Luknow ka Murga'?

A. Chittagong

B. Assel

C. Busra

D. Cochin

Answer:

69. A group of animals which are related by descent, sharing many similarities are referred

as _____

A. race

B. species

C. variety

D. breed

Answer:

70. World's fist, clone buffalo'Samrupa' and

`Garima' ware developed at ____

A. NDRI, Karnal

B. IARI, New Delhi

C. IVRI, İzatnagar

D. Rosalind Institute, Scotland

Answer:

71. Pick out the marine fish_____

A. Hilsa

B. Rohu

C. Catla

D. Carp

Answer:



72. Blastocyst at which state is transferred to

surrogate mothers in MOET technology?

A. 4-8 cell stage

B. 6-8 cell stage

C. 8-16 cell stage

D. 8-32 cell stage

Answer:

73. Mule is a product obtained by _____

A. cross breeding

B. Outcrossing

C. MOET Technology

D. interspecific hybridization

Answer:

74. Fish glue is obtined from which part of the

fish?

A. skin

B. scales

C. bones

D. organs

Answer:

75. During emasculation, which part/whorl of a

flower is removed?

A. Gynoecium

B. Androecium

C. Corolla

D. Calyx

Answer:

76._____ is the best layer.

A. Bombyx mori

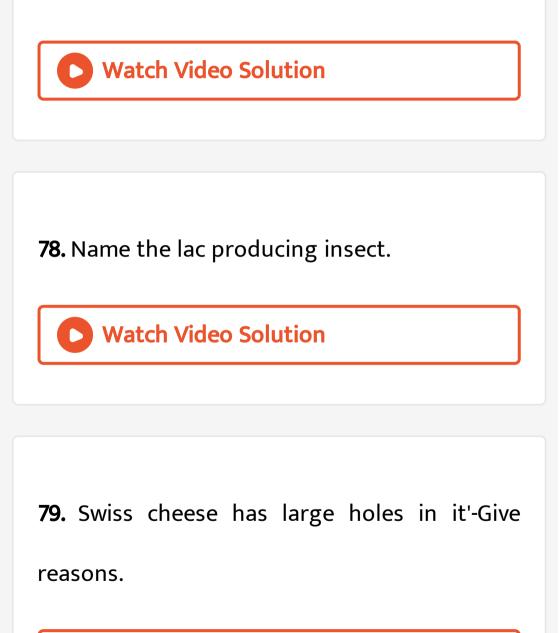
B. tussar

C. Fri silkworm

D. muga

Answer:

77. State the role of 'Statins'.



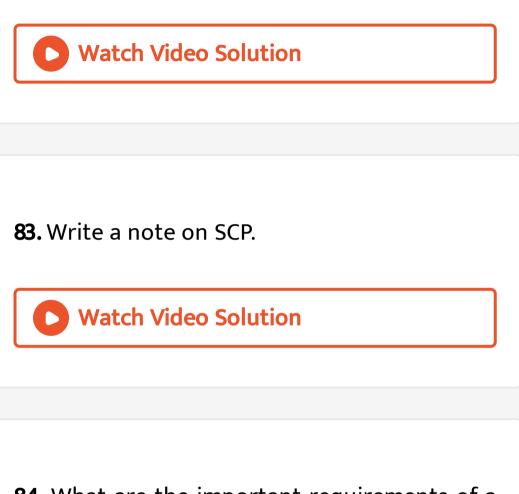
80. Name the microorganism which is commonly called as 'Brewer's Yeast'. What is its role?

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81. Name the microbial source of

chloromycetin.

82. Give the full form of 'VAM'.

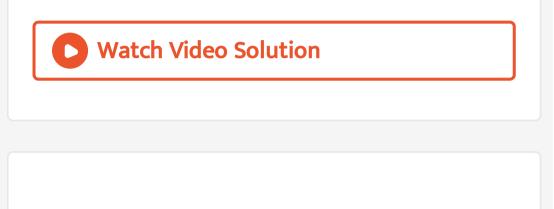


84. What are the important requirements of a

poulty farm?



85. Name the bee species found in India.



86. Explain briefly the different types of fossils.



87. Distinguish between Inbreeding and Outbreeding.





88. Explain the steps involved in anaerobic

digestion.



89. Sketch and label tubular tower fermenter.

90. Describe briefly various steps of plant breeding methods. Watch Video Solution 91. Explain the basic steps of sewage treatment. Watch Video Solution