

SAINIK SCHOOL GOPALGANJ
ASSIGNMENTS
BIOLOGY (044)

Chapter 10: Microbes in Human Welfare
General Instructions

Class: XII

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1. All questions are compulsory.
 2. Question 1 to 10 is multiple choice questions.
 3. Question 11 to 15 is short answer questions.
 4. Question 16 to 20 is long answer questions
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- Q1. In Swiss cheese, big holes are made by a
- (a) bacterium producing methane gas
 - (b) machine
 - (c) fungus releasing a lot of gases while its metabolic activities
 - (d) bacterium producing large quantities of carbon dioxide
- Q2. During which stage of the purification of the sewage water are microbes used?
- (a) Primary treatment
 - (b) Secondary treatment
 - (c) Tertiary treatment
 - (d) Both (1) and (2)
- Q3. What does a high value of BOD(Biochemical Oxygen Demand) indicate?
- (a) That water is pure
 - (b) that water is less polluted
 - (c) that water is highly polluted
 - (d) that consumption of organic matter by microbes is higher in the water
- Q4. This entry in the table is wrongly matched

Option	Name of the Microbe	Product	Purpose
(a)	<i>Monascus purpureus</i>	Statins	Lowers blood cholesterol
(b)	<i>Streptococcus</i>	Streptokinase	Removes clots from blood vessels
(c)	<i>Clostridium butylicum</i>	Lipase	Oil stain removal
(d)	<i>Trichoderma polysporum</i>	Cyclosporin-A	Immunosuppressive drug

- Q5. This is a good producer of citric acid
- (a) *Aspergillus*

- (b) *Clostridium*
- (c) *Saccharomyces*
- (d) *Pseudomonas*

Q6. This is not an example of performing biological control of diseases/pests using microbes

- (a) *Trichoderma* sp. against some plant pathogens
- (b) Nucleopolyhedrovirus against insects and other arthropods
- (c) Ladybird beetle against aphids
- (d) Bt-cotton to increase yield

Q7. This is chiefly produced by the activity of anaerobic bacteria on sewage

- (a) Laughing gas
- (b) Propane
- (c) Mustard gas
- (d) Marsh gas

Q8. For the production of ethanol, the most common substrate used in distilleries is

- (a) Soya meal
- (b) Molasses
- (c) Ground gram
- (d) Cornmeal

Q9. This is not a biofertilizer

- (a) *Agrobacterium*
- (b) *Nostoc*
- (c) *Rhizobium*
- (d) Mycorrhiza

Q10. Carbon dioxide is not released in which of the following processes?

- (a) Lactate fermentation
- (b) Alcoholic fermentation
- (c) Aerobic respiration in animals
- (d) Aerobic respiration in plants

Q11. What is the role of microbes in reducing environmental degeneration caused by chemicals?

Q12. Name the bacteria which are used as a clot buster. Mention about its mode of action.

Q13. Write the chemical nature of biogas. Name one organism which produces biogas.

Q14. How is the restoration of good health in humans brought about by bioactive molecules of fungal origin?

Q15. Write about the discovery of Penicillin. The fungi mycorrhizal benefit the plant in which it harbours, how?

Q16. How can microbes be used to decrease the use of chemical fertilizers and pesticides?

Q17. Describe the kind of food that would have lactic acid bacteria. Mention their useful applications.

Q18. a) What is the consequence of discharging larger volumes of sewage that is untreated into a river?

b) What is the significance of anaerobic sludge digestion in sewage treatment?

Q19. Discuss the main ideologies crucial in the biological control of diseases and pests.

Q20. For the execution of massive volumes of waste waters rich in organic matter, why is aerobic degradation more important than anaerobic degradation?