



# BIOLOGY

## BOOKS - PSEB

### MICROBES IN HUMAN WELFARE

#### Exercise

1. Bacteria cannot be seen with the naked eyes, but these can be seen with the help of a microscope. If you have to carry a sample from

your home to your biology laboratory to demonstrate the presence of microbes under a microscope, which sample would you carry and why?



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2. Give examples to prove that microbes release gases during metabolism.



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3. In which food would you find lactic acid bacteria? Mention some of their useful applications.



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4. Name some traditional Indian foods made of wheat, rice and Bengal gram (or their products! which involve use of microbes.



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5. In which way have microbes played a major role in controlling diseases caused by harmful bacteria?



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6. Name any two species of fungus, which are used in the production of the antibiotics.



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7. What is sewage? In which way can this be harmful?



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



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**9.** Do you think microbes can also be used as source of energy? If yes. how?



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**10.** Microbes can be used to decrease the use of chemical fertilisers and pesticides. Explain how this can be accomplished.



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**11.** Three water samples namely river water, untreated sewage water and secondary effluent discharged from a sewage treatment plant were subjected to BOD test. The samples were labelled A, B and C: but the laboratory attendant did not note which was which, The BOD values of the three samples A, B and C were recorded as 20mg/L, 8mg/L and 400mg/L respectively. Which sample of the water is most polluted? Can you assign the correct label to each assuming the river water is relatively clean?



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**12.** Find out the name of the microbes from which Cyclosporin A (an Immunosuppressive drug) and Statins (hlong cholesterol lowering agents) are obtained.



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**13.** Find out the role of microbes in Uric followingand discuss it with your teacher:



## Single cell protein (SCP)



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**14.** Find out the role of microbes in Uric following and discuss it with your teacher: Soil



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**15.** Arrange the following In the decreasing order (most important list) of their

importance, for the welfare of human society.

Give reasons for your answer: Biogas



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**16.** Arrange the following In the decreasing order (most important first) of their importance, for the welfare of human society.

Give reasons for your answer: Citric acid.



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**17.** Arrange the following In the decreasing order (mosi important lirst) of their importance, for the welfare of human society. Give reasons for your answer: Penicillin and Curd



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**18.** How do biofertilisers enrich the fertility of the soil?



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