

(50 & A-19)

SEAT No. _____

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SC

SARDAR PATEL UNIVERSITY

B.Sc. Semester – VI

April 2018,

MICROBIOLOGY: US06CMIC05

Agricultural and Environmental Microbiology

Wednesday: 04.04.18

Time: 10.00 a.m. to 1.00 p.m.

Total Marks:70

Q.1. Select the most appropriate answer.

(10)

1. Spore dust containing *B popilliae* and *B lentimorbus* has been marketed under the trade name
 - (a) Bloom
 - (b) Doom
 - (c) Boom
 - (d) none of the above
2. Thuricide is
 - (a) a probiotic
 - (b) a biofertilizer
 - (c) an example of paint
 - (d) a biological control agent
3. Which is the most studied insect virus for use as microbial insecticide?
 - (a) Baculovirus
 - (b) Coronavirus
 - (c) Papillomavirus
 - (d) Rhabdovirus
4. Which of the following are copper ores?
 - (a) covellite
 - (b) chalcocite
 - (c) chalcopyrite
 - (d) all of the above
5. Commercial methods of bioleaching includes
 - (a) slope leaching
 - (b) insitu leaching
 - (c) heap leaching
 - (d) all of the above
6. Inipol is
 - (a) an oleophilic microemulsion
 - (b) a pollutant
 - (c) an example of cheese
 - (d) a biopesticide
7. Which of the following is an example of recalcitrant insecticide?
 - (a) Propham
 - (b) Propachlor
 - (c) Aldrin
 - (d) none of the above
8. 1,1,1-trichloro-2,2-bis(p chlorophenyl)-ethane is commonly known as
 - (a) 2,4-D
 - (b) 2,4-5-T
 - (c) DDT
 - (d) none of the above
9. Methanogenic bacteria produce methane under
 - (a) aerobic conditions
 - (b) anaerobic conditions
 - (c) microaerophilic conditions
 - (d) none of the above
10. Biogas maybe used for
 - (a) direct combustion
 - (b) generation of electricity
 - (c) purification and export as compressed gas
 - (d) all of the above

①

(PTO)

Q.2. Attempt any ten out of the following. (20)

1. Give four examples of free living nitrogen fixing microorganisms.
2. What are pelleting agents? Give two examples of the same.
3. "Nod ABC genes are called common nod genes". Justify.
4. How can biodeterioration of wood be prevented?
5. Define bioleaching.
6. What is graphitization?
7. Give one example each of biodegradable herbicide and insecticide.
8. How does ABS remove dirt from the clothes?
9. Define xenobiotic compounds. Give two examples.
10. Give two useful features of biofuel.
11. Enlist the factors affecting biogas yield.
12. Write two advantages of biogas production.

Q.3. Write notes on: (i) Structure of nitrogenase. (05)

(ii) Nitrogen fixing symbiosis with non leguminous plants. (05)

OR

Q.3. Describe the production of biofertilizer citing an example. (10)

Q.4. Write an exhaustive note on biodeterioration citing two examples. (10)

OR

Q.4. Explain bioremediation elaborately with examples. (10)

Q.5. (a) Describe the biodegradation of chlorinated hydrocarbons. (05)

(b) Write a note on biomagnification. (05)

OR

Q.5. (a) Describe the biodegradation of oil pollutants. (05)

(b) Write a note on biodegradable polymers. (05)

Q.6. (a) Write on: The microorganisms involved in biogas production. (08)

(b) Explain the biochemical reactions in biogas production. (02)

OR

Q.6. What is gobar gas? Explain with the help of a neatly labeled diagram the design of a gobar gas plant and write on the factors affecting biogas yield. (10)