Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore – 641 043

Master's Degree Examination – November 2017
III Semester

Class: II PG **Time : 3 hrs**
Major: Biotechnology **Max Marks : 60**

12MBTC102-Microsolutions to macro problems of the environment

PART- A **(10X ½ = 5)**

Choose the Correct Answer

1. _____is uptake and concentration of substances from the environment into the plant biomass.
   (A). Phytosequestration (B). Phytovolatilization
   (C). Phytostabilization (D). Phytoextraction

2. Activated sludge is a process for treating sewage and industrial wastewaters using air and a biological floc composed of bacteria and_____.
   (A). protozoa (B). fungi
   (C). streptococcus (D). alage

3. The digested sludge from septic tanks, is removed after a maximum period of _____.
   (A). 2 years (B). 5 years
   (C). 6 years (D). 3 years

4. Common indicator organism of water pollution is _____.
   (A). protozoa (B). Aspergillus niger
   (C). Escherichia coli (D). alage

5. *Alcaligenes eutrophus*, which is now called *Ralstonia metallidurans*, is a_____, non-spore forming bacillus.
   (A). gram- negative (B). gram- positive
   (C). simple stain (D). None of the above

6. Mesophilic and thermophilic digestion which is dependent on
   (A). aerobic (B). anaerobic
   (C). temperature (D). nitrification

7. Who is coined by term's contracted form biodiversity?
   (A).R.S .Wodden (B) W.G. Rosen
   (C). M.J. Franklin (D). S.D. Mendel

8. Which cause bladder cancer in humans and hepatocarcinoma?
   (A).agar dyes (B) Azo dyes
   (C). Silver dyes (D). red dyes

9. Anabaena is a genus of filamentous _____ that exist as plankton
   (A).protozoa (B) algae
   (C). fungi (D). cyanobacteria

10. R. eutropha is Gram-negative bacterium and is _____forming
    (A). non-spore (B) spore
    (C). both A and B (D). None of the above

PART- B (5X 4 = 20)

Answer all the questions

Answer should not exceed 200 words or one page

11. a).Write the microbes metabolic activities in environment.

(or)

b).Mention the uses of environmental degradation.

12. a).Write a microbial cultivation strategies.

(or)

b). Give an account on biofilms.

13. a). Illustrate about *Baculovirus*.

(or)

b). Describe the applications of *rhizobium*.

14. a). Write a role of *acidithio bacillus ferrooxidans*.

(or)

b). Enumerate the biosorption.

15.a). Write a role of anabena.

(or)

b). Discuss the *pseudomonas putida*.

PART- C (5X 7 = 35)

Answer all the questions

Answer should not exceed 600 words or three pages

16. a) Write a detail note on air pollution.

(or)

b). Describe the causes and hazardous effects of water pollution.

17. a). Explain the types of bioremediation.

(or)

b). Discuss the microbial solid waste management.

18. a). Elucidate the production of biogas.

(or)

b). Write advantages and disadvantages of polyesters.

19.a). Describe the types of bioleaching.

(or)

b). Discuss the mechanism of metal removal using microbes.

20.a). How to construct recombinant microorganism? Explain.

(or)

b. Elaborately discuss *Ralstonia eutropha*.

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