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18MBU25

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Sixth Semester)

Branch – **MICROBIOLOGY**

MICROBIAL ECOLOGY

Time: Three hours

Maximum: 50 Marks

SECTION – A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5×1=5)

1. The key concept of Darwinian theory of evolution are
 - a. Branching descent and natural selection
 - b. Saltation and Founder effect
 - c. Chance mutation and anthropogenic action
 - d. Adaptive radiation and genetic mutation
2. What is the most common used coagulant?
 - a. Alum
 - b. Ferric sulphate
 - c. Lime stone
 - d. Coal
3. Which of the following bacterium is called superbug?
 - a. *Bacillus subtilis*
 - b. *Pseudomonas denitrificans*
 - c. *Pseudomonas putida*
 - d. *Bacillus denitrificans*
4. What is the zone in the soil surrounding a germinated seed?
 - a. Rhizosphere
 - b. Phyllosphere
 - c. Spermosphere
 - d. Seedosphere
5. A common indicator organism of water pollution is
 - a. *Entamoeba*
 - b. *Escherichia coli*
 - c. *Eichhornia crassipes*
 - d. *Lemna paucicostata*

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

6. a. Write short notes on terrestrial and detritus food chain.
(OR)
b. What is the principle of community succession? Explain.
7. a. Describe about trickling filter.
(OR)
b. Illustrate microbial community in freshwater.
8. a. Give an account on sources of heavy metal pollutions.
(OR)
b. Discuss the chemical and biological treatment of dyes.

Cont...

9. a. Describe the causative agents and disease cycle of blight of paddy.
(OR)
b. Contrast rhizosphere from phyllosphere.
10. a. List out water born diseases with causative agents.
(OR)
b. How to calculate BOD in water?

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

11. a. Write an essay on food web and ecological pyramids.
(OR)
b. Explain Darwin's theory on natural selection and species diversity.
12. a. Illustrate primary treatment process of waste water.
(OR)
b. How safety sludge disposable practiced?
13. a. Elucidate environmental impact of dye pollution.
(OR)
b. Discuss the biodeterioration of paper and textiles.
14. a. Explain rhizosphere microbial concept. Add a note on R:S ratio.
(OR)
b. Define Mycorrhizae. Explain its types with suitable examples.
15. a. Enumerate environmental quality control in water bodies.
(OR)
b. Elaborate production process of biofuels from agricultural wastes.

Z-Z-Z

END