

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022
(Sixth Semester)

Branch – MICROBIOLOGY

MICROBIAL ECOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- Which of the following is the most critical factor for evolution according to Darwin?
(i) Mutation (ii) Migration
(iii) Natural selection (iv) Genetic drift
- A _____ makes its own energy and begins the food chain
(i) Consumer (ii) Producer
(iii) herbivore (iv) decomposer
- What represents the heavier inert matter in waste water?
(i) Debris (ii) Waste
(iii) Screen (iv) Grit
- What is the most common coagulant?
(i) Alum (ii) Ferric sulphate
(iii) Limestone (iv) Coal
- Which process using microbes to convert toxic industrial wastes to nontoxic compounds?
(i) Precipitation (ii) complement fixation
(iii) bioremediation (iv) bioconversion
- How much time does take for mercury to leave the body?
(i) 2 months (ii) 2 years
(iii) 18 months (iv) 18 years
- The fungal partner in VAM belongs to the class
(i) Basidiomycetes (ii) Ascomycetes
(iii) Glomeromycetes (iv) Zygomycetes
- The ectomycorrhizae form an intercellular network in root cortex called
(i) Harting net (ii) Vesicles
(iii) Arbuscules (iv) Haustoria
- Which compound produced by biomass?
(i) Fiber (ii) Chemical
(iii) Transportation fuel (iv) Biochemical
- Which pathogen causes typhoid fever?
(i) *Shigella dysenteriae* (ii) *Vibrio cholerae*
(iii) *Escherichia coli* (iv) *Salmonella typhi*

Cont...

SECTION - B (35 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

- 11 a Describe the ecological pyramid.
OR
b Explain about the microbial community in food web.
- 12 a Brief on the primary waste water treatment.
OR
b Narrate the importance activated sludge system.
- 13 a Summaries the deterioration of textiles.
OR
b Classify the sources of heavy metals and its effect on human health.
- 14 a Explain about the endomycorrhizae.
OR
b Describe the Smut disease of sugarcane and its control measures.
- 15 a How will you detect the BOD of the waste water?
OR
b Outline about the indicator organisms.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Discuss in detail about the Darwin's theory of natural selection.
- 17 Categorize the various methods employed for tertiary treatment of waste water.
- 18 Explain in detail account mechanism of biosorption.
- 19 Highlight on the Rhizosphere effect.
- 20 Elaborate note on bioleaching.

Z-Z-Z

END