



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc.(BT)-Hons-2022

Course Name – Environmental Biotechnology

Course Code - BBTD504B

(Semester V)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Conventional sources of energy are
 - a) Coal
 - b) Petroleum
 - c) Natural Gas
 - d) All of these
- (ii) The term MSW means
 - a) Municipal Solid Waste
 - b) Manual Solid Waste
 - c) Municipal Salient Waste
 - d) Municipal Sewage waste
- (iii) The process of burning waste in large furnaces at high temperature is known as
 - a) Burial
 - b) Incineration
 - c) Flammation
 - d) All of these
- (iv) Types of bioremediation are
 - a) In-situ bioremediation
 - b) Ex-situ bioremediation
 - c) Both a and b
 - d) None of these
- (v) Bioremediation of oil spills can be done by
 - a) Bioaugmentation
 - b) Biostimulation
 - c) Both a and b
 - d) None of these
- (vi) Oil-degrading bacteria are
 - a) Flavobacterium
 - b) Cytophaga
 - c) Pseudomonas
 - d) All of these
- (vii) Smog is combination of
 - a) Smoke and snow
 - b) Snow and fog
 - c) Smoke and fog
 - d) All of these
- (viii) Most common heavy metals are

- a) Lead(Pb)
c) cadmium(Cd)
- (ix) Which of the following is not biodegradable
- a) Polythene
c) Vegetable waste
- (x) Which of the following is biodegradable?
- a) Paper
c) Plastic
- (xi) Choose among the following that Loss of water content through the plants into the atmosphere is called :
- a) Evaporation
c) Hydraulic cycle
- (xii) Choose among the following that Which is the most abundant greenhouse gas in the atmosphere?
- a) Carbon dioxide
c) Methane
- (xiii) Identify that A process in which microbes to convert toxic industrial wastes to less toxic or non-toxic compounds is
- a) Precipitation
c) Bioconversion
- (xiv) Choose the correct answer for the blank : _____ is NOT a primary pollutant.
- a) Oxygen
c) Carbon monoxide
- (xv) Choose the correct answer for the blank : _____ process earthworms decompose biodegradable solid waste.
- a) Composting
c) Shredding
- b) mercury(Hg)
d) All of these
- b) Cotton
d) Wood
- b) D.D.T
d) Aluminium
- b) Vaporization
d) Transpiration
- b) Water vapour
d) Nitrogen
- b) Complement fixation
d) Bioremediation
- b) Ground-level ozone
d) Carbon dioxide
- b) Land fills
d) Vermi-composting

Group-B

(Short Answer Type Questions)

 $3 \times 5 = 15$

2. Illustrate on vesicular Arbuscular mycorrhiza (VAM). (3)
3. Describe the process of gold and silver leaching. (3)
4. Explain the term bioaugmentation with examples. (3)
5. Identify two importance of phytoremediation, and state one important limitation? (3)
6. Propose the environmental benefits of GM crop. (3)

OR

Estimate the reaction conditions for uranium leaching. (3)

Group-C

(Long Answer Type Questions)

 $5 \times 6 = 30$

7. Summarize the mechanism of action of biodegradation of pesticide DDT and lindane. (5)
8. Evaluate the different benefits of GM crops. (5)
9. Establish the different methods of ex-situ bioremediation. (5)
10. Explain solid waste management execution processes. (5)
11. Explain the process of solid waste composting. (5)
12. List the different regulating authorities for GMOs. (5)

Classify solid wastes.

OR

(5)

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