

- (c) Discuss the significance of the Stockholm Conference (1972) and its Declaration in shaping global environmental policy. (5×3=15)
4. (a) Describe the main features of the Kyoto Protocol (1997) and its role in combating climate change.
- (b) What is acid rain? Discuss its causes, chemical reactions involved, and effects on soil, water, vegetation, and monuments.
- (c) Describe in brief about the various biotechnological approaches for management of global environmental problems. (5×3=15)
5. (a) Write the working principle and applications of Up-flow Anaerobic Sludge Blanket Reactor.
- (b) Discuss the role and importance of biopesticides in sustainable agriculture.
- (c) Discuss the concept and significance of bioprospecting. (5×3=15)
6. (a) Discuss in detail about bioremediation of organic and inorganic pollutants.
- (b) Describe the aerobic treatment process used for wastewater management. (7.5×2=15)

(1000)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7022

K

Unique Paper Code : 2162524701

Name of the Paper : Environmental Biotechnology
and Management

Name of the Course : B.Sc. (Hons.) Botany

Semester : VII

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **First** question is compulsory and attempt any other **three** questions from remaining.
3. Part of the questions to be attempted together.
4. **All** questions carry equal marks.

P.T.O.

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1. (a) Match the following : (1×5=5)

- | | |
|------------------------------|---|
| (i) Global warming | (a) Damages DNA and causes skin cancer in living organisms |
| (ii) Bioconcentration | (b) Trapping of infrared radiation by greenhouse gases |
| (iii) UV-B radiation | (c) Anaerobic treatment to reduce high BOD load |
| (iv) Distillery effluent | (d) Increase in pollutant concentration in an organism from its environment |
| (v) Montreal Protocol (1987) | (e) Agreement to phase out ozone-depleting substances |

(b) Expand the following (attempt any **five**) : (1×5=5)

- (i) BOD
- (ii) WCED
- (iii) UNEP
- (iv) UNFCCC
- (v) CPCB
- (vi) GHG

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(vii) CFCs

(c) Define the following (attempt any **five**) : (1×5=5)

- (i) Bioleaching
- (ii) Biomagnification
- (iii) Eutrophication
- (iv) Anthropogenic Activities
- (v) Bioindicator
- (vi) Phytoremediation
- (vii) Biotransformation

2. Write short notes on the following (any **three**) (5×3=15)

- (a) Bioreactor
- (b) Biosensor
- (c) Environmental ethics
- (d) Trickling filter

3. (a) What is superbug? How it is useful in bioremediation of oil spill? Discuss in detail.

(b) Describe the mechanism and role of bioaccumulation and biosorption in removal of heavy metal pollutants.

P.T.O.