



Name :

Roll No. :

Invigilator's Signature :

**CS/M.Sc.(GE)/SEM-3/MSGEN(EBT)-305B/2012-13
2012**

BIOTECHNOLOGY IN ENVIRONMENT

Time Allotted : $1\frac{1}{2}$ Hours

Full Marks : 35

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

**GROUP – A
(Multiple Choice Type Questions)**

1. Choose the correct alternatives for any *five* of the following :

5 × 1 = 5

- i) Xanthomonas Sp. can remove
 - a) Polycyclic hydrocarbons
 - b) Polychlorinated hydrocarbons
 - c) Polychlorinated biphenyl
 - d) None of these.
- ii) Halogenated hydrocarbons can be removed by
 - a) Corynebacterium Sp.
 - b) Streptomyces Sp.
 - c) Alcaligenes Sp.
 - d) All of these.



- iii) Sporophytes can damage soil by
 - a) Denitrification
 - b) Dephosphorylation
 - c) Demineralization
 - d) All of these.
- iv) Gerit chambers are used to remove
 - a) low weight inorganic materials
 - b) heavy organic materials
 - c) heavy inorganic materials
 - d) none of these.
- v) Luciferase is used for detection of
 - a) T.B.
 - b) Tetanus
 - c) Typhoid
 - d) Tumor.
- vi) Oil spill removal involves
 - a) Pseudomonas siringae
 - b) Pseudomonas peutida
 - c) Pseudomonas
 - d) All of these.
- vii) Water from tropical rain forest plants yields
 - a) Latex
 - b) Tea
 - c) Cocoa
 - d) Medicine.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

(Brief description of each point is necessary)

2. Why it is undesirable to dispose antibiotics and drugs in water bodies ? How antibiotics can be removed from waste water ? 2 + 3



3. Write about the chemistry of bioleaching.
4. Give scientific reasons as to why oil spill in a water body is dangerous for the aquatic life ?
5. Classify the compounds that are resistant to natural degradation.
6. Write about the two stages of treatment of tannery waste.

GROUP - C

(Long Answer Type Questions)

Answer any *one* of the following. $1 \times 15 = 15$

(Brief description of each point is necessary)

7. a) Give an account on food crop pest management.
- b) State about the tertiary waste water treatment. $6 + 9$
8. a) Describe in brief, the application of biotechnology in distillery industry.
- b) Discuss briefly the biotechnology application of Lactobacillus in development of probiotics. $7\frac{1}{2} + 7\frac{1}{2}$
9. a) What is MEOR ?
- b) Describe the vermicomposting as a tool of waste recycling.
- c) State the adverse effect of Cd in human body.
- d) How Cd can be removed from the environment ?

$4 + 5 + 2 + 4$

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