

Registration No. :

--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 2

B. Tech  
PEBT 5404

**Seventh Semester Examination – 2013**

**ENVIRONMENTAL BIOTECHNOLOGY**

**BRANCH : BIOTECH**

**QUESTION CODE : C-185**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory and any **five** from the rest.*

*The figures in the right-hand margin indicate marks.*

1. Answer the following questions : 2×10
- (a) What is Biomining ? Name two microorganism involved in effective mining technology.
  - (b) Define the following :
    - (i) BGA
    - (ii) PGPR
  - (c) What is desulfurization process ?
  - (d) Define the following :
    - (i) UMT
    - (ii) Bacterial Luciferase (Lux)
  - (e) How do you determine MPN of a sample of water ?
  - (f) What is role of microbial transformation process in environmental biotechnology ?
  - (g) Define the following :
    - (i) Biopolymer
    - (ii) Biogas
  - (h) Define the term “Nonobiotechnology”.
  - (i) What is phytoremediation ?
  - (j) Define the following :
    - (i) Ammonia stripping
    - (ii) Xenobiotics.



P.T.O.

2. Write short notes on : 5+5
- (a) Bioreporter technology
  - (b) Metagenomics.
3. (a) Describe briefly the Biological process of sewage treatment. 5
- (b) What is Bioremediation ? Describe briefly the In situ and ex situ remediation strategies. 5
4. What is beta-oxidation ? Describe the metabolic pathways for biodegradation of hydrocarbon compounds and other organic pollutants. 10
5. Write short notes on : 5+5
- (a) Bioethanol production
  - (b) Biodegradable plastics.
6. (a) What do you understand by clean technology ? Differentiate between Nitrogen fixers and phosphorus solubilizers as per the Biofertilizers concerned. 5
- (b) Describe the mechanism of Nitrate removal in industrial waste. 5
7. (a) What is MEOR ? List out the microbial products and their role in enhanced oil recovery, and some of the effects to solve production problems. 5
- (b) Describe briefly the role of Biosensor in environmental monitoring ? 5
8. Write short notes on any **two** of the following : 5×2
- (a) Bioethics in environmental biotechnology
  - (b) Biopesticides
  - (c) BOD<sub>5</sub>
  - (d) Biotechnology of mineral processing.

