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Total Number of Pages: 02

B.TECH
PEBT5404

7th Semester Regular / Back Examination 2015-16

ENVIRONMENTAL BIOTECHNOLOGY

BRANCH: BIOTECHNOLOGY

Time: 3 Hours

Max marks: 70

Q.CODE: T476

**Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.**

- Q1** Answer the following questions: **(2 x 10)**
- a) What do you mean by Bioprospecting?
 - b) What is the role of microbial transformation process as per the environment is concern?
 - c) What are radionuclides? Give examples of it.
 - d) Define biopolymer with examples?
 - e) Define the following:
 - i) UMT
 - ii) Bacterial Luciferase(lux)
 - f) What do you mean by biopesticides? Give examples.
 - g) Define the following:
 - i) Bioaugmentation
 - ii) Eutrophication
 - h) What is desulfurization process?
 - i) What are the characteristics of effluents?
 - j) Define the following:
 - i) Ammonia stripping
 - ii) Biogas
- Q2** a) Explain Biosensor technology and its role in environmental monitoring? **(5)**
b) Describe the mechanism microbial interaction with metals and radionuclides? **(5)**
- Q3** a) Explain biohydrogen production process? **(5)**
b) Describe biotechnology of mineral processing? **(5)**
- Q4** Discuss the principle and mechanism of bioremediation strategies with its applications? **(10)**
- Q5** a) Describe the process and principle of microbial enhanced oil recovery (MEOR)? **(5)**
b) Explain about bioreporter technology? **(5)**

- Q6** a) Briefly describe the bioplastic technology? (5)
b) Write notes on biofertilizers. (5)
- Q7** a) Describe the mechanism of nitrate and phosphate removal in industrial waste? (5)
b) Describe the process of biomarker in Environmental biotechnology? (5)
- Q8** Write short notes on any two: (5 x 2)
a) Metagenomics
b) Bioethanol production
c) Phytoremediation
d) Biodegradation