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Total number of printed pages – 2

B. Tech
PEBT 5404

Seventh Semester Examination – 2011

ENVIRONMENTAL BIOTECHNOLOGY

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 Bioremediation ? In what ways it is do well for environmental clean up ?
- (b) How can biotechnology be used in controlling pollution through the use of cleaner technology ?
- (c) What is the role of Biotechnology in the treatment of industrial effluents ?
- (d) How are biosensors used for “environmental monitoring” and “Biomonitoring” ?
- (e) Define the following :
- (i) Bioaugmentation
 - (ii) Biofiltration
- (f) What is desulfurization process ?
- (g) Define the following :
- (i) Firefly Luciferase
 - (ii) UMT
- (h) What is Nano-biotechnology ?



P.T.O.

- (i) What is the role of microbial transformation process as per the environment is concerned ?
- (j) Define Bioreporter.
2. Describe the Chemical and Biological process for sewage treatment. 10
3. What is phytoremediation ? Describe how phytoremediation helps in mining and Industrial sector. 10
4. Write short notes on : 5×2
- (i) Bioethics in environmental biotechnology
- (ii) Effluents
5. Describe the process of Biosensor technology and its role in environment monitoring. 10
6. Write short notes on : 5×2
- (i) Biomarker
- (ii) MEOR
7. Describe the metabolic pathways for biodegradation of hydrocarbon compounds and other organic pollutants. Briefly mention the microbes used for removal of heavy metal contamination. 10
8. Write short notes on : 5×2
- (i) Bioethanol production
- (ii) Biofertilizers



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