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Total Number of Pages: 01

B.Tech
PEBT5404

7th Semester Regular/Back Examination 2017-18

Environmental Biotechnology

BRANCH: BIOTECH

Time: 3 Hours

Max Marks: 70

Q.CODE: B330

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: **(2x10)**
- a) Define biomineralisation.
 - b) Briefly explain phytostabilisation.
 - c) Write down the use of bioluminescent bioreporters.
 - d) Briefly explain organic sulphur removal from coal.
 - e) Write down the different components of biosensor system.
 - f) Define activated sludge process in waste water treatment.
 - g) Write down the importance of mercuric reductase (MerA).
 - h) What do you mean by recalcitrant? Give two examples.
 - i) Describe environmental protective role of carbon nanotubes and nanospheres.
 - j) What do you mean by biogas? Describe organisms involved in it (any two).
- Q2** What is bioprospecting? Explain in detail the process involved in bioprospecting. **(10)**
- Q3** a) Differentiate between bioplastic technology and biofertilizer technology **(5)**
b) Differentiate between bioethanol and biohydrogen **(5)**
- Q4** a) Briefly describe microbial nitrate removal process. **(5)**
b) Explain biotechnology application of sewage treatment. **(5)**
- Q5** a) Write notes on enhanced biological phosphorous removal **(5)**
b) Explain role of biotechnology in mineral processing. **(5)**
- Q6** a) What do you mean by radionucleids? Give details on its microbial reduction **(5)**
b) What do you mean by ethical issues? Explain the ethical issues associated with biotechnological medicine. **(5)**
- Q7** Define pesticides. Briefly describe the various group of pesticides causes environmental pollution. **(10)**
- Q8** Write short notes on (*any TWO*) : **(5 x 2)**
- a) Anammox Process
 - b) Oil shales
 - c) Biomicroelectronics
 - d) Ex situ remediation of organic contaminants