647510 **MSC4eb2E0113** **Seat No: _____**

M.Sc. Semester - 4 (CBCS) Examination
March/April- 2018
ENVIRONMENTAL BIOTECHNOLOGY -2
(ELECTIVE - 1)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que-1 Answer Any 7 (2 Marks each). (14)

(a) Enlist the monomers that make up lignin.
(b) Why are ring cleaving oxygenases also called mixed function oxygenases ?
(c) Enlist enzymes that depolymerise pectin ?
(d) What is Goseo gas ?
(e) What is Minamata Bay Disease ?
(f) What is yellow Boy ?
(g) What is cometabolism ?
(h) How do nitric oxid and nitrous oxide degrade ozone ?
(i) What is biostimulation ?
(j) What is molecular recalcitrance ?

Que-2 Answer any 2 of the following (7 marks each) (14)

(a) Describe cellulosomes produced by Clostridia.
(b) Describe the composition of ligninolytic enzyme system.
(c) Describe enzymes involved in the biodegradation of pectin.

Que-3 Write detailed comments on : (7 Marks each). (14)

(a) Describe bacterial degradation of polycyclic aromatic hydrocarbons.
(b) Discuss biodegradation of pesticides.

OR

Que-3 Answer the following (7 marks each).

(a) Describe degradation of TNT by white rot fungi.
(b) Discuss microbial degradation of cyanides.

Que-4 Answer any 2 of the following (7 marks each). (14)

(a) Discuss microbial methylation of arsenic.
(b) Give an account of acid mine drainage.
(c) Discuss the role of nitrogen oxides as pollutants.

Que-5 Write a short note on Any 2 of the following (7 marks each). (14)

(a) Ex Situ Bioremediation
(b) Phytoremediation
(c) Bioremediation using GEMS.
(d) Mycoremediation

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