DII-003-019405 Seat No. _____

M. Sc. Microbiology (Sem. IV) (CBCS) Examination

May / June – 2015

Micro - 423 : Environmental Biotechnology-II

(Elective)

Faculty Code : 003

Subject Code : 019405

Time : 3 Hours] [Total Marks : 70

1 Answer the following (Any seven out of Ten, each of 02 marks) [14]

1. What is pollution?
2. What are PAHs
3. Enlist strategies for *in situ* bioremediation?
4. What is bioventing
5. What is biosparging?
6. What is Bioaugmentation
7. What are Xenobiotics
8. What is bioaccumulation
9. What is biosorption
10. What is ambient environment?

2 Answer the following (Any two out of Three, each of 07 marks) [14]

a. Explain strategies for *in situ* bioremediation?
b. Enlist parameters influencing biodegradation and discuss any two in detail
c. What is microremdiation?

3 Answer the following (a & b –Both are compulsory, each of 07 marks) [14]

a. Explain catalytic cycle of ligninolytic peroxidaes
b. Discuss strategies for biodegradation of pesticides

OR

3 Answer the following (a & b –Both are compulsory, each of 07 marks) [14]

a. Explain applications of lignin degrading fungi
b. Briefly describe cellulolytic enzymes of bacteria and soft rot fungi.

4 Answer the following (Any two out of Three, each of 07 marks) [14]

a. Explain microbial processes involved in biodegradation
b. Comment "pollutants may be degraded to different degree under different nutritional and environmental conditions"
c. Write a brief note on biodegradation of nitroaromatics

5 **Answer the following (Any two out of four, each of 07 marks)** **[14]**

a. Explain syntrophic metabolism of aromatic acids by anaerobic microbial populations
b. Write a note on Manganese Independent Peroxidase (MIP)
c. Write a note on "Acid mine drainage"
d. Describe microbial methylation of mercury?