DII-003-019404 Seat No. _____

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

May / June – 2015

Micro - 422 : Environmental Biotechnology-I

(Elective)

Faculty Code : 003

Subject Code : 019404

Time : 3 Hours] [Total Marks : 70

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

1. What is co-metabolism?
2. What is protocooperation?
3. What is population?
4. What is commensalism?
5. What is role of *hok* and *sok* gene??
6. What is nitrogenase enzyme system?
7. What is Allee's principle?
8. What is Antagonism?
9. What is succession?
10. What is redox potential?

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

a. Describe synergism

b. Explain phosphorus cycle

c. What is competitive exclusion principle? explain.

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

a. What is fermentative biodegradation? Describe.

b. What is partial and complete degradation of pollutants?

OR

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

a. Elucidate microbial processes involved in biodegradation.

b. What is anaerobic respiration? How organic compounds support anaerobic respiration?

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

a. Enlist types of biodeterioration and differentiate the terms "Biodeterioration" and "Biodegradation"

b. Explain biodeterioration of plastic

c. Explain biodeterioration of wood

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

a. Explain methods to study microbial ecology
b. Categorize microbes based on their nutritional requirements
c. Explain geographical distribution of microbes
d. Briefly explain Nitrogen cycle
