

Instructions to candidates

Duration: 02 hours

Number of questions: 04 Essay questions

Mark allocation: 100

Answer all questions

1.
 - a. Describe the nature and significance of microbial metabolic regulation. (10 marks)
 - b. The environment is becoming more toxic everyday due to various anthropogenic and geological activities. However the microorganisms have developed surprising array of resistance systems to overcome these poisonous environments. Describe using a suitable example. (15 marks)
2. Discuss the role of microorganisms in cycling of Nitrogen. (30 marks)
3.
 - a. Describe Passive and Active Biomineralization. (15 marks)
 - b. Discuss the use of bioremediation as a technology. (15 marks)
4. Imagine that you were asked to make protease enzyme industrially. Describe the methods and steps that you are going to follow. (15 marks)

