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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

T-2 EXAMINATION- April 2019

Ph. D.

COURSE CODE: 10M1WBT231

MAX. MARKS: 25

COURSE NAME: Applied Environmental Biotechnology

COURSE CREDITS: 3

MAX. TIME: 1.5 Hr

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Use of calculator is allowed.*

**Q No. 1** Discuss the origin and role of serenade in biocontrol technology. (CO III) (2 marks)

**Q No. 2** What are the harmful effects of Arsenic and polychlorinated biophenyls (PCBs) released in the industrial effluents (CO IV) (4 marks)

**Q No. 3** Define hazardous waste and its different types. What is the building up criteria of hazardous waste? (CO II) (4 marks)

**Q No. 4** Discuss the roles of Chitinases and Ureases in maintaining soil health (CO III) (2+2=4 marks)

**Q No. 5** Discuss the mechanism of action of toxicity of crystal proteins produced by Natural *Bacillus Thuringiensis*? Explain diagrammatically. (CO IV) (5 Marks)

**Q No. 6** Answer the followings (6 Marks)

- Discuss the methods of heavy metal ion sequestration in Biological system. (CO III) (1.5 marks)
- Differentiate between Baits and Repellents insecticides. (CO III) (1.5 marks)
- Write a short note on multifarious activities shown by Plant Growth Promoting Rhizobacteria. (CO IV) (1.5 marks)
- Discuss the physical and chemical methods to control physical hazardous. (CO IV) (1.5 marks)