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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATION DECEMBER 2018

B.Tech. (Biotechnology) IIIrd Semester

COURSE CODE: 10B11BT313

MAX. MARKS: 35

COURSE NAME: Microbiology

COURSE CREDITS: 03

MAX. TIME: 2HR

Note: All questions are compulsory. Carrying mobile phone during examinations will be treated as a case of unfair means.

Q1: a) Predict the results of following giving reasons and suitable diagrams:-

$F^+ \times F^-$, $F' \times F^-$, $HFR^+ \times F^-$

b) What is the role of U – tube experiment to detect conjugation or transformation?

[3+2] COI

Q2: a) What is the significance of AMES test?

b) Describe the Lac operon and its importance for *E. Coli*.

[2.5 each] COIV

Q3: a) What are biopesticides, write their importance in agriculture giving suitable examples.

b) Write a note on ways to prepare against bioterrorism attack.

[2.5 each] COV

Q4: a) The PPP produces only one ATP. List four advantages of this pathway for the cell.

b) Explain the pathway leading to alcoholic fermentation by yeast.

[2.5 each] COIV

Q5: a) How do Generalized and Specialized transduction lead to new strains? Give a comparative account of Generalized and Specialized transduction providing suitable illustrations.

b) Pasteurization does not achieve sterilization, Why is food treated by Pasteurization?

[4+1] COIII

Q6: a) Explain the following giving at least one example:- Defined Media, Selective Media, Differential Media.

b) What is the significance of Jenner's Discovery?

[3+2] COIII

Q7: a) Discuss the 'Cell Count' based methods of Bacterial growth.

b) Explain the process of Replica Plating.

[3+2] COII