



## CRAWFORD UNIVERSITY

Faith City, Igbesa, Ogun State.

2018/2019 RAIN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES

PROGRAMME: MICROBIOLOGY

COURSE CODE AND TITLE: MCB 428 – MICROBIAL GENETICS

UNIT: 3

TIMES: 2 HRS 30 MINS

INSTRUCTION: ANSWER FIVE QUESTIONS IN ALL. QUESTIONS ONE, TWO AND THREE ARE COMPULSORY.

1. Discuss and differentiate between Transduction and Transformation (15 marks)
- 2a. Write short notes on the following:
  - i. Competence in Transformation
  - ii. Plasmid Incompatibility
- b. How would you induce competence in a bacterial population? (15 marks)
- 3(a). With the aid of a well-labelled diagram, explain in details the complementary structures of the DNA.
- (b). List the purine and pyrimidine bases and draw one structure of each. (10 marks)
- 4(a). What is mutation and how can it be achieved?
- (b). Describe various possibilities that could occur in a point mutation. (10 marks)
- 5(a). List the three macromolecules involved in genetic informational flow and briefly discuss the processes they are involved in?
- (b) Process the following genetic code through the central dogma.  
5' TTT GTT AAT CAG CAT CTT 3'
- (c). Discuss briefly the semi-conservativeness of DNA replication. (10 marks)
6. Give detailed description of two types of mutation. (10 marks)
7. Mention three types of chemical mutagens and their possible effect on the DNA. (10 marks)