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CRAWFORD UNIVERSITY

FAITH CITY, IGBESA, OGUN STATE

2009/2010 HARMATTAN SEMESTER EXAMINATIONS

COLLEGE: NATURAL AND APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

UNIT: BIOCHEMISTRY

COURSE CODE: BCH 301 COURSE UNIT: 3 TIME ALLOWED: 3 HOURS

COURSE TITLE: CHEMISTRY OF MACROMOLECULES

INSTRUCTION: Answer any FOUR questions TIME ALLOWED: 3 HOURS

- 1 (a) Describe the structural levels of organization found in proteins
(b) State the main forces which stabilize each of them.
Illustrate your answers with diagrams.
- 2 (a) Describe the major chemical methods for the determination of the N-terminal groups in a polypeptide chain. Illustrate your answer with clear diagrams
(b) Indicate clearly the specificity of trypsin and chymotrypsin as related to cleavage sites on a polypeptide chain
- 3 Write NOTES on the following:
(a) Protein domains.
(b) Collagen
(c) Binding of oxygen to Hemoglobin.
- 4 (a) What are nucleic acids? Describe briefly the chemical composition.
(b) Enumerate the functions of nucleotide triphosphates (NTPs).
(c) Show with diagrams the following compounds
(i) Nucleoside (ii) Deoxyribonucleotide (iii) Uracil (iv) Cyclic adenyate.
- 5 (a) Describe the main features of the Watson and Crick model of DNA structure.
(b) Compare and contrast DNA and RNA molecules.
(c) Briefly explain the different forms of DNA molecules.
- 6 Discuss fully the following:
(a) The different types of RNA
(b) Denaturation of DNA