National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Sciences
2021_1 EXAMINATIONS 1234

COURSE CODE: CHM407
COURSE TITLE: REACTION KINETICS
CREDIT: 3 Units
TIME ALLOWED: 3 Hours
INSTRUCTION: Answer Question ONE (1) and any other FOUR (4) Questions
In all calculations R = 8.314 J/mol/K

Question 1

.(a) State the assumptions of Langmuir Adsorption isotherm (6 marks)

(b)Give an account of the integrated rate law for second order reaction. (9 marks)

(c) Explain the principles behind thermopile.(3 marks)

(d)Explain the term parallel reaction (4 marks)

Question 2

 (a)State what you will measure in the experimental determination of quantum efficiency of a photochemical reaction (5 marks)

(b) Explain with equations two (2) examples of pseudo-first order reaction (7 marks)

Question 3

(a) Highlights the applications of catalysis in chemical industries (9 MARKS)

(b)Explain spectrophotometry as an experimental methods of rate studies (3 marks)

Question 4

(a) State the rate equations for   a consecutive reactions at pre-equilibria (8 marks)

(b)State the commercial applications of fluorescence (4 marks)

Question 5

(a) What is Photogalvanic cell? (4 marks)

(b) State the half –life of a first order reaction. (8marks)

Question 6

(a) Distinguish between primary and secondary photochemical process (4 marks)

(b) Explain the term inhibition of a catalyst (4 marks)

(c) Give a concise account of the term chain reaction (4 marks)