



NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF PURE AND APPLIED SCIENCES
2021_2 EXAMINATIONS

COURSE CODE: CHM 311

CREDIT UNIT: 2

COURSE TITLE: PETROLEUM CHEMISTRY

TIME: 2 HRS

INSTRUCTION: *Answer question 1 and any other 3 questions*

QUESTION ONE

- (a) Why are fossil fuel not considered as biomass. 3mks
- (b) In a tabular form, compare Diagenesis, Catagenesis and Metagenesis in terms of
 - i. Depth of activity
 - ii. Temperature of activity
 - iii. Pressure of activity
 - iv. Using these examples of product ; liquid oil, anthracite, kerogen 6mks
- (c) Explain why it is imperative to remove Landfill gas from the Landfills 4 ½ mks
- (d) With the aid of chemical equations, describe the production of carbon tetrachloride using carbon disulphide. 6 ½ mks
- (e) List the characteristics of crude oil needed for a refiner to determine the best processing scheme. 5mks

QUESTION TWO

- (a) Write short notes on:
 - i. Visbreaking 2mks
 - ii. Thermal reforming 6 mks
- (b) Briefly explain the expander cycle process of Liquefying natural gas. 3 mks
- (c) Mention the four main component of FCC Catalyst. 4mks

QUESTION THREE

- (a) Describe the simple distillation procedure and explain why it is not efficient in separating crude oil components. 12mks
- (b) What differentiates fractional distillation from simple distillation? 2mks
- (c) What is a pressure control valve? 1mk

QUESTION FOUR

Write extensively on Oxidation of Paraffins. 15mks

QUESTION FIVE

What do you understand by Shift Conversion? Discuss. 15mks