



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MAY/JUNE 2012 EXAMINATION

CHM 311: Petroleum Chemistry (2 Credit Units)

Time: 2 Hours

INSTRUCTION: Answer any four Questions

1. (a) List and discuss briefly the three main stages of evolution of organic matter (11 ½ .marks)
(b) Physicochemical transformation of organic matter is controlled by certain factors, list them.(3 marks)
(c) Why must moisture be removed from natural gas (3marks)
2. (a) What are the problems associated with the storage and transportation of the various gas products? (7marks)
(b) What are the attributes of a good reservoir? (6 marks)
(c) What are the two areas of specialisation of reservoir engineers?(4 ½ marks)
3. (a) List the various classes of crude oil. Discuss four of these classes in details.(11marks)
(b) Explain the following terms: (i) Stranded gas (ii) Physically stranded gas (4marks)
(iii) Economically stranded gas.
(c) What is the difference between conventional and unconventional gas? (2 ½ marks)
4. (a) Define or explain the following terms: (i) Visbreaking (ii) Steam cracking (iii) thermal reforming(6 ½ marks)
(b) List the various methods of altering molecular structure in crude petroleum (3marks)
(c) Write short notes on each of the following terms: (i) Oil window (ii) Source rock (iii) Paleozoic era (8marks)
5. (a) Discuss the various modes of transporting petroleum products from refinery to the consumers.(5 marks)
(b) List the four major reservoirs of carbon. (4 marks)
(c) Discuss briefly the potential market for Nigerian gas (8½ marks)

6. (a) What are the uses of Carbon disulphide and hydrogen cyanide? (4marks)
- (b) List the uses of ammonia and methanol. (4marks)
- (c) Discuss briefly the various uses of natural gas. (9 ½ marks)