

**NATIONAL OPEN UNVERSITY OF NIGERIA**

PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA

**FACULTY OF SCIENCES**

**DEPARTMENT OF PURE & APPLIED SCIENCES**

**APRIL/MAY, 2019 EXAMINATIONS**

**CHM 311-PETROLEUM CHEMISTRY (2 UNITS)**

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

**Time allowed 2 hours**

**QUESTION 1**

a).Explain the terms Diagenesis and Mutagenesis. **(15 marks)**

b). Explain in detail the composition of crude oil. **(5 marks)**

c). Write the equation for the main stream reforming reaction. **(5 marks)**

**QUESTION 2**

a). Define the term Catagenesis. **(5 marks)**

b). Explain the term pour point. **(5 marks)**

c). Why is it necessary to treat natural gas before use? **(5 marks)**

**QUESTION 3**

a). What is catalytic methanation? **(5 marks)**

b). Discuss the uses of ammonia. **(5 marks)**

c). Define the following terms: oil field and Oil well. **(5 marks)**

**QUESTION 4**

a). Explain the term cracking of petroleum. **(5 marks)**

b). Explain in detail the origin and formation of biogas. **(5 marks)**

c). Explain in detail how natural gas can be formed. **(5 marks)**

**QUESTION 5**

a). Explain the following terms: (i) Salt content, (ii) Sulphur content (iii) Ash content. **(6 marks)**

b). Discuss the classification of crude oil. **(9 marks)**