



# **KIBABII UNIVERSITY**

**2016/2017 ACADEMIC YEAR**

**THIRD YEAR SECOND SEMESTER**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN RENEWABLE ENERGY AND  
BIOFUELS TECHNOLOGY**

**COURSE CODE: IET 384**

**COURSE TITLE: The Energy Markets, Policy & Environmental Law**

**DATE: 20<sup>TH</sup> SEPTEMBER 2017 TIME: 11:30AM – 1:30Pm**

## **INSTRUCTIONS TO CANDIDATES**

Answer question ONE and any other two questions

This paper consists of 2 printed pages. Please Turn over

### Question One

- (a) Name the three areas in which energy companies commonly trade. **[3 Marks]**
- (b) (i) What do the letters "OPEC" stands for? **[1 Marks]**  
(ii) Explain the roles of OPEC **[6 Marks]**
- (c) The former Kenya Power & lighting Company, a one-time monopoly in Kenya, operated in all the three areas simultaneously before it was split into three entities. Name the entities and state their functions **[6 Marks]**
- (d) Other than electricity, name the other commonly traded forms of energy **[4 Marks]**
- (e)
  - i. Define energy Market
  - ii. State the role played by Energy Regulation Commission (ERC) in the energy market in Kenya **[10 Marks]**

### Question Two

- (a) The threat of global climate change due to the impact of burning fossil fuels is the main driving force behind the global support of renewable energy technologies. State additional drivers are there for the development of renewable energy technologies **[12 Marks]**
- (b) (i) Explain what is meant by "energy intensity" when referring to a country's economic activity  
(ii) Briefly describe the main factors which are causing the global use of energy to increase. **[8 Marks]**

### Question Three

"Renewables need storage" is often quoted by those unfamiliar with the workings of an electricity system. What is wrong with the statement? Consider both the electricity system and the characteristics of renewables, and then say under what circumstances renewables may need storage. **[25 marks]**

### Question Four

Explain the role of NEMA in environmental conservation in Kenya **[25 Marks]**

### Question Five

**Our Common Future**, also known as the Brundtland Report, from the UN World Commission on Environment and Development was published in 1987. In the report sustainable development was defined as:

*"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Brundtland Report, 1987)*

Briefly explain how this can be accomplished, especially in regard to energy production and consumption [25 Marks]