



KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER
SPECIAL/SUPPLEMENTARY EXAMINATIONS
FOR THE DEGREE OF B.SC (RENEWABLE ENERGY AND BIOFUELS
TECHNOLOGY)

COURSE CODE: IET 384

COURSE TITLE: ENERGY MARKETS, POLICY AND
ENVIRONMENTAL LAW

DATE: 5/02/21 **TIME:** 2-4 pm

INSTRUCTIONS TO CANDIDATES

TIME: 2 Hours

Answer question ONE and any TWO of the remaining

KIBU observes ZERO tolerance to examination cheating

Question One (Compulsory)

- a) Define the following terms as used in global markets for crude oil. (3 marks)
- i. spot markets
 - ii. forward market
 - iii. future market
- b) Give the significance of the API gravity scale. (3 marks)
- c) State the reasons why prices for natural gas change seasonally. (3 marks)
- d) Define "wellhead" and "citygate" prices for natural gas and give why these prices are usually different. (5 marks)
- e) Define energy market. (2 marks)
- f) What is meant by the term "vertically-integrated" utility. (2 marks)
- g) Differentiate between the following terms: (3 marks)
- i. Total Cost
 - ii. Average Cost
 - iii. System marginal cost
- h) Highlight FOUR importance of energy efficiency and conservation. (4 marks)
- i) Enumerate the objectives of Fit-in-Tariff (FIT) policy as an instrument to promote the generation of electricity from renewable energy sources in Kenya. (5 marks)

Question Two

- a) Explain the role of Energy in the national Economy. (10 marks)
- b) Give the objectives of Kenya's energy policy. (10 marks)

Question Three

- a) Explain the roles of OPEC. (10 marks)
- b) Explain the major global benchmark oil streams used in the pricing of oil. (10 marks)

Question Four

- a) The former Kenya Power and Lighting Company, a one-time monopoly in Kenya, operated in all the three areas before simultaneously before it was split into three entities. Name the entities and state their functions. (6 marks)
- b) State the role played by Energy Regulation Commission (ERC) in the energy market in Kenya. (8 marks)
- c) For a vertically-integrated electric utility, discuss the stages taken to meet customer demands. (6 marks)

Question Five

- a) Explain the role of NEMA in environmental conservation in Kenya. (10 marks)
- b) Explain the importance of undertaking environmental impact assessment (EIA) before undertaking energy projects. (10 marks)