

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

ENSC 221: ENERGY AND THE ENVIRONMENT

STREAMS: B.Sc ENSC Y2S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 5 /12/2018

2.30 P.M - 4.30 A.M.

INSTRUCTIONS:

- Answer ALL Questions in Section A and any other TWO Questions in Section B
- Do not write anything on the question paper

SECTION A: [30 MARKS]

1. Define the following terms,
 - (a) Liquefied petroleum gas. [1 Mark]
 - (b) Power [1 Mark]
 - (c) Exergy [1 Mark]
 - (d) Trombe wall [1 Mark]
 - (e) Petrol plants [1 Mark]
 - (f) Superheated water [1 Mark]
2. Briefly explain the process of coal formation. [6 Marks]
3. With examples, briefly explain any two ways by which electrical energy can be converted to motion. [6 Marks]
4. Briefly discuss how evacuated tubes work. [6 Marks]
5. Electrical energy consumed is given kilowatt-hour units. Determine the units consumed when an iron box rated 1200w is used for 30 minutes every day for 30 days. [4 Marks]
6. State the different types of traps responsible for holding back petroleum in a reservoir. [2 Marks]

SECTION B: [40 MARKS]

7. (a) Of the different types of fossil fuels, discuss the attributes of the type that is most friendly to the environment. [10 Marks]
- (b) Discuss how energy is generated in the nuclear fusion power plant reactor core. [10 Marks]
8. (a) Discuss how woodfuel resources can be utilized sustainably. [10 Marks]
- (b) Discuss the different categories of energy resources. [10 Marks]
9. The Ministry of Energy is considering a policy that would reduce adverse environmental impacts from the utilization of different energy resources. As a member of the public, advise the Ministry on the different ways to protect the environment. [20 Marks]
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