

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**FACULTY OF EDUCATION**

**2017\_2, SECOND SEMESTER EXAMINATION**

**COURSE CODE: SED328**

**COURSE TITLE: ENERGY AND MATTER II**

**CREDIT UNITS: 2**

**Instructions:** Answer question 1 and any other two questions.

**Time Allowed:** 2 Hrs

1a. Give a concise definition of the term nuclear energy? (5 Marks)

 How would you produce this form of energy? (5 Marks)

 b. Illustrate the followings, using stoichiometric equations

 i. Nuclear fission (5 Marks)

 ii. Nuclear fusion. (5 Marks)

 c. List five advantages and five disadvantages of nuclear energy. (10 Marks)

2a. How would you dichotomise between Primary and Secondary pollutants? (10 Marks)

 b. Write brief notes on:

 (i) Green house effect (5 Marks)

 (ii) Global warming. (5 Marks)

3a. (i) Define thermal energy? (5 Marks)

 (ii) Describe five ways thermal energy can be generated. (5 Marks)

 b. (i) What is entropy? Give an equation to illustrate this process. (5 Marks)

 (ii) How can entropy be applied in a chemical process? (5 Marks)

4a. Describe the formation of acid rains. Back up your response with appropriate chemical equations. (10 marks)

b. What is Ozone? Discuss four health effects of ground level ozone. (10 Marks)

5. a. Define the term ‘light’ and give a brief but clear description of what it is. (10 Marks)

b. List six sources of light. (6 Marks)

c. Give four uses of light. (4 Marks)