



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
Plot 91 Cadastral Zone, Nnamdi Azikwe Express Way, Jabi, Abuja.  
**FACULTY OF EDUCATION**  
**2020\_1 Semester**

**COURSE CODE: SED328 (2CU)**

**COURSE TITLE: ENERGY AND MATTER II**

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

**Time Allowed: 2 Hrs**

- 1.a.
  - i. Explain the scientific meaning of light energy. (6 marks)
  - ii. What are the criteria used to classify light energy in to its various forms? (6 marks)
- b.
  - i. Briefly describe the transformation of light energy as provided from the sun into other forms of energy. (6 marks)
  - ii. Name 8 sources of light energy. (8 marks)
  - iii. List 4 uses of light energy. (4 marks) (Q1 = 30 marks)
  
- 2.a. Explain the formation of acid rains and back up your assertion with appropriate chemical equations. (10 marks)
- b. Discuss four (4) important health effects of ground level ozone. (10 marks).
  
3.
  - a. Distinguish clearly between primary and secondary pollutants. (10 Marks)
  - b. Write brief notes on:
    - (i) Radiation (5 Marks)
    - (ii) Global warming. (5 Marks)
  
- 4.a. Using the appropriate equations, explain the concept, entropy. (10 Marks).
- b. Briefly discuss the applicability of entropy in a chemical process. (10 Marks).