Fuel A. Choose the Correct Answer: 1. Which of the following is a good fuel? a) One that produces a lot of smoke b) One that has a low calorific value c) One that burns easily and produces a lot of heat d) One that is difficult to store 2. Which of these is a renewable fuel source? a) Coal b) Petroleum c) Natural Gas d) Biogas 3. The unit used to express the calorific value of a fuel is: a) Joules per gram b) Newton per gram c) Calorie per litre d) Kilogram per metre **B.** Fill in the Blanks: 1. A fuel is a substance that produces ______ and _____ on burning. 2. The amount of heat produced by complete combustion of 1 gram of a fuel is called its ______.

3. Excessive use of fossil fuels causes _____ pollution and _____ warming.

C. Case Study:

During a classroom activity, students compared three fuels: kerosene, coal, and biogas. They tested how easily each burns, the amount of heat it produces, and the smoke it releases. They found that biogas burns cleanly and is made from waste materials.

Case Study Questions:

- 1. What property made biogas a better fuel in the experiment?
- 2. Why is biogas considered environment-friendly?
- 3. What did students observe about coal during burning?
- 4. Why should we look for alternatives to fossil fuels?

D. Short Answer Questions:

- 1. Define a fuel.
- 2. What is meant by calorific value?
- 3. Mention two characteristics of an ideal fuel.

E. Long Answer Questions:

- 1. Explain the characteristics of a good fuel with examples.
- 2. Differentiate between renewable and non-renewable fuels.
- 3. What are the harmful effects of burning fuels, and how can we reduce them?