1. Boojho wants to separate the following materials as combustible and non-combustible. Can you help him?
   Charcoal, chalk, stone, iron rod, copper coin, straw, cardboard, glass, paper, candle, wood.
2. Indicate whether the following statements are True or False. Also write the false statements in their correct form.
   - (a) Air is necessary for combustion.
   - (b) Magnesium is a non-combustible metal.
   - (c) Carbon dioxide is an excellent fire extinguisher.
   - (d) Calorific value of wood is higher than that of coal.

3. Match the items of Column A with the items of Column B.

4. Match the following for the flame of a candle.

Column A	Column B (zone)	Column C (colour)
(a) hottest part	(i) innermost zone of unburnt wax vapours	(x) blue
(b) moderately hot	(ii) middle zone of partial combustion	(y) black
(c) least hot	(iii) outer zone of complete combustion	(z) yellow

5. If you hold a piece of iron wire with a pair of tongs inside a candle flame or a Bunsen burner flame, what will you observe? Will it produce a flame?
6. Fill in the blanks using the words given in the box.
   ignition, petrol, combustion, calorific value, combustible, inflammable
   - (a) A chemical process in which a substance reacts with oxygen to give off heat is called _____.

- (b) Wood, paper, CNG are _____ substances.
- (c) The lowest temperature at which a substance catches fire is called its _____ temperature.
- (d) Ignition temperature of _____ is lower than that of wood.
- (e) The substances which have very low _____ temperature and can easily catch fire with a flame are called _____ substances.
- (f) The amount of heat energy produced on complete combustion of 1kg of a fuel is called its _____.

7. People usually keep Angethi/burning coal in their closed rooms during winter season. Why is it advised to keep the door open?
8. Write True/False against the following statements and also correct the false statement.
   - (a) A physical process in which a substance reacts with oxygen to give off heat is called combustion.
   - (b) Water is the best extinguisher for fires involving electrical equipment.
   - (c) Alcohol, CNG and LPG are inflammable substances.
   - (d) Increased concentration of nitrogen in air is believed to cause global warming.
   - (e) Greater the calorific value, better is the fuel.
   - (f) Middle zone is the hottest zone of a flame.
   - (g) The substances which vapourise during burning, give flame.
9. Cracker on ignition produces sound. Why?
10. What do you understand by fuel efficiency?

Long Answer Type Questions

1. You are provided with three watch glasses containing milk, petrol and mustard oil, respectively. Suppose you bring a burning candle near these materials one by one, which material(s) will catch fire instantly and why?
2. Manu was heating oil to fry potato chips. The cooking oil all of a sudden caught fire; he

poured water to extinguish the fire. Do you think this action was suitable. If yes, why? If not, why not? In such a condition what should Manu have done?

3. What are the three essential requirements to produce fire? How fire extinguisher is useful for controlling the fire.
4. Give two examples each for a solid, liquid and gaseous fuel along with some important uses.
5. The calorific values of petrol and CNG are 45000 kJ/kg and 50,000 kJ/kg, respectively. If you have vehicle which can run on petrol as well as CNG, which fuel will you prefer and why?
6. Although wood has a very high calorific value, we still discourage its use as a fuel. Explain.
7. Forest fire produces a lot of air pollution. Write in brief about the reasons of forest fires.
8. Complete the crossword Fig. 6.1 with the help of the clues :

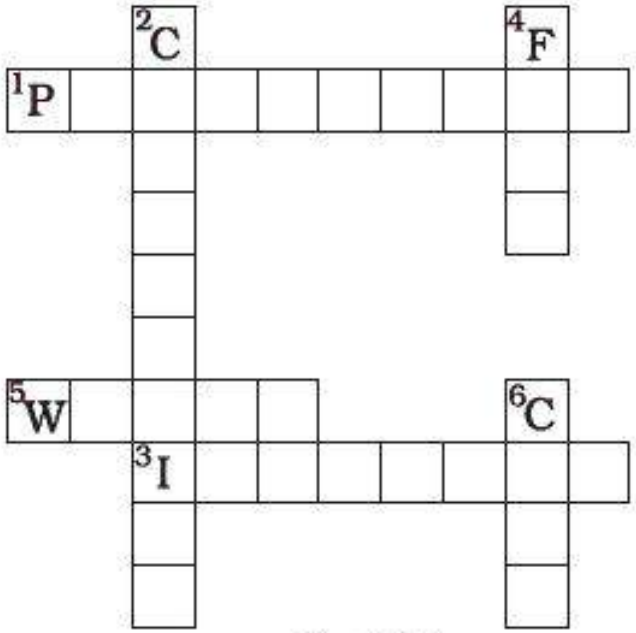

Fig. 6.1