

Chapter-4

Worksheet-1

Q.1. Fill in the blanks in the following sentences.

- (a) Burning of wood and coal causes _____ of air.
- (b) A liquid fuel used in homes is _____.
- (c) Fuel must be heated to its _____ before it starts burning.
- (d) Fire produced by oil cannot be controlled by _____.

Q.2. Fill in the blanks in the following sentences.

- (a) A _____ process in which a substance reacts with _____ to give off heat is called combustion.
- (b) When the clothes of a person catch _____, the person is covered with a _____ to extinguish fire.
- (c) The _____ temperature at which a substance catches fire is called its _____ temperature.
- (d) The substances which have very _____ ignition temperature and can easily catch fire with a flame are called _____ substances.
- (e) The substances which vapourise during _____, give flame.
- (f) Wood, paper, CNG are _____ substances.
- (g) Ignition temperature of _____ is lower than that of wood.
- (h) The amount of heat energy produced on complete combustion of 1 kg of a fuel is called its _____.

Q.3. 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's.
- (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.
- (h) Air is necessary for combustion.
- (i) Magnesium is a non-combustible metal.
- (j) Carbon dioxide is an excellent fire extinguisher.
- (k) Calorific value of wood is higher than that of coal.

Q.4. Match the items of Column A with the items of Column B.

Column A

Column B

- | | |
|------------------------------------|-------------------------------------|
| (a) Oxides of sulphur and nitrogen | (i) Fire extinguisher |
| (b) CNG | (ii) Incomplete combustion of coal |
| (c) Oxygen | (iii) Very low ignition temperature |
| (d) Inflammable substance | (iv) Acid rain |
| (e) Carbon dioxide | (v) Necessary for combustion |
| (f) Carbon monoxide | (vi) Fuel for automobiles |

Q.5. Match the following for the flame of a candle.

Column A

Column B

Column C

- | | | |
|--------------------|-------------------------------------------|------------|
| (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 combustion | (z) Yellow |

Q.6. Which of the following fuels is used for running automobiles?

- (a) CNG
- (b) Petrol
- (c) Both (a) and (b)
- (d) Wood

Q.7. Magnesium burns to form

- (a) calcium carbonate
- (b) magnesium oxide
- (c) calcium oxide
- (d) magnesium sulphate

Q.8. Coal burns to produce

- (a) calcium bicarbonate
- (b) magnesium
- (c) carbon dioxide
- (d) oxygen

Q.9. Name the chemical process in which a substance reacts with oxygen to give out heat.

- (a) Reaction
- (b) Junction
- (c) Combustion
- (d) All of these

Q.10. The substance that undergoes combustion is said to be

- (a) burning
- (b) flame
- (c) charcoal
- (d) combustible

Q.11. Name the most common fuel used in homes.

Q.12. Give two examples of non-combustible substances. .

Q.13. What are the three essential requirements for combustion?

Q.14. What is combustion? How does a matchstick catch fire?

Q.15. What are combustible and non-combustible substances?

Q.16. Define spontaneous combustion.

Q.17. Define explosion.

Q.18. What is flame? Define calorific value.

Q.19. Define fuel. Give two examples each of solid fuels, liquid fuels and gaseous fuels.

Q.20. 60 kg of fuel was completely burnt for an experiment. The amount of heat energy was found to be 1,80,000 kJ. Calculate the calorific value of the fuel.