

## COMBUSTION AND FLAME

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1. Which is not an example of inflammable substance?

- (A) Charcoal. (B) Petrol. (C) Alcohol. (D) LPG.

2. The head of the safety match contains-

- (A) antimony trisulphide. (B) potassium chlorate.  
(C) Both (a) and (b). (D) None of these.

3. When a frying pan containing cooking oil is kept for long on a burning stove then cooking oil catches fire because-

- (A) Its temperature is lower than its ignition temperature.  
(B) Its temperature is reached to its ignition temperature.  
(C) Both (a) and (b) are correct.  
(D) Neither (a) nor (b).

4. The minimum temperature at which a substance catches fire is-

- (A) Melting point. (B) Ignition temperature.  
(C) Boiling point. (D) Critical temperature.

5. Which gas is supporter of combustion?

- (A)  $\text{CO}_2$ . (B) He. (C)  $\text{O}_2$ . (D) Ne.

6. Find odd one out-

- (A) Coal. (B) Glass. (C) Wood. (D) Paper.

7. Pollution can be reduced by using-----in automobiles.

- (A) Petrol. (B) Diesel. (C) Kerosene. (D) CNG.

8. Combustion is a -

- (A) Physical process (B) Chemical process  
(C) Both (a) and (b) (D) None of these

9. Which of the following is not true for water?

- (A) Water is the most common fire extinguisher.  
(B) Water works only when things like wood and paper are on fire.  
(C) Water cannot work for fire involving electrical equipments.  
(D) Water is suitable for fires involving oil and petrol.

10. Which substance is used to extinguish fire involving electricity?

- (A) Nitrogen. (B)  $\text{CO}_2$ . (C) Water. (D) All.

11.  $\text{CO}_2$  can be stored in cylinder in-----state at -----pressure.

- (A) liquid, high. (B) gas, high. (C) gas, low. (D) liquid, low.

12. Which is not the requirement for burning?

- (A) Heat. (B)  $\text{O}_2$ . (C) Fuel. (D)  $\text{CO}_2$ .

13. The combustion of coal dust in coal mines is-

- (A) Rapid combustion. (B) Explosion.  
(C) Spontaneous combustion. (D) None of these.

14. Find odd one out-

(A) Magnesium. (B) Camphor. (C) Candle. (D) Charcoal.

15. Explosion can take place by-

- (A) ignition of a combustible material. (B) applying pressure on a combustible material.  
(C) Both (a) and (b). (D) None.

16. Flames are formed when the substance-

- (A) melts during burning. (B) vapourises during burning.  
(C) boils during burning. (D) All.

17. Which zone of the flame is least hot?

- (A) Middle zone. (B) Innermost zone.  
(C) Outer zone. (D) Luminous zone.

18. Unburnt carbon particles produced by carbon fuels cause-

- (A) Abdominal diseases. (B) Respiratory diseases.  
(C) Both. (D) None.

19. Which gas is evolved by incomplete combustion of wood or coal?

- (A)  $\text{CO}_2$ . (B)  $\text{N}_2$ . (C)  $\text{O}_2$ . (D)  $\text{CO}$ .

20. Calorific value of a substance is measured in-

- (A) kJ/kg. (B) Kcal. (C) Calories. (D) Jkg.

21. Which of the following compound has least heating value?

- (A) Bio gas. (B) Wood. (C) Kerosene. (D) LPG.

22. The substance having the highest Calorific value is-

- (A) Hydrogen. (B) Bio gas. (C) LPG. (D) CNG.

23. Which of the following is false statement?

- (A) Ideal fuel is cheap and easily available.  
(B) Complete combustion of a fuel gives carbon monoxide gas.  
(C) Inflammable substances have very low ignition temperature.  
(D) Combustion produces heat and light.

24. Which zone of the flame is used by a goldsmith?

- (A) Outer zone. (B) Middle zone. (C) Innermost zone. (D) None of these.

25. Global warming is the

- (A) decrease in the temperature of the atmosphere of earth.  
(B) moderate temperature of the atmosphere of earth.  
(C) increase in the temperature of the atmosphere of earth.  
(D) None.

26. Acid rain contains-

- (A) Oxides of C. (B) Oxides of S. (C) Oxides of N. (D) Both (b) and (c).

27. Which is not true for acid rain?

- (A) It destroys crops. (B) It melts glaciers.  
(C) It damages building. (D) It is toxic to aquatic life.

28. Which gas causes Global Warming?

- (A)  $\text{CO}$ . (B)  $\text{SO}_2$ . (C)  $\text{O}_2$ . (D)  $\text{CO}_2$ .

29. Dry grasses in forest catch fire in summer when-

- (A) their temperature is lower than their ignition temperature.
- (B) their temperature is reached near their ignition temperature.
- (C) Both are correct.
- (D) None of these.

30. Which is not the example of combustion?

- (A) Sodium burns in air.
- (B) Spontaneous reaction of coal dust in coal mines.
- (C) Reaction of food in our body.
- (D) Reaction in the sun.

31. A burner of a gas stove gives yellow flame, it indicates-

- (A) Incomplete combustion.
- (B) Complete combustion.
- (C) Both.
- (D) None.

32. Match the column 'I' with Column 'II'

Column 'I'

- i. Oxygen
- ii. Carbon dioxide
- iii. Food
- iv. Inflammable

Column 'II'

- A. Fuel
- B. Combustion
- C. LPG
- D. Fire extinguisher

- (A) i-B, ii-A, iii-C, iv-D
- (B) i-B, ii-A, iii-D, iv-C
- (C) i-B, ii-D, iii-A, iv-C
- (D) i-A, ii-B, iii-C, iv-D

33. Find the odd one out.

- (A)  $\text{CO}_2$ .
- (B)  $\text{CH}_4$ .
- (C) Oxygen.
- (D) Water vapours.

34. Which is true for wood?

- (A) It is not easily available.
- (B) It produces a large amount of heat on burning.
- (C) It does not give smoke on burning.
- (D) It leaves behind ash after burning.

35. Kavita, Mahima and Shreya were doing an experiment in which water was to be heated in a beaker. Kavita kept the beaker innermost of the wick in black part of the candle flame. Mahima kept the beaker near the wick in the yellow part and Shreya kept the beaker in the outermost part of the flame. Whose water will get heated in a shorter time?

- (A) Kavita.
- (B) Mahima.
- (C) Shreya.
- (D) Both Mahima and Shreya.

36. The process of combustion produces-

- (A) Heat.
- (B) Light.
- (C) Both (a) and (b).
- (D) None.

37. Which of the following is the most ideal fuel?

- (A) Wood.
- (B) Kerosene.
- (C) LPG.
- (D) None.

38. Match the column 'I' with Column 'II'

Column 'I'

- 1. CNG
- 2. LPG
- 3. Wood, Charcoal
- 4. Alcohol, Petrol

Column 'II'

- A. Combustible substances
- B. Inflammable substances
- C. Cleaner Fuel
- D. Liquid Fuel

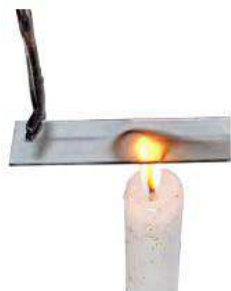
- (A) 1-C, 2-D, 3-A, 4-B
- (B) 1-C, 2-D, 3-B, 4-A
- (C) 1-D, 2-C, 3-B, 4-A
- (D) 1-C, 2-A, 3-B, 4-D

39.  $\text{CO}_2$  can be produced by -

- (A) Washing soda. (B) Baking soda.  
(C) Potassium bicarbonate. (D) Both (b) and (c).

40. Name two fuels which are used for running automobiles.

41. A circular blackish ring on the glass plate indicates-



- (A) Complete combustion. (B) Dark zone of the flame.  
(C) Non-luminous zone. (D) Luminous zone.

42. Define combustion.

43. Write a difference between burning of a candle and the burning of coal.

44. What do you understand by combustible substances or fuels?

45. Why is food regarded as a fuel for our body?

46. Is burning of magnesium combustion?

47. Give two examples of non-combustible substances.

48. What is essential for combustion?

49. What do you mean by ignition temperature?

50. Does a matchstick burn by itself?

51. What is the composition of the head of the matchstick?

52. Which type of pollution occurs on burning wood?

53. Name a liquid fuel which is used in homes?

54. Write the full forms of-

- (a) CNG (b) LPG

55. When a burning charcoal piece is covered with a glass jar then the burning of the piece stops, why?

56. Which will get fire first coal or kerosene?

57. Which is the most common fire extinguisher?

58. Which poisonous gas is produced due to incomplete combustion of a fuel?

59. Name the substance used to extinguish fire involving electrical equipments.

60. Which of the following compound has least heating value?

(A) Bio gas. (B) Wood. (C) Kerosene. (D) LPG.

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61. What are inflammable substances?

62. What would you do when the clothes of a person catch fire?

63. How is  $\text{CO}_2$  able to control fire?

64. What do you understand by Explosion?

65. Which zone of a flame does a goldsmith use for melting gold and silver and why?

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66. How can water boil in a paper cup without burning it?

67. What are the three zones of a flame? Draw a labelled diagram of a candle flame.

68. Why does the matchstick start burning on rubbing it on the side of the matchbox?

69. What are the essential requirements for producing fire? On which principle the fire extinguisher works?

70. Give reasons-

(i) LPG is a better domestic fuel than wood.

(iii) Water is not used to control fires involving electrical equipment.

71. Paper by itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not.

72. Explain how water is able to control fires?

73. Define-

a. Spontaneous combustion.

b. Rapid combustion.

74. (i) What is calorific value? Write its unit.

(ii) In an experiment 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 180,000 kJ. Calculate the calorific value of the fuel.

75. Why is it difficult to burn a heap of green leaves but dry leaves catch fire easily?

76. What do you understand by Global Warming? Give any two consequences of Global Warming.

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77. What are the characteristics of an ideal fuel?

78. What is acid rain. Write its harmful effects.

79. How will you show that for a substance to burn, it is essential to reach its ignition temperature?