Here are the **answers** for all the questions based on the chapter **"Language of Chemistry"** from your textbook.

SECTION A

(1) Multiple Choice Questions (MCQs)

1. **d) All of the above**
2. **b) Combination**
3. **b) $2H_2 + O_2 \rightarrow 2H_2O$**
4. **b) Carbon dioxide**
5. **a) One element replaces another in a compound**
6. **b) Reactants**
7. **b) Neutralization of acid and base**
8. **b) Combination**
9. **b) Change in shape**
10. **c) Mass is conserved**

(2) Fill in the Blanks

11. **Products**
12. **Neutralization**
13. **Combination**
14. **Hydrogen**
15. **Decomposition**
16. **Left**
17. **Endothermic**
18. **Displacement**
19. **Potassium iodide**
20. **Fe**

(3) True or False

21. **False**
22. **True**

23. **True**
24. **True**
25. **True**
26. **False**
27. **True**
28. **False**
29. **False**
30. **True**

SECTION B

(4) Odd One Out (Give Reason)

31. **Boiling (It is a physical change, others are chemical reactions.)**
32. **Change in shape (It is not a characteristic of a chemical reaction, others are.)**
33. **Sodium hydroxide (It is a base, others are acids.)**
34. **Carbon (It is a non-metal, others are metals.)**
35. **NaCl (It is a compound, others are gases.)**
36. **Melting (It is a physical change, others are chemical changes.)**
37. **Iodine (It is a non-metal, others are metals.)**
38. **Iron (It is a metal, others are non-metals.)**
39. **Fe (It is an element, others are compounds.)**
40. **FeS (It is a compound, others are oxides.)**

(5) Matching Questions

41. **e) Burning of magnesium in oxygen**
42. **a) Decomposition of calcium carbonate**
43. **c) Reaction between silver nitrate and sodium chloride**
44. **b) Reaction of sodium hydroxide with hydrochloric acid**
45. **d) Rusting of iron**
46. **f) Substances that undergo a reaction**
47. **g) Substances formed in a reaction**
48. **h) Speeds up a chemical reaction**
49. **i) Formation of an insoluble solid**
50. **j) Follows the Law of Conservation of Mass**

(6) Name the Type of Reaction

51. **Combination**
52. **Decomposition**
53. **Displacement**
54. **Neutralization**
55. **Double displacement**
56. **Decomposition**
57. **Displacement**
58. **Double displacement**
59. **Combustion**
60. **Photosynthesis**

SECTION C

(7) Short Answer Questions

61. **A chemical reaction is a process in which one or more substances (reactants) undergo a chemical change to form new substances (products).**
62. **Reactants are the substances that take part in a chemical reaction, and products are the substances formed after the reaction. Example: In the reaction $2H_2 + O_2 \rightarrow 2H_2O$, hydrogen and oxygen are reactants, and water is the product.**
63. **A balanced chemical equation has the same number of atoms of each element on both sides, following the Law of Conservation of Mass.**
64. **A chemical reaction can be identified by changes like color change, gas evolution, temperature change, or precipitate formation.**
65. **A precipitation reaction is when two solutions react to form an insoluble solid (precipitate). Example: $Pb(NO_3)_2 + KI \rightarrow PbI_2$ (yellow precipitate) + KNO_3.**
66. **To follow the Law of Conservation of Mass, a chemical equation must be balanced so the number of atoms remains equal on both sides.**
67. **An exothermic reaction releases heat. Example: Neutralization of acid and base ($HCl + NaOH \rightarrow NaCl + H_2O$ + heat).**
68. **Increasing temperature increases the reaction rate by providing more energy for collisions between molecules.**
69. **Types of chemical reactions: Combination, Decomposition, Displacement, Double Displacement, and Neutralization.**

70. **The Law of Conservation of Mass states that mass cannot be created or destroyed in a chemical reaction; it remains the same before and after the reaction.**

(8) Diagram-Based Questions

(Refer to textbook for labeled diagrams.)

71. **Experimental setup to show gas evolution.**
72. **Double displacement reaction setup.**
73. **Decomposition reaction (e.g., decomposition of calcium carbonate).**
74. **Color change reaction setup.**
75. **Neutralization reaction setup.**

(9) Reasoning-Based Questions

76. **Iron rusts when exposed to air and moisture due to oxidation, forming iron oxide ($Fe_2O_3 \cdot xH_2O$).**
77. **Higher temperature increases molecular movement, leading to more collisions and faster reactions.**
78. **Milk sours due to bacterial fermentation, converting lactose into lactic acid.**
79. **Burning a candle produces carbon dioxide, water vapor, and heat, indicating a chemical change.**
80. **Respiration is a chemical reaction because glucose reacts with oxygen to produce carbon dioxide, water, and energy.**

(10) Chemical Formula & Symbol-Based Questions

81. **$Fe_2O_3 \cdot xH_2O$ (Rust)**
82. **HCl (Hydrochloric acid)**
83. **Fe + S → FeS (Iron + Sulfur → Iron sulfide)**
84. **$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$ (Photosynthesis)**
85. **$CaCO_3$ (Calcium carbonate)**

This completes **the answers for all the questions**. Let me know if you need any modifications! 🚀