Here are the **answers** for all the questions based on the chapter "**Air and Atmosphere**" from your textbook.

SECTION A

(1) Multiple Choice Questions (MCQs)

1. **b) Nitrogen**
2. **a) 21%**
3. **b) Oxygen**
4. **b) Carbon dioxide**
5. **c) Greenhouse gases**
6. **b) Carbon dioxide**
7. **a) Helium**
8. **b) CO_2**
9. **b) Nitrogen**
10. **c) Nitrogen**

(2) Fill in the Blanks

11. **gases**
12. **Nitrogen, Oxygen**
13. **78%**
14. **Oxygen**
15. **Carbon dioxide, Oxygen**
16. **Carbon dioxide**
17. **Carbon dioxide**
18. **Nitrogen fixation**
19. **Air pollution**
20. **Neon**

(3) True or False

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

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

SECTION B

(4) Odd One Out (Give Reason)

31. **Carbon Dioxide (Others are major components of air, CO_2 is a trace gas)**
32. **Oxygen (Others are noble gases, oxygen is not)**
33. **Oxygen (Others are pollutants, oxygen is essential for life)**
34. **Evaporation (It is a physical change, others are chemical processes)**
35. **Oxygen (Others are greenhouse gases, oxygen is not)**
36. **Combustion (Others are environmental issues, combustion is a process)**
37. **Hydrogen (Others are major components of air, hydrogen is a trace gas)**
38. **Photosynthesis (Others are types of pollution, photosynthesis is a biological process)**
39. **Fossil Fuels (Others are natural processes, fossil fuel burning is man-made)**
40. **Respiration (Others involve nitrogen cycle, respiration does not)**

(5) Matching Questions

41. **a) Used in photosynthesis**
42. **b) Most abundant gas in the atmosphere**
43. **c) Supports combustion**
44. **d) Used in light bulbs**
45. **e) Used in weather balloons**
46. **f) Greenhouse gas**
47. **g) Used in advertising lights**
48. **h) Causes acid rain**
49. **i) Toxic gas**

50. j) Protects from UV radiation

(6) Name the Type of Reaction

51. Combustion
52. Photosynthesis
53. Oxidation (Rusting)
54. Acid rain formation
55. Combustion
56. Oxidation of nitrogen
57. Physical change
58. Water cycle
59. Nitrogen fixation
60. Physical change

SECTION C

(7) Short Answer Questions

61. Major components of air are nitrogen (78%), oxygen (21%), carbon dioxide (0.03%), argon (0.9%), and other trace gases.
62. Nitrogen is essential for plant growth and is a major component of proteins and DNA.
63. Oxygen is required for respiration, which provides energy for living organisms.
64. The greenhouse effect is the trapping of heat by greenhouse gases, keeping the Earth warm.
65. Global warming is caused by excessive greenhouse gases leading to temperature rise.
66. Air pollution can cause respiratory diseases, lung infections, and global climate change.
67. Acid rain is rainwater that contains acidic pollutants such as sulfuric acid and nitric acid.
68. Nitrogen is fixed by bacteria, converting it into ammonia, nitrates, and nitrites for plant use.
69. Carbon monoxide binds with hemoglobin, reducing oxygen transport in the body, leading to poisoning.
70. Inert gases are non-reactive gases. Examples: Argon, Neon.

(8) Diagram-Based Questions

(Refer to textbook for labeled diagrams.)

71. **Labeled diagram of nitrogen cycle**
72. **Illustration of photosynthesis**
73. **Diagram showing greenhouse effect**
74. **Setup showing the presence of oxygen in air**
75. **Flowchart of acid rain formation**

(9) Reasoning-Based Questions

76. **Nitrogen is required by plants for making proteins and is obtained through nitrogen fixation.**
77. **Carbon dioxide is needed for photosynthesis, where plants use it to produce glucose and oxygen.**
78. **Oxygen is needed for combustion because it supports burning by reacting with fuel.**
79. **Deforestation reduces the absorption of CO_2, leading to an increase in greenhouse gases.**
80. **Air is a mixture because its components retain their properties and are not chemically combined.**

(10) Chemical Formula & Symbol-Based Questions

81. **CO_2 (Carbon dioxide)**
82. **O_2 (Oxygen gas)**
83. **$4Fe + 3O_2 + 6H_2O \rightarrow 4Fe(OH)_3$ (Rusting of iron)**
84. **$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$ (Photosynthesis)**
85. **N_2 (Nitrogen gas)**

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