Question-7
Why do you think, the noble gases are placed in a separate group?
Solution:
Due to its inert and low concentration in our atmosphere, they could be placed in a new group without disturbing the existing order.

Question-8
How could the Modern periodic table remove various anomalies of Mendeleev's periodic table?
Solution:
When the elements are arranged according to their atomic numbers on the basis of modern periodic law, all the anomalies (defects) of Mendeleev's classification disappear. For example,
Position of isotopes: All the isotopes of an element have the same number of protons, so their atomic number is also the same. Since all the isotopes of an element have the same atomic number, they can be put at one place in the same group of the periodic table.

Question-9
Name two elements, which you would expect to show chemical reactions similar to magnesium. What is the basis for your choice?
Solution:
Calcium and Beryllium are the elements that will show chemical reactions similar to magnesium. This is because beryllium and calcium belong to the same group of periodic table as magnesium. All of them have similar electronic configurations with 2 valence electrons each.

Question-10
Name:
a. Three elements that have a single electron in their outermost shell.
b. Two elements that have two electrons in their outermost shell.
c. Three elements with filled outermost shell.
Solution:
a. Three elements that have a single electron in their outermost shell are:
1. Lithium
2. Sodium
3. Potassium
b. Two elements that have two electrons in their outermost shell are:
1. Magnesium
2. Calcium
c. Three elements with filled outermost shell are:
1. Argon
2. Helium
3. Neon.

Question-11
a. Lithium, sodium, potassium are metals that react with water to liberate hydrogen. Is there any similarity in the atoms of these elements?
b. Helium is an unreactive gas and neon is a gas of extremely low reactivity. What, if anything, do their atoms have in common
Solution:
a. These elements are alkali metals and they have 1 valence

electron in their outermost shell and are therefore very unstable and reactive.
b. These elements each have full outermost subshell, which results in high stability. They only react with other elements in extreme circumstances, the trait for which they are named.

Question-12
In the Modern periodic table, which are the metals among the first ten elements?
Solution:
The metals are Lithium and Beryllium.

********** END **********