1. **Element X has mass number 35 and atomic number 17. How many subatomic particles (electrons, protons and neutrons) are there in this element?**
2. **What is Avogadro’s number? How many hydrogen atoms are there in 1 mole of water molecule (H2O) ?**
3. **What is electronegativity. What group of elements metals or nonmetals have higher values of electronegativity?**
4. **Name and describe chemical bond in hydrogen molecule (H2).**
5. **What is sublimation? Is it chemical or physical change?**
6. **What is reduction? What element undergoes reduction in the process of water formation occurring according with the reaction:**

**2H2 + O2 → 2H2O**

1. **Explain the difference between electrolytes and nonelectrolytes. Give one example of electrolyte and one example of nonelectrolyte.**
2. **What is pH? How it can be calculated? What is pH (higher or lower than 7) of water solution of ammonia?**
3. **Define reversible reaction. When this kind of reaction reaches equilibrium?**
4. **Define mass percent concentration. How many grams of water are there in 100g of 10% solution of glucose.**
5. **Name the group of hydrocarbons with carbon-carbon triple bond. Give the molecular formula and the name of the compound from this group with 4 carbons.**
6. **What is polymerization? What hydrocarbons undergo polymerization?**
7. **Name the product of reaction of benzene with nitric acid. Is it substitution or addition reaction?**
8. **What is functional group in alcohols? What is the product of oxidation of primary alcohol?**
9. **What is the product of ketone reduction. Name the product of propanone reduction.**
10. **What are constitutional isomers? Are methanal and methanol this kind of isomers?**
11. **What are similarities and differences between glucose and fructose?**
12. **What are organic esters? Name the ester with two carbons in its structure.**
13. **What are functional groups in amino acids? What is the general name of the product formed from two amino acids?**
14. **Give the names of three components of nucleotides (components of nucleic acids). Mark the differences between DNA and RNA.**