**COMBINATION OF QUESTIONS FOR 3. LECTURE – VITAMINS AND COENZYMES**

**1. Combination**

a) Retinol represents the building block of which compound and name two other representatives from the same group?

b) Which coenzymes play a role in the transfer of the C1 group?

**2. Combination**

a)For which enzymes is ascorbic acid a coenzyme and what is the reduced and oxidized form of ascorbic acid?

b) Explain the function of NADH+H+ and NADPH+H+ and how these coenzymes are re-oxidized to return to their functional form?

**3. Combination**

a) What is the chemical nature of tocopherol and what is its function in the body?

b) Which coenzymes serve to transfer specific functional groups?

**4. Combination**

1. What is phylloquinone chemically and what is its function in the body?

2. To which type of coenzymes do the prosthetic groups of - Fe-S clusters belong and with which enzymes do they act?

**5. Combination**

a) What are the cytochromes of the respiratory chain? List them in the correct order of appearance in the respiratory chain and explain their function

b) What is the chemical structure of riboflavin (Vitamin B2), where is it synthesized, and of which coenzyme is a component?

**6. Combination**

a)What is the chemical structure of Coenzyme A, and in which metabolic processes does Coenzyme A participate?

b) Explain how is Vitamin D3 synthesis in the body and its function. What does its deficiency lead to in children and adults?

**7. Combination**

a)How do FMN and FAD perform their functions in flavoenzymes, what are their reduced forms and to whom do they give hydrogen atoms?

b) What are coenzymes for the transfer of phosphate groups?

**8. Combination**

a) What is the chemical nature and structure of cobalamin and in which enzymatic reactions does cobalamin participate?

b)What is the chemical nature and structure of biotin? Which group of enzymes is biotin a coenzyme?

**9. Combination**

a) Explain how is THF synthesized, what are the most important derivatives of THF and in which metabolic process does THF play an important role?

b) What is the chemical nature of (UDP), what is its function, and give an example in which metabolic process this compound participates?

**10. Combination**

a) What is the chemical structure of HEM coenzymes and what its its role in the body?

b) What is the chemical nature of (CDP), what is its function, and give an example in which metabolic process this compound participates