Topic 3. Enzymes as biological catalysts. Functional organization (active and allosteric centers). Coenzyme functions of vitamins. Isozymes. Enzyme nomenclature.

Theoretical questions:

1. General characteristics of Enzymes.
2. Structure of enzymes.
   2.1. Active center, allosteric center, their structure and role.
   2.2. Role of Coenzymes. Vitamins as coenzymes.
3. Isozymes. Examples. Role of LDH and CK in clinical diagnostics.
4. Enzyme nomenclature. Short characteristic of every class, examples of enzymes.

Study Questions and Tasks

1. Structure of enzymes.

a) Active center. Give a definition. Describe chemical structure.

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_____
_____
_____

b) Allosteric center. Give a definition. Describe chemical structure.

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_____
_____
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2. Vitamins as coenzymes.

Vitamin	Name of vitamin	Active forms
B_1		
B_2		
B_3		
B_5		
B_6		
B_{12}		
Bc		
H		

3. Isozymes. Give a definition.

_____

_____

_____

_____

Lactate dehydrogenase

	Abbreviation	Subunit structure	Tissue
1			
2			
3			
4			
5			

Creatine kinase

	Abbreviation	Subunit structure	Tissue
1			
2			
3			

5. Enzyme nomenclature:

Class	Enzymes	Catalyzed reactions
I		
II		
III		
IV		
V		
VI		
VII		

Text-books:

1. Biochemistry 5th Edition Ch.5, pp.53-68.
2. Prasad textbook of biochemistry OCR. Topic 7. pp. 117-149.