Date ..... **Name** ..... **Group** .....

Lab report form for the practical lesson on biochemistry

Topic: **Enzymes**

Task 1 Proof of enzyme specificity

Principle:

Results:

Fill in the results using symbols + (reaction positive), – (reaction negative), +/– (reaction inconclusive), 0 (reaction not performed).

In the last row indicate where the cleavage of the substrate occurred.

	1	**2**	**3**	**4**
Composition	Starch Amylase	Sucrose Amylase	Starch Sucrase	Sucrose Sucrase
Fehling test:				
Reaction with Lugol solution:				
Substrate cleavage:				

Evaluation and conclusion:

Task 2 Effect of pH on the enzyme activity

Principle:

Results:
Use symbols + for complete clarification, ± for partial clarification and − for persistent turbidity.

Final pH	1.2	1.5	2.5	Control (No pepsin)
After 5 min.:				
After 10 min.:				

Evaluation and conclusion:

Task 3.1 Oxidation of glucose with the air oxygen

Principle:

Result/Observation:

Evaluation and conclusion:

Task 3.2 Dehydrogenation with xanthine oxidoreductase

Principle:

Results:

	1	2	3
Composition	Fresh milk	Boiled milk	Fresh milk KCN
Result (color of mixture)			

Evaluation and conclusion:

Task 3.3.1 Proof of peroxidase by benzidine reaction

Principle:

Results:

	1	2	3	4
Composition	Extract Tolidine Peroxide	Control (Boiled extract)	Control (No extract)	Control (No tolidine)
Result (color of mixture)				

Evaluation and conclusion:

Task 3.3.2 Pseudoperoxidase reaction

Principle:

Results:

Evaluation and conclusion:

Task 3.3.3 Proof of catalase

Principle:

Results:

	1	2	3
Composition	Blood Peroxide	Blood Peroxide KCN	Boiled blood Peroxide
Result (amount of foam)			

Evaluation and conclusion:

Task 4 Estimation of catalytic activity of lactate dehydrogenase in serum by means of the Warburg optical test

Principle:

Results:

Minute	A_{340}	ΔA_{340}
2.		-
3.		
4.		
5.		
6.		
7.		

Evaluation:

1. Create a simple graph by plotting the measured absorbances at 340 nm against time (choose an appropriate scale!). Add the graph to your report.
2. Use the graph to decide whether your data follow the zero-order kinetics.

3. Calculate the mean Δ A340 and the catalytic activity of LD in serum.