

1. Name coenzymes of carboxylation and decarboxylation reaction (at least 2) and write concrete metabolic process which they catalyse:
2. What is net production of ATP in glycolysis (aerobic condition) - including citric acid cycle and resp. chain? Explain:
3.  $\beta$ -glycosidase (lactase) is specific for splitting of.....(put reaction):
4. Name at least 2 inhibitors of glucosa-6-P-dehydrogenase:
5. Write chem. structure of 2 products formed in pentose phosphate pathway by reaction between 2 pentose catalysed by transketolase?
6. Which enzyme is inhibited by glucose-6-P? Write this catalysed reaction.
7. Name and write chem. formula of product formed by reaction catalysed by glyceraldehyde-3-P dehydrogenase:
8. Which reactions of pentose phosphate pathway are irreversible?
9. Which hormones do stimulate and which do inhibit lipogenesis?
10. Draw chemical structure and add the name of compound from which prostaglandins are derived:
11. When substrates of reaction are CDP-ethanolamine and 1,2-diacylglycerols, what is the product of this reaction? Name and write by formula:
12. Where is HDL synthesized? Write its role in metabolism.
13. Kynurenone is found in metabolism of amino acid ..... (name and give its formula):
14. The final common product of leucine and isoleucine catabolism is .....
15. Name two main groups of chemical carcinogens:
16. RNA is synthesised in direction..... In which place of cells this process occurs?
17. N-formylglycinamideribonucleotide is intermediate for synthesis.....:
18. Give names and chem. structure of compounds which are source of nitrogen for purine synthesis:
19. What is characteristic for A ring of testosterone and progesterone?
20. What is transducin and what function does it ensure in living system?
21. Parathormone affects the kidney by..... and the bones .....
22. Write hydrolysis of aspirin by esterase:

23. Write biotransformation reaction for toluene:
24. Draw the dependence of „ $1/v$ “ on „ $1/S$ “ for competitive inhibitor in enzyme catalysed reaction and mark  $K_m$  values.
25. How can you determine  $\text{HCO}_3^-$  in plasma? Write normal level of  $\text{HCO}_3^-$  in plasma: