

BSc T.Y. Microbiology.
Microbial Metabolism

- Q1. Enzymes are _____
a) chemical catalyst b) Biological catalyst
c) Non Biological catalyst d) None of these.
- Q2. Coenzymes are _____
a) Protein part of enzyme) b) Non protein part of enzyme
c) Important agent for enzyme action d) both b & c
- Q3. Enzymes are synthesized in _____
a) Nucleus b) Mitochondria c) Cytoplasm d) Lysosome.
- Q4. Enzyme consist of _____
a) Protein part b) Non protein component c) only a d) both a & b
- Q5. Enzymes are synthesized in the process called as _____
a) DNA synthesis b) RNA synthesis c) Protein synthesis
d) all of these
- Q6. Enzymes are made up of which biomolecule
a) carbohydrates b) Fats c) protein d) Nucleic acid
- Q7. Enzymes binds with substrate at a site called _____
a) Active site b) Passive site c) Allosteric site d) all of these.
- Q8. ~~Act~~ The binding of enzymes with substrate is ~~done~~ possible due to _____
a) Bond between enzyme & cofactor
b) Bond between cofactor & substrate
c) Bond between amino acids of enzymes & molecules of substrate
d) All of these
- Q9. Active site is also called as
a) Allosteric site b) catalytic site c) only a d) None of these
- Q10. Enzyme classification is done on which basis,
a) by the product formation, b) The reaction they catalyzed
c) The substrate they utilized c) None of these

Q11. How many classes of Enzymes?

- a) 10 b) 12 c) 8 d) 6

Q12. What is mean by E.C. number.

- a) Enzyme number b) Enzyme commission number
c) Enzyme class number d) Enzyme category number

Q13. E.C. number consist of How many digit code

- a) 1 b) 2 c) 3 d) 4

Q14. The first digit in E.C. number indicates.

- a) class b) sub class c) sub-sub class d) Enzyme serial no.

Q15. The second digit in E.C. number indicates.

- a) Enzyme serial no. b) subclass c) sub-sub class d) class

Q16. The third digit in E.C. number indicates

- a) sub-sub class b) class c) sub-class d) serial no.

Q17. The last digit in E.C. number indicates.

- a) class b) subclass c) sub-sub class d) serial no.

Q18. Which of the following is the class of enzyme

- a) Aldose reductase b) Isomerases c) Pectinase d) pepsin

Q19. Which of the following is not the class of enzyme

- a) Hydrolases b) lyases c) ligases d) pectinase

Q20. Cofactors ~~may~~ ~~can~~ includes.

- a) Inorganic ions b) vitamins c) Non vitamin coenzymes
d) all of these

Q21. Which of the following ^{is} inorganic ion. ^{is not} acts as cofactor

- a) ~~Co~~ Mn. b) Mo c) Cu d) Biotin

Q22. Which of the following is non vitamin cofactor

- a) Mn b) Cu c) Thiamin d) Glutathione

~~Q23.~~

Coenzyme FAD related to B₂ vitamin is a coenzyme used in which type of chemical reaction.

- a) Transamination b) Carboxylation c) Oxidation reduction
- d) Group transfer

Q24. In carboxylation reactions which of the following cofactor is used.

- a) NAD⁺ b) Coenzyme A c) Pyridoxal phosphate
- d) Biotin

Q25. Which of the class of enzyme carry oxidation-reduction reactions.

- a) Oxidoreductases b) Isomerases c) Lyases d) Ligases

Q26. Which of the following class belongs to transfer of groups (functional) within a molecule

- a) Transferases b) Isomerases c) Ligases d) Hydrolases

Q27. $A-B + H_2O \rightarrow A-OH + B-H$ this reaction belongs to which class of enzyme.

- a) Transferases b) Isomerases c) Hydrolases d) Ligases

Q28. IUB means

- a) Indian university of Biology b) Indian unicode Bio
- c) International Union of Biochemistry d) Indian Union of Biology

Q29. In which classes the substrate breaking enzymes are present

- a) Isomerases b) Lyases c) Hydrolases d) Ligases

Q30. which class enzymes carry out joining of substrates

- a) Isomerase b) Lyases c) Hydrolases d) Ligases

Q31. which class of enzymes called as synthetases

- a) Isomerases b) Ligases c) Lyases d) Transferases

- Q32. What is the general equation of enzyme cataly
- a) $E + S \rightleftharpoons ES \rightarrow E + S$ b) $E + P \rightleftharpoons EP \rightarrow E +$
c) $E + S \rightleftharpoons EP \rightarrow E + P$ d) $E + S \rightleftharpoons ES \rightarrow E + P$

- Q33. In Enzyme kinetics $[]$ square bracket indicates
- a) concentration of substrate b) concentration of enzyme
c) concentration of product d) ~~None~~ all of these

- Q34. k_{cat} in enzyme kinetics means.
- a) substrate rate constant b) Product rate constant
c) Unimolecular rate constant d) None of these

- Q35. K_m is the _____

- a) V_{max} b) $1/2$ substrate concentration.
c) $1/2 V_{max}$ d) None of these. conc. of substrate at $1/2 V_{max}$

- Q36. V_{max} is the

- a) Velocity b) maximum velocity c) conc. of substrate
d) None of these

- Q37. V_0 means

- a) velocity b) maximum velocity c) Initial velocity
d) None of these

- Q38. Final equation of Michaelis - Menten model of enzyme kinetics is

- a) $V_0 = \frac{K_m + [S]}{[S] \cdot V_{max}}$ b) $V_0 = \frac{V_{max}[S]}{K_m + [S]}$ c) $V_{max} = \frac{V_0[S]}{K_m + [S]}$ d) None of these

- Q39. Organic nutrient molecules such as carbohydrates, lipids, proteins etc. are degraded to simple end products. Is called,

- a) Metabolism b) Catabolism c) Anabolism
d) None of these

40) EMP pathway is an anaerobic phase of respiration carried out by _____

- a) Prokaryotes b) Eukaryotes c) None d) ^{A & B.} ~~All of these~~

41) EMP pathway is related to _____ catabolism.

- a) Glucose b) Acetyl CoA c) Citric acid d) Sucrose

42) The first enzyme acts in EMP on Glucose is.

- a) Phosphofructokinase b) Endolase c) Hexokinase d) None

43) Oxidation of _____ involves removal of $2e^- + 2H^+$. The acceptor of hydrogen in the reaction is the coenzyme NAD which will form NADH.

- a) DHAP b) G3P c) 1,3-bisphosphoglycerate d) Pyruvic acid

44) Which of the following is the product of EMP pathway

- a) DHAP b) Glucose c) Fructose 6 phosphate d) Pyruvic acid

45) Net gain of ATP by substrate level phosphorylation

- a) 2 b) 4 c) 8 d) 32

46) Net ATP yield in EMP pathway

- a) 2 b) 4 c) 8 d) 32

47) Pyruvate is converted into acetyl CoA by the enzyme

- a) Endolase b) Pyruvate kinase c) Pyruvate dehydrogenase d) None of these

48) Oxaloacetate and Acetyl CoA combines to form _____

- a) ~~X~~ Ketoglutarate b) Citric acid c) Pyruvate d) ~~Aconit~~ Fumarate

49) Number of FADH form in TCA cycle

- a) 1 b) 2 c) 3 d) 4

50) Number of ATP molecules produced per acetyl CoA are

- a) 2 b) 8 c) 12 d) 32