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Subject Title: Bioenergetics, Biological Oxidations Prepared by: S. Thejaswi

Year: II

Semester: III

Updated on: 19-8-

Unit - I: BIOENERGETICS**Essay Questions**

1. Write about the structure, Types and functions of Cytochromes?
2. Write briefly about High energy Compounds and Free energy?
3. Define High energy compounds? Write about its classification with examples?

Short Questions

4. Substrate level phosphorylation
5. Phosphate Transfer potential
6. Exergonic & Endergonic reaction
7. Entropy & enthalpy

Unit - II: Biological Oxidation**Essay Questions**

8. Write about the Various complexes involved in electron transport chain?
9. Define oxidative phosphorylation? Explain the theories proposed for it?
10. Define photosynthesis? Write about the Cyclic and Non cyclic oxidation?

Short Questions

11. Uncouplers.
12. Standard redox potential & its Examples.
13. Formation Reactive oxygen Species.
14. Inhibitors of ETC
15. F_0-F_1 ATPase

Unit - III: Introduction To Enzymology:**Essay Questions**

16. Write about the nomenclature and the classification of Enzymes?
17. Explain the methods of Enzyme purification ?

18. Difference Between catalyst & Biocatalyst?
19. Explain the principles of activation & transition state? Write about the models of interaction between enzyme & substrate?

Short Questions

20. Active Site
21. Enzyme specificity
22. Coenzyme
23. Apo enzyme , Enzyme Units
24. Lock & Key Model

Unit - IV: Enzyme kinetics and Enzyme action

Essay Questions

25. Write about the mechanism of enzyme action?
26. Derive Michaelis –Menton Equation for single substrate reaction? Significance of K_m & V_{max}
27. Write about the types of enzyme inhibition with examples?
28. Define Allosterism? Explain the allosterism with example?
29. Write about the various factors affecting the catalysis?

Short Questions

30. Isoenzyme
31. Multi enzyme Complexes
32. Covalent modification of Enzymes
33. Zymogens Activation
34. Ribozyme