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Total Number of Pages : 01

M.TECH

AR-19

M.TECH 1ST SEMESTER EXAMINATIONS, NOV/DEC 2019

BIOTECHNOLOGY, MPCBT1010

BIOMOLECULES AND METABOLIC REGULATIONS

Time: 3 Hours

Max Marks : 70

The figures in the right hand margin indicate marks.

PART-A

(10 X 2=20 MARKS)

1. Answer the following questions.

- Write down the Beer's and Lamberts law?
- What are the forces stabilizes the tertiary structure of proteins?
- Write down the energy balance sheet of glycolysis?
- Define Q-cycle?
- Differentiate between De Novo and Salvage pathway?
- Which is acting as final electron acceptor in ETS? Write the mechanism?
- How Fatty acyl CoA can be transportes to mitochondria before initiation of fatty acid oxidation?
- How cGMP signaling controlling the Nitric oxides regulations?
- What is affinity chromatography?
- Write the objectives of HMP pathway?

PART-B

(5 X 10=50 MARKS)

Answer any five questions from the following.

- Explain the different covalent and non covalent forces acting on conformation and configuration of biomolecules? [10]
- Explain schematically with structures of various chemical changes in TCA cycle? [10]
- a) Write the Oxidative pathway of HMP with diagram? [5]
b) How ETS is occurring within mitochondria for transport of electron? Explain. [5]
- Write down the process of gluconeogenesis with steps and its importance? [10]
- a) Explain how glycogen is synthesized with its steps? [5]
b) Write down the De novo pathway of pyrimidine biosynthesis with steps? [5]
- Discuss different types of Senescence mechanisms in plants with regulations? [10]
- Explain the production of amino acids by microorganisms? [10]