M- 005M

# MBBS FIRST PROFESSIONAL EXAMINATION, 2019

## BIOCHEMISTRY

## Paper I

**Time Allowed: Three Hours** **Maximum Marks- 50**

**Note:-** Attempt all questions. Answer Part-I and Part-II in **separate** answer books. All part of a question should be answered together. Figures in parenthesis indicate marks allotted to a question.

### Part –I

**Q1.** Describe briefly different types of enzyme inhibitions with examples. **(5)**

**Q2.** Write the irreversible reactions in Glycolysis and mention their allosteric regulators. Write how these irreversible reactions are bypassed during Gluconeogenesis. **(5)**

**Q3.** How fatty acids are activated and transported across the inner mitochondrial membrane for β oxidation. Write how peroxisomal oxidation of fatty acids differs from β oxidation. **(5)**

**Q4.** Describe the catabolic fates of carbons and nitrogen of alanine. Mention the biochemical defect in Phenylketonuria. **(5)**

**Q5.** Describe the flow of electrons through complex IV of electron transport chain in the inner mitochondrial membrane leading to reduction of molecular oxygen to water. Name the harmful compounds generated on partial reduction of molecular oxygen. **(5)**

### Part –II

**Q1.** Justify why DNA is a better store of genetic informations than RNA. What is chimeric DNA **(5)**

**Q2.** What are the different complement pathways? List the various biological functions of complement. **(5)**

**Q3.** Describe the different phases of Xenobiotics metabolism. Justify with a suitable example, why metabolism of xenobiotics cannot be called detoxification mechanisms. **(5)**

**Q4.** Schematically present the events of cyclic AMP cascade of reactions starting with glucagon as the triggering hormone. Write why calcium qualifies as a second messenger from among the rest of the divalent cations. **(5)**

**Q5.** Name the different agents promoting carcinogenesis. Write a note on Xeroderma Pigmentosum. **(5)**