

INDIRA UNIVERSITY, PUNE

SCHOOL OF PHARMACY- PHARM D

Term End Examination (2025 Pattern) April- May – 2026- First Year

Course Name: Medicinal Biochemistry
Course Code: 1.3

Max. Marks: 70
Time: 3:00 Hrs.

Instructions

- All Questions are Compulsory. Write two sections on separate answer sheets.
 - Neat diagram must be drawn wherever necessary.
 - Figures to the right indicate full marks.
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Section : I

Q.1. What is lipid metabolism and discuss β -oxidation in detail with net energy calculation? **(10 Marks)**

OR

Q.1. Discuss the Urea cycle and the metabolic disorders related to Urea Cycle. Add a note on Urea clearance test. **(10 Marks)**

Q.2. Solve any five **(15 Marks)**

- a) What is Line-Weaver Burk plot? Give its significance.
- b) Enlist and explain metabolic disorders of carbohydrate metabolism.
- c) Explain the hormonal regulation of lipid metabolism.
- d) Discuss uncouplers of ETC.
- e) Explain transamination with examples.
- f) Explain Transcription process and its importance.
- g) Explain the abnormalities related to purine metabolism and its treatment.

Q.3. Write shorts on any two **(10 Marks)**

- a) Enlist IUB classification of enzymes and explain therapeutic and diagnostic applications of enzymes.
- b) Explain Citric acid cycle (TCA cycle) with net energy calculation.
- c) Explain the fatty acid biosynthesis.
- d) Discuss ETC cycle.

Section : II

Q.4. Enlist various kidney function tests. Elaborate on various tests for kidney function. **(10 Marks)**

OR

Q.4. Discuss structural components of DNA. Explain the DNA replication. Add note of the point shift mutation. **(10 Marks)**

Q.5. Solve any five **(15 Marks)**

- a) Explain Quantitative and semi quantitative tests of urine analysis.
- b) Write a note on hepatic dysfunction test.
- c) Write a note on RIA & Applications
- d) Compare the distribution of electrolytes in ECF and ICF and its balance in body.
- e) Draw a diagram of cell. Explain its composition and malfunction.
- f) Discuss metabolic disorder of amino acids.
- g) Explain urinary tract calculi.

Q.6. Write shorts on any two **(10 Marks)**

- a) Discuss biosynthesis of pyrimidine nucleotides and give inhibitors of pyrimidine biosynthesis.
- b) Discuss Amino acid metabolism.
- c) Elaborate ELISA technique with advantages and disadvantages.
- d) Write a note on water balance.
