

Question Paper

Exam Date & Time: 07-Jul-2023 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (MEDICAL BIOTECHNOLOGY / MOLECULAR BIOLOGY AND HUMAN GENETICS / SYSTEMS BIOLOGY / GENOME ENGINEERING / TISSUE ENGINEERING) DEGREE EXAMINATION - JULY 2023
SUBJECT: MBT 503/MBH 503/MSB 501/MGE 503/MTE 503 - BIOMOLECULES
(OBE - 2021 REGULATION)

Marks: 70

Duration: 180 mins.

Answer all the questions.

Essays:

- 1) Explain TCA cycle. Describe its amphibolic nature and calculate the energetics. (14)
2) Describe beta-oxidation process in detail. Explain fatty acid synthase complex. (14)

3) Short essays:

- 3A) Explain the metabolism of Glycine. Write a note on important products formed from it. (7)
3B) Explain the factors which regulate the normal serum calcium level. (7)
4A) Describe the structure of heme. What is porphyria? Explain its characteristic features and symptoms. (7)
4B) What are the functions of Vitamin A? Explain Wald's visual cycle. (7)

5) Short notes:

- 5A) Uncouplers of electron transport chain. (3.5)
5B) Dietary fibers (3.5)
5C) Anion gap (3.5)
5D) Bence-Jones proteins (3.5)

-----End-----