

UKA TARSADIA UNIVERSITY

B.Pharm. (4th Semester)

Subject :030020403-Pharmaceutical Biochemistry

Time : 10 am to 1 pm

Duration : 3 Hours

Date : 24/05/2014

Max. Marks : 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

SECTION - 1

Q-1 (A) Define following terms.

[07]

- I) Isozymes
- II) Apoptosis
- III) Coenzyme
- IV) Minerals
- V) Vitamers
- VI) Epimers
- VII) Mutarotation

Q-1 (B) Write biochemical functions of following in brief. (Any 4)

[08]

- I) Pantothenic acid
- II) Potassium
- III) Thiamine
- IV) Iron
- V) Ascorbic acid
- VI) Phosphorus

Q-2 Answer the following.

[10]

- A) Discuss the factors affecting enzyme activity in detail.

OR

- A) Describe the electron transport chain and discuss the oxidation of NADH.
B) Describe the hexose monophosphate shunt and explain its significance.

OR

- B) Discuss the citric acid cycle with its energetics.

Q-3 Write a detailed note on following. (Any 2)

[10]

- A) Enzyme inhibition
- B) Gluconeogenesis
- C) Oxidative phosphorylation

SECTION - 2

Q-4 (A) Write the functions of following enzymes in DNA replication of prokaryotes/eukaryotes. [07]

- I) DNA polymerase III
- II) DNA ligase
- III) DNA polymerase α
- IV) DNA gyrase
- V) Telomerase
- VI) Primase
- VII) Topoisomerase

Q-4 (B) Explain following terms. (Any 4) [08]

- I) Reverse transcription
- II) Nonsense mutation
- III) Transposition
- IV) Okazaki pieces
- V) Supercoils
- VI) Transamination

Q-5 Answer the following. [10]

- A) Explain the term lipids. Classify them with examples and write their general biochemical functions.

OR

- A) Give a brief account of biosynthesis and degradation of cholesterol.
B) Write a detailed note on metabolism of ammonia.

OR

- B) Explain the reactions, energetics and regulation of Urea cycle.

Q-6 Write a detailed note on following. (Any 2) [10]

- A) DNA recombination
- B) Biosynthesis of purine ribonucleotides
- C) Biosynthesis of porphyrin