TOTAL PAGES : 2

22BCU520

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Fifth Semester)

Branch – **BIOCHEMISTRY**

INTERMEDIARY METABOLISM

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1 In metabolism, NAD is involved in _____
i) Spontaneous reaction ii) Elimination reaction
iii) Redox reactions iv) None of the mentioned

2 Which of the following is an important end product of disassembly of fatty acids?
i) Acetyl CoA ii) Succinate dehydrogenase
iii) Pyruvate iv) DNA gyrase

3 Which of these are rare amino acid in a protein?
i) Leucine and serine
ii) Lysine and glutamic acid
iii) Tryptophan and methionine
iv) Leucine and lysine

4 Which of the following pathway is not used for triacylglycerol synthesis?
i) Glycerol 3-phosphate pathway ii) Glyoxylate pathway
iii) Monoacylglycerol pathway iv) Kennedy pathway

5 What is the final product of purine degradation in mammals?
i) Guanine ii) Inosine
iii) Uric acid iv) Hypoxanthine

SECTION - B (35 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 X 3 = 15)

6. a. Describe the concept of excergonic reaction.
OR
b. Elucidate the advantages of high energy compound.

7 a. Describe the pathway of Rapaport –Leubering cycle and its significance.
OR
b. Enumerate the significance of glycogen metabolism.

8 a. Describe the formation of bile acids.
OR
b. Compare the beta and omega oxidation of fatty acids.

9 a. Evaluate the biosynthesis of tyrosine.
OR
b. Explain the oxidative deamination process.

10 a. Describe the biological methylation process.
OR
b. Mention the inhibitors of pyrimidine metabolism.

Cont...

SECTION - C (30 Marks)

Answer any **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 6 = 30)

11. a. Discuss the advantages and disadvantages of mitochondrial shuttle system.

OR

b. Describe the mechanism of electron transport chain system.

12. a. Describe the gluconeogenesis pathway and its significance.

OR

b. Overview the pathway of citric acid cycle.

13. a. Write a note on ketone body formation.

OR

b. Mention the biosynthesis of fatty acid in cytosol.

14. a. Write a note on decarcoxylation process.

OR

b. Discuss the metabolism of glycine.

15. a. Describe the role of inhibitors of purine metabolism.

OR

b. Discuss the basic principle and procedure of purine metabolism.

Z-Z-Z END