

Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2021

Career Related First Degree Programme under CBCSS

2(a) – Biochemistry and Industrial Microbiology

Core Course VI :

IM 1541 – METABOLISM I

(2016 and 2017 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer all questions in a word or to a maximum of 2 sentences. Each carries 1 mark.

1. Which is the only pathway that takes place in all the cells of our body?
2. Name the two sites of gluconeogenesis.
3. Which enzyme is deficient in Von Gierke's disease?
4. Name the protein which acts as a primer for glycogen synthesis.
5. What is the action of glucagon on glycogen metabolism?
6. In which part of the cell beta oxidation occurs?
7. Name the molecule used for the transport of fatty acids into mitochondria.

8. Which vitamin is required for the action of acetylCoA carboxylase?
9. Name the most predominant ketone body.
10. Name two compounds formed from cholesterol.

(10 × 1 = 10 Marks)

#### SECTION – B

Answer any eight questions in a paragraph. Each carries 2 marks.

11. Hexokinase
12. Anaplerotic reaction
13. Glycogen phosphorylase
14. Cori cycle
15. Refsum's disease
16. Fructose 2,6 bis phosphate
17. Sources of acetyl CoA
18. ACP
19. Ketonuria
20. Sex hormones
21. HMG CoA reductase
22. Primary bile acids

(8 × 2 = 16 Marks)

### SECTION – C

Write short essays on **any six** of the following. Each carries **4** marks

23. Reactions of glycolysis and net ATP production.
24. HMP shunt and its importance.
25. Prostaglandins.
26. Gluconeogenesis.
27. Regulation of phosphofructokinase.
28. Beta oxidation pathway.
29. De novo synthesis of palmitic acid.
30. Metabolism of galactose.
31. Biosynthesis of phospholipids

**(6 × 4 = 24 Marks)**

### SECTION – D

Write essay on **any two**. Each carries **15** marks.

32. Glycogen metabolism and its regulation.
33. Catabolism of cholesterol.
34. Cholesterol biosynthesis and its regulation.
35. TCA cycle and its significance.

**(2 × 15 = 30 Marks)**