Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641043
Bachelor's Degree Examination – November 2017

III Semester

Class : II UG **Time :3 Hrs**
Major : Biochemistry and Biotechnology **Max.Marks :100**

15BBCC05 Intermediary Metabolism - I

Part – A **10x1=10**
Choose the correct answer

1. In glycolysis, ultimately ----------
   a. Fructose is converted into glucose
   b. Protein is converted into glucose
   c. Glucose is converted into pyruvic acid
   d. Starch is converted into glucose

2. TCA cycle takes place in ----------
   a. Cytosol b. Mitochondria
   c. Endoplasmic reticulum d. Nucleus

3. Degradation of stored glycogen
   a. Glycogenesis b. Glycolysis
   c. Gluconeogenesis d. Glycogenolysis

4. HMP shunt generates ----------
   a. NADPH b. ATP
   c. GTP d. FADP

5. Fatty acid is oxidised to ----------
   a. pyruvate b. CO_2 & H_2O
   c. H_2O d. Lactate

6. ---------- is a transport protein that transfers Acyl CoA from cytosol to mitochondria.
   a. Glycogenin b. Carnation
   c. Carnitidine d. Carnitine

7. ---------- is a multienzyme complex involved in fatty acid biosynthesis.
   a. Fatty acid synthase b. Fatty acid oxidase
   c. Acetyl CoA carboxylase d. Thioesterase

8. Which of the following is a essential fatty acid ----------
   a. Palmitic acid b. Stearic acid
   c. Linoleic acid d. All the above

9. Histidine is deaminated to ----------
   a. Pyruvate b. Uroconate
   c. Alanine d. Keto acids

10. Pyruvate is converted to ---------- in transamination.
    a. Alanine b. Lysine
    c. Glycerol d. Proline

Part – B 5x6=30

Answer the following

Answer should not exceed 400 words or two pages

11. a. Write a note on fructose metabolism.

(or)

11. b. Explain Glyoxalate cycle.

12. a. Write short notes on glycogenesis.

(or)

12. b. Briefly explain Glucoronic acid pathway.

13. a. Discuss about $\propto$ - oxidation & β - oxidation.

(or)

13. b. Give the difference between $\propto$ - oxidation & β – oxidation.

14. a. Give a note on synthesis of unsaturated fatty acid.

(or)

14. b. Briefly explain fatty acid chain elongation.

15. a. Write short notes on catabolism of proteins.

(or)

15. b. Discuss about Decarboxylation with suitable examples.

Part – C 5x12=60

Answer the following

Answer should not exceed 800 words or 4 pages

16. a. Discuss about TCA cycle.

(or)

16. b. Explain in detail the Glycolysis pathway.

17. a. Elaborately explain the steps involved in Gluconeogenesis.

(or)

17. b. Explain in detail the HMP shunt and its significance.

18. a. Describe in detail the oxidation of odd and even carbon fatty acids.

(or)

18. b. Elaborately explain the oxidation of unsaturated fatty acid.

19. a. Discuss in detail the synthesis of saturated fatty acid.

(or)

19. b. Write in detail the synthesis of Essential fatty acid.

20. a. Elaborate urea cycle with suitable diagrams.

(or)

20. b. Explain Transamination & deamination with suitable reactions.