

**SSR Degree College Autonomous**  
**Faculty of Science**  
**Department of Nutrition**  
**PG Semester-1, Paper-2**  
**Subject: Nutritional Biochemistry**  
**Internal-1 Question Bank**

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**SECTION – A: MULTIPLE CHOICE QUESTIONS**

1. Glycolysis takes place in the  
a) Nucleus b) Cytoplasm c) Mitochondria d) Golgi body → **Ans: b**
2. The enzyme converting pyruvate to acetyl-CoA is  
a) Aldolase b) Pyruvate dehydrogenase c) Hexokinase d) Mutase → **Ans: b**
3. The first committed step of glycolysis is catalysed by  
a) PFK b) Pyruvate kinase c) Enolase d) Lactate dehydrogenase → **Ans: a**
4. The main storage form of carbohydrate in humans is  
a) Starch b) Cellulose c) Glycogen d) Glucose → **Ans: c**
5. The Cori cycle occurs between muscle and  
a) Kidney b) Liver c) Heart d) Brain → **Ans: b**
6. Gluconeogenesis mainly occurs in the  
a) Brain b) Liver c) Heart d) Muscle → **Ans: b**
7. Which hormone raises blood glucose?  
a) Insulin b) Glucagon c) Thyroxine d) Estrogen → **Ans: b**
8. Alcohol metabolism occurs mainly in the  
a) Liver b) Stomach c) Brain d) Intestine → **Ans: a**
9. TCA cycle occurs in the  
a) Cytosol b) Mitochondrial matrix c) Ribosome d) ER → **Ans: b**
10.  $\text{FADH}_2$  is produced in the TCA cycle by  
a) Citrate synthase b) Succinate dehydrogenase c) Isocitrate dehydrogenase  
d) Malate dehydrogenase → **Ans: b**
11. Amino acids are the building blocks of  
a) Lipids b) Proteins c) Nucleic acids d) Vitamins → **Ans: b**
12. Protein digestion starts in the  
a) Mouth b) Stomach c) Intestine d) Colon → **Ans: b**
13. Peptide bond is a  
a) Hydrogen bond b) Ionic bond c) Covalent bond d) Mixed bond → **Ans: c**

14. Unfolding of proteins is known as  
a) Hydrolysis b) Denaturation c) Condensation d) Deamination → **Ans: b**

15. The sugar in DNA is  
a) Ribose b) Deoxyribose c) Glucose d) Fructose → **Ans: b**

16. The sugar in RNA is  
a) Ribose b) Deoxyribose c) Xylose d) Mannose → **Ans: a**

17. The enzyme that unwinds DNA is  
a) Ligase b) Helicase c) Polymerase d) Synthase → **Ans: b**

18. The start codon for protein synthesis is  
a) UAA b) UAG c) AUG d) UGA → **Ans: c**

19. RNA is generally  
a) Double-stranded b) Single-stranded c) Triple-stranded d) Circular → **Ans: b**

20. Most amino acid catabolism occurs in the  
a) Kidney b) Blood c) Liver d) Brain → **Ans: c**

## **SECTION – B: FILL IN THE BLANKS**

1. Glycolysis occurs in the cytoplasm.

2. Pyruvate is converted to acetyl-CoA by pyruvate dehydrogenase.

3. The Cori cycle operates between muscle and liver.

4. The committed step of glycolysis is catalysed by phosphofructokinase (PFK).

5. The storage form of carbohydrate in animals is glycogen.

6. Gluconeogenesis mainly takes place in the liver.

7. The hormone that increases blood glucose is glucagon.

8. Alcohol metabolism primarily occurs in the liver.

9. The TCA cycle takes place in the mitochondrial matrix.

10.  $\text{FADH}_2$  in the TCA cycle is produced by succinate dehydrogenase.

11. Amino acids contain a carboxyl group and an amino group.

12. Protein digestion begins in the stomach.

13. The unfolding of proteins is called denaturation.

14. The sugar present in DNA is deoxyribose.

15. The sugar present in RNA is ribose.

16. The base present in RNA but absent in DNA is uracil.

17. DNA unwinding is done by the enzyme **helicase**.

18. The start codon in protein synthesis is **AUG**.

19. RNA is generally **single**-stranded.

20. Most amino acid metabolism occurs in the **liver**.

### **SECTION – C: DESCRIPTIVE QUESTIONS**

1. Describe glycolysis with steps, enzymes, and ATP yield.
2. Explain the TCA cycle in detail and write its significance.
3. Explain Amino acid classification and functions.
4. Describe the structure of DNA and differentiate it from RNA.