

Roll No.....

**P. G. Diploma in Bioinformatics**  
**Annual Examination – 2010**  
**Biochemistry**  
**PBID – 105**

Time allowed : 2½ Hours

Max Marks:70

**Section – I**

Attempt all questions. Each question carries one(1) mark.

Fill in the blanks:

[1x10]

1. Conversion of glucose to pyruvate is known as \_\_\_\_\_.
2. Lignin is a \_\_\_\_\_ polysaccharide.
3. D glucose and D glucose exhibit same \_\_\_\_\_ properties.
4. Oligosaccharide chains have \_\_\_\_\_ directionality.
5. Melanocytes are responsible for producing \_\_\_\_\_.
6. Glycine is a \_\_\_\_\_ amino acid.
7. Naturally occurring amino acids are of \_\_\_\_\_ form.
8. Proline is a \_\_\_\_\_ amino acid.
9. Cytochrome oxidase is also known as \_\_\_\_\_.
10. General formula of carbohydrates is \_\_\_\_\_.

**Section – II**

Answer any six of the following:

[6 x 5 = 30]

1. What are anomers and epimers. Explain giving one example.
2. Give complete classification, functions and characteristic properties of carbohydrates.
3. Differentiate between essential and non essential amino acids.  
What are semi-essential amino acids?
4. Write a note on inborn errors of metabolism.
5. Briefly discuss the synthesis of clinically relevant prostaglandins.
6. Name at least two physiologically relevant fatty acids and their functions.
7. Write short notes on the following: (a) Triglycerides (b) Phospholipids.
8. What are essential and non essential fatty acids. Explain.

**Section – C**

Answer any THREE questions of the following

[3 x 10 = 30]

1. Give a detailed account of the regulation of the TCA cycle.
2. Explain what are lipoproteins. Give their biological role.
3. Indicate the energy consuming and energy generation steps in the glycolytic sequence.
4. Describe in detail hereditary orotic aciduria.
5. Give detailed structure and function of structural carbohydrates.

