

Total number of printed pages-4

34 (1) BIOC 1·3

2018

BIOCHEMISTRY

Full Marks : 80

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

GROUP - A

*Answer **any two** questions :* 2×10

1. What do you mean by glycolysis ? Explain the various steps involved in the process of glycolysis.
2. Explain Chargaff rule. How this rule is related with secondary structure of DNA ? Draw and explain the secondary structure of DNA.
3. What do you mean by deglutition ? Explain how carbohydrates and proteins are digested and absorbed in human alimentary canal.

Contd.

GROUP - B

Answer **any eight** questions : 5×8

1. Write the differences between eukaryotic cell and prokaryotic cell.
2. What is Diabetes mellitus? Explain the hormonal regulation of glucose in human body.
3. What are bile pigments? Explain the role of liver in digestion of food in human gut.
4. What is the role of mucus membrane of stomach? Describe the role of *HCl* in digestion.
5. What do you mean by hormones? What are the different classes of hormones?
6. Write the important structural and functional differences between DNA and RNA.
7. A certain buffer solution is made by mixing of CH_3COOH and CH_3COONa in water. With the help of equations, explain how this buffer neutralizes addition of small amount of acid or a base.

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8. What are essential and non-essential amino acids? Give *two* examples of each type.
9. Write the structure of glycine and alanine. How many dipeptides can be made from them? Write their structures.
10. What are the roles of *Mg* and *Fe* in our body?

GROUP - C

2×10=20

1. Define Glycogenolysis and Gluconeogenesis.
2. Why mitochondria is called powerhouse of the cell?
3. What do you mean by Respiratory quotient?
4. Why plasma membrane is called as selectively semipermeable membrane?
5. What do you mean by lipoprotein?
6. What do you mean by ionic product of water?
7. What are the deficiency syndrome of Vitamin-A and Vitamin-C in our body?
8. What do you mean by epimer and anomer?

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Contd.

9. What do you understand by the terms

(a) Peptide linkage

(b) Zwitterion ?

10. Classify the following into monosaccharides and disaccharides :

Ribose, Maltose, fructose and Lactose.