

Biomolecules

Set – 1

Table 14.1: Different Types of Monosaccharides

Carbon atoms	General term	Aldehyde	Ketone
3	Triose	Aldotriose	Ketotriose
4	Tetrose	Aldotetrose	Ketotetrose
5	Pentose	Aldopentose	Ketopentose
6	Hexose	Aldohexose	Ketohexose
7	Heptose	Aldoheptose	Ketoheptose

Q1. Aldehyde monosaccharides with 7 C-atoms is known as:

- A. Aldohexose
- B. Aldoheptose
- C. Aldotetrose
- D. Aldopentose

Ans. (B)

Q2. No of C-atoms in ketotriose:

- A. 3
- B. 4
- C. 5
- D. 6

Ans. (A)

Q3. Ketone monosaccharides with 5 C-atoms is known as:

- A. Ketotriose
- B. Ketotetrose
- C. Ketopentose
- D. ketohexose



Ans. (C)

Q4. No of C-atoms in Aldotetrose:

- A. 8
- B. 2
- C. 6
- D. 4

Ans. (D)

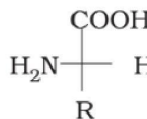
Q5. Which of the following is incorrect about glucose?

- A. It is a monosaccharide
- B. It is also known as dextrose
- C. It has 6C-atoms
- D. It is a Ketohexose

Ans. (D)

Set – 2

Table 14.2: Natural Amino Acids



Name of the amino acids	Characteristic feature of side chain, R	Three letter symbol	One letter code
1. Glycine	H	Gly	G
2. Alanine	- CH ₃	Ala	A
3. Valine*	(H ₃ C) ₂ CH-	Val	V
4. Leucine*	(H ₃ C) ₂ CH-CH ₂ -	Leu	L

Q1. Which of the following doesn't contain phenyl group in it?

- A. Tryptophan
- B. Histidine
- C. Phenylalanine
- D. Tyrosine

Ans. (B)



Q2. Which of the following contains Nitrogen in it?

- A. Asparagine
- B. Aspartic acid
- C. Methionine
- D. Cysteine

Ans. (A)

Q3. No of C-atoms present in the side chain of Isoleucine?

- A. 2
- B. 3
- C. 4
- D. 5

Ans. (C)

Q4. Which of the following is chiral?

- A. Alanine
- B. Valine
- C. Leucine
- D. Isoleucine

Ans. (D)

Q5. No. of N atoms present in Arginine?

- A. 1
- B. 2
- C. 3
- D. 4

Ans. (C)

Q6. Which of the following contains sulphur in it?

- A. Cysteine
- B. Serine
- C. Threonine
- D. Glutamine



Ans. (A)

Set – 3

Table 14.3: Some important Vitamins, their Sources and their Deficiency Diseases

Sl. No.	Name of Vitamins	Sources	Deficiency diseases
1.	Vitamin A	Fish liver oil, carrots, butter and milk	Xerophthalmia (hardening of cornea of eye) Night blindness
2.	Vitamin B ₁ (Thiamine)	Yeast, milk, green vegetables and cereals	Beri beri (loss of appetite, retarded growth)
3.	Vitamin B ₂ (Riboflavin)	Milk, eggwhite, liver, kidney	Cheilosis (fissuring at corners of mouth and lips), digestive disorders and burning sensation of the skin.
4.	Vitamin B ₆ (Pyridoxine)	Yeast, milk, egg yolk, cereals and grams	Convulsions
5.	Vitamin B ₁₂	Meat, fish, egg and curd	Pernicious anaemia (RBC deficient in haemoglobin)
6.	Vitamin C (Ascorbic acid)	Citrus fruits, amla and green leafy vegetables	Scurvy (bleeding gums)
7.	Vitamin D	Exposure to sunlight, fish and egg yolk	Rickets (bone deformities in children) and osteomalacia (soft bones and joint pain in adults)

Q1. Which of the following is also known as thiamine?

- A. Vitamin B₁
- B. Vitamin B₂
- C. Vitamin B₆
- D. Vitamin B₁₂

Ans. (A)

Q2. Vitamin B₂ is also known as:

- A. Thiamine



- B. Riboflavin
- C. Pyridoxine
- D. Ascorbic acid

Ans. (B)

Q3. Xerophthalmia is caused by the deficiency of:

- A. Vitamin B₁
- B. Vitamin C
- C. Vitamin D
- D. Vitamin A

Ans. (D)

Q4. Deficiency of Vitamin D Leads to which of the following diseases?

- A. Beriberi
- B. Scurvy
- C. Osteo-malacia
- D. Rickets

Ans. (C)

Q5. Which of the following helps in decreasing blood clotting time?

- A. Vitamin E
- B. Vitamin K
- C. Vitamin A
- D. Vitamin C

Ans. (B)

Q6. Which of the following is also known as Pyridoxine?

- A. Vitamin B₁
- B. Vitamin B₂
- C. Vitamin B₆
- D. Vitamin B₁₂

Ans. (C)

Q7. Which of the following is the rich source of ascorbic acid?



- A. Butter
- B. Meat
- C. Fish liver oil
- D. Amla

Ans. (D)

Q8. Pernicious anaemia is caused by the deficiency of:

- A. Vitamin B₆
- B. Vitamin B₁₂
- C. Vitamin B₂
- D. Vitamin B₁

Ans. (B)

Set – 4

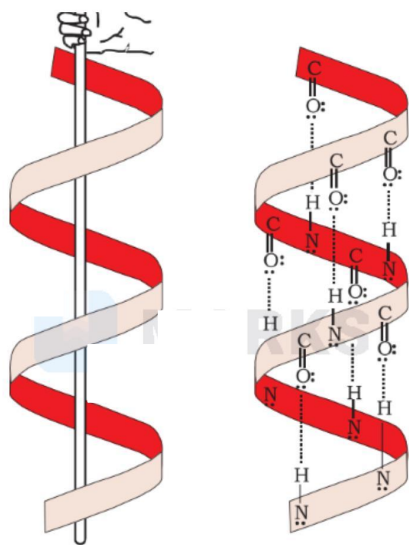


Fig. 14.1: α -Helix structure of proteins

Q1. - helix structure is which type of protein?

- A. Primary
- B. Secondary
- C. Tertiary
- D. Quaternary



Ans. (B)

Q2. In secondary proteins H-bonding occurs between :

- A. CO and CO
- B. NH and NH
- C. CO and NH
- D. None of these

Ans. (C)

Q3. In which proteins all peptide bonds are stretched to maximum?

- A. β - sheets
- B. α - helix
- C. Fibrous proteins
- D. Globular proteins

Ans. (A)

Q4. β - sheets structure is which type of protein?

- A. Primary
- B. Secondary
- C. Tertiary
- D. Quaternary

Ans. (B)

