

# 15. BIOMOLECULES

## PREVIOUS EAMCET BITS

1. **How many tripeptides can be prepared by linking the amino acids glycine, alanine and phenyl alanine?** (2009 E)

- 1) One                                      2) Three                                      3) Six                                      4) Twelve

Ans : 3

Sol: Ala – gly – Ala                                      Ala – phe – Ala                                      gly – phe gly  
gly – Ala gly                                      phe – Ala - Phe                                      phe – gly- phe

2. **A codon has a sequence of A, and specifies a particular B that is to be incorporated into a C. What are A, B, C?** (2009 E)

- |            |              |              |
|------------|--------------|--------------|
| A          | B            | C            |
| 1) 3 bases | amino acid   | carbohydrate |
| 2) 3 acids | carbohydrate | protein      |
| 3) 3 bases | protein      | amino acid   |
| 4) 3 bases | amino acid   | protein      |

Ans : 4

Sol:  $\frac{3\text{bases}}{A}$  specifies a particular  $\frac{\text{a min o acid}}{B}$  that is to be incorporated into  $\frac{\text{protein}}{C}$

3. **Which one of the following statements is not true for glucose?** (2009 M)

- 1)  $\alpha$ -D (+) glucose undergoes mutarotation
- 2) It has four asymmetric carbons in Fischer projection formula
- 3) It gives saccharic acid with Tollen's reagent
- 4) It reacts with hydroxyl amine

Ans : 3

Sol: Tollen's reagent is a mild oxidizing agent. It gives gluconic acid with glucose.

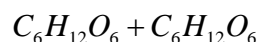
4. **Hydrolysis of sucrose with dilute aqueous sulfuric acid yields** [2008 E]

1. 1:1D (+) – glucose; D –(–) fructose
2. 1:2D – (+) glucose; D –(–) fructose
3. 1:1D – (-)glucose; D –(+ ) fructose
4. 1:2D – (-)glucose; D –(+ ) –fructose

Ans : 1

Sol:  $C_{12}H_{22}O_{11} + H_2O \xrightarrow{\text{dil } H_2SO_4}$

Sucrose



D(+ ) glucose D(-) fructose

5. **Match the following** [2008 M]

List I  
(Vitamins

- A. B<sub>1</sub>
- B. B<sub>2</sub>
- C. B<sub>3</sub>
- D. B<sub>5</sub>

The correct match is

- |        |    |     |    |       |     |    |     |
|--------|----|-----|----|-------|-----|----|-----|
| A      | B  | C   | D  | A     | B   | C  | D   |
| 1) iv  | i  | iii | ii | 2) iv | iii | i  | ii  |
| 3) iii | iv | ii  | i  | 4) iv | i   | ii | iii |

List II

- i. Riboflavin
- ii. Pantothenic acid
- iii. Niacin
- iv. Thiamine

Ans:4

Sol: A) B<sub>1</sub>- Thiamin                                      A-(iv)  
B) B<sub>2</sub> – Riboflavin                                      B-(i)  
C) B<sub>3</sub> – pantothenic acid                                      C – (ii)  
D) B<sub>5</sub> – Niacin                                      D- (iii)

6. **Which of the following biomolecules acts as specific catalysts in biological reactions?** (2007 E)

- 1) Carbohydrates                                      2) Lipids                                      3) Vitamins                                      4) Enzymes

Ans : 4

Sol : Enzymes are specific catalysts in biological reactions.

7. **A mixture of amylase and amylopectin is called** (2007 M)  
1) Lactose                      2) Starch                      3) Cellulose                      4) Sucrose

Ans : 2

Sol: Starch is a mixture of amylase and amylopectin.

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