	INDIAN SCHOOL AL WADI AL KABIR	
Class: XI	**Department: SCIENCE 2021 – 22** **SUBJECT: BIOLOGY**	**Date of submission: 10.06.2021**
Worksheet: 3 WITH ANS.	**CHAPTER: BIOMOLECULES**	**Note:** **A4 FILE FORMAT**
NAME OF THE STUDENT	**CLASS & SEC:**	**ROLL NO.**

ONE MARK QUESTIONS

1. What do you mean by a prosthetic group?

2. When a compound closely resembles the substrate and inhibits the enzyme activity, that compound is known as …..

3. Give the components of Adenosine

4. Name any two biomacromolecules which are formed with the help of glycosidic bond

5. Give an example for a heteropolymer

2 MARKS QUESTIONS

1. How does temperature affect an enzyme catalyzed reaction?
2. What is the difference between nucleotide and nucleoside? Give one example of each.
3. What are nucleotides? Describe their structure.
4. What is holoenzyme?
5. In how many groups does polysaccharides classified?
6. How do proteins act as carrier proteins?
7. Why ATP is known as the energy currency of the cell?

3 MARKS QUESTIONS

1. What is competitive inhibition of enzyme? How is it different from non-competitive inhibition?
2. Mention any three differences between DNA and RNA.
3. Differentiate between anabolic and catabolic pathways. How are the pathways regulated?
4. What are co-enzymes? How do nucleotides form co-enzymes?
5. Explain the different types of proteins.
6. What is the importance of secondary metabolites?

4 MARKS QUESTIONS

1. Describe the structure of DNA as proposed by Watson and Crick.
2. Give a description about the nature and types of bonds present in biomolecules

HINTS AND ANSWER KEY

1 MARK QUESTIONS

1. **The organic compounds that are tightly bound to apoenzyme are known as prosthetic group**
2. **Competitive inhibitor**
3. **Adenine and ribose/deoxyribose sugar**
4. **Polysaccharides and nucleic acids**
5. **Chitin**

2 MARKS QUESTIONS

1. **(Hints: Mention about optimum temperature, high temperature – denaturation of proteins)**
2. **(Hints: Mention the difference in the chemical components, examples for each)**
3. **(Hints: Mention the three chemical components, explain the bond)**
4. **(Hints: Apoenzyme and co factor)**
5. **(Hints: Mention about homopolysaccharides and heteropolysaccharides)**
6. **(Hints: Helps in the transport of substances to cross plasma membrane)**
7. **(Hints: Energy is stored in the form of ATP and when needed can liberate energy by the breakdown of the bond)**

3 MARKS QUESTIONS

1. **(Hints: Nature of competitive inhibitor – structurally similar to substrate, binding to active site, non-competitive inhibitor – dissimilar, binds a site other than active site)**
2. **(Hints: Mention the differences in sugar – ribose and deoxyribose, nitrogen base – thymine in DNA and uracil in RNA, RNA –single stranded and DNA – double stranded)**
3. **(Hints: Definition of anabolism and catabolism, energy release or utilization, regulation by enzymes)**
4. **(Hints: Type of co-factor, non-protein part, examples)**
5. **(Hints: Explain about primary, secondary, tertiary and quaternary structures)**
6. **(Hints: Mention about secondary metabolites, examples and their economic importance)**

5 MARKS QUESTIONS

1. **(Hints: Mention about nitrogen base, sugar and phosphate group, nucleoside and nucleotide formation, nature of bonds, number of base pairs, length of DNA, antiparallel, complementary nature)**
2. **(Hints: mention the nature of bonds in proteins, polysaccharides and nucleic acids)**

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