INDIAN SCHOOL AL WADI AL KABIR

Class: XI	Department: SCIENCE 2020 -2021 SUBEJCT : BIOLOGY		Date of submissions 30.08.2020
Worksheet: 6 WITH ANSWERS	СНАРТЕ	R: BIOMOLECULES	Note: A4 FILE FORMAT
NAME OF THE ST	UDENT	CLASS & SEC:	ROLL NO.

	MIC	LTIPLE CHOICE QUESTIONS		
1.	The organic compounds that are tightly bound to apoenzyme are known as			
	(a) Co – factors	(b) Holoenzyme		
	(c) Prosthetic group	(d) Co-enzyme	(Ans. c)	
	When a compound closely at compound is known as	resembles the substrate and inhibits the	enzyme activity,	
	(a) Competitive inhibitor	(b) Non-competitive inhibitor		
	(c) Oxido-reductase	(d) Both (a) and (b)	(Ans. a)	

- 3. A nucleoside is made up of:
 - (a) Pentose sugar, nitrogen base and phosphate group
 - (b) Pentose sugar and phosphate group
 - (c) Pentose sugar and nitrogen base
 - (d) Ribose sugar, nitrogen base and phosphate group (Ans. c)
- 4. Identify the incorrect statement from the following in relation with Glycosidic bond
 - (a) It is present in a polysaccharide
 - (b) It links two nucleotides in DNA
 - (c) It is formed by dehydration
 - (d) None of these (**Ans. b**)

- 5. Identify the heteropolymer from the following
 - (a) Cellulose
- (b) Inulin

(c) Starch

(d) Chitin

(Ans. d)

2 MARKS QUESTIONS

1. How does temperature affect an enzyme catalyzed reaction?

(Hints: Mention about optimum temperature, high temperature – denaturation of proteins)

2. What is the difference between nucleotide and nucleoside? Give one example of each.

(Hints: Mention the difference in the chemical components, examples for each)

3. What are nucleotides? Describe their structure.

(Hints: Mention the three chemical components, explain the bond)

4. What is holoenzyme?

(Hints: Apoenzyme and co factor)

5. In how many groups does polysaccharides classified?

(Hints: Mention about homopolysaccharides and heteropolysaccharides)

6. How do proteins act as carrier proteins?

(Hints: Helps in the transport of substances to cross plasma membrane)

7. Why ATP is known as the energy currency of the cell?

(Hints: Energy is stored in the form of ATP and when needed can liberate energy by the breakdown of the bond)

3 MARKS QUESTIONS

8. What is competitive inhibition of enzyme? How is it different from non-competitive inhibition?

(Hints: Nature of competitive inhibitor – structurally similar to substrate, binding to active site, non-competitive inhibitor – dissimilar, binds a site other than active site)

9. Mention any three differences between DNA and RNA.

(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)

10. Differentiate between anabolic and catabolic pathways. How are the pathways regulated?

(Hints: Definition of anabolism and catabolism, energy release or utilization, regulation by enzymes)

11. What are co-enzymes? How do nucleotides form co-enzymes?

(Hints: Type of co-factor, non-protein part, examples)

12. Explain the different types of proteins.

(Hints: Explain about primary, secondary, tertiary and quaternary structures)

13. What is the importance of secondary metabolites?

(Hints: Mention about secondary metabolites, examples and their economic importance)

5 Marks questions

14. Describe the structure of DNA as proposed by Watson and Crick.

(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)

15. Give a description about the nature and types of bonds present in biomolecules (Hints: mention the nature of bonds in proteins, polysaccharides and nucleic acids)

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