



# CHEMISTRY

# **BOOKS - MODERN PUBLICATION**

# BIOMOLECULES



1. Why are carbohydrates generally optically active ?

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**2.** Give reason for the following statement- Nichrome is used to make electric heaters and Good quality electric wires.

3. What are the polysaccharides that make up starch and what is the

difference between them ?

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4. Is a diet consisting mainly of rice an adequate diet ? Why or why not ?

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**5.** Amylose and cellulose are both straight chains polysaccharides containing only D-glucose units. What is the structural difference between the two ?

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6. What are reducing and non-reducing sugars ? What is the structural

feature characterising reducing sugars ?



7. Draw open chain structure of an aldopentose and aldohexose. Predict

the number of asymmetric carbon atoms present in each.

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<b>8.</b> What do you mean by inversion of cane sugar ?
Vatch Video Solution
<b>9.</b> Glucose does not react with
Watch Video Solution
<b>10.</b> Give reason for the following statement- Brass is used for making

utensils, wires and parts of the machines.

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**11.** Write a reaction which shows that all the carbon atoms in glucose are

in a straight chain.

Vatch Video Solution
<b>12.</b> The linkage between the two monosaccharide units in lactose is
Watch Video Solution
<b>13.</b> Give one example each of disaccharide and polysaccharide.
Watch Video Solution
<b>14.</b> What are the hydrolysis products of (a) sucrose (b) lactose?
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## 15. What are the products of hydrolysis of lactose?

• Watch Video Solution 16. Name the disaccharide Present in milk. • Watch Video Solution

17. Give reason for the following statement- Solder is used for welding of

metallic bodies and filling cracks of metals.

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18. Give reason for the following statement- 68% of lead and 32% of tin

makes an alloy.

**19.** In E. coli DNA, the AT/GC ratio is 0.93. If the number of moles of adenine in its DNA sample are 465,000, calculate the number of moles of guanine present.

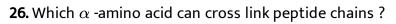
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**20.** A DNA molecule with more number of GC base pairs than AT base pairs has higher  $T_m$  than the one with lesser number of GC base pairs than AT base pairs. Explain why ?



**21.** Two samples of DNA, X and Y have melting temperature  $(T_m)$  as 340 and 350K respectively. What do the data indicate regarding their base content ?

<b>22.</b> If the sequence of bases in one strand of DNA is ATGACTGTC then the
sequence of bases in its complementary strand is
Watch Video Solution
<b>23.</b> How many states of water are there ?
Watch Video Solution
<b>24.</b> What is the difference between g and G?
Watch Video Solution
<b>25.</b> State differences between primary and secondary structure of proteins.
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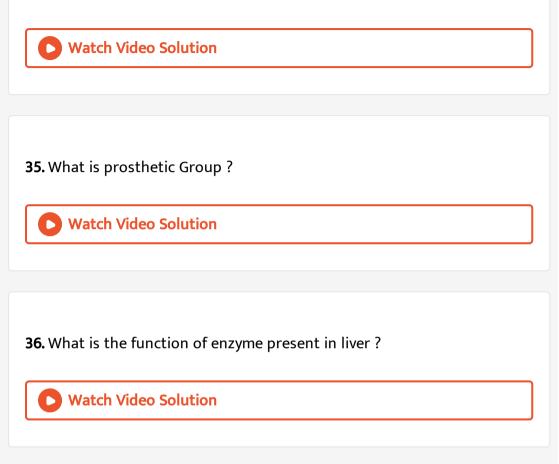


<b>Vatch Video Solution</b>
<b>27.</b> Give reason for the following statement- Arms and various equipments of machines are made up of an alloy.
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28. What type of linkages hold together monomers of DNA ?           Watch Video Solution
<b>29.</b> What are the main functions of the hormone adrenaline ?
<b>O</b> Watch Video Solution

**30.** Name the enzyme present in saliva.

Watch Video Solution
<b>31.</b> What is the action of nitrous acid on glycine ?
Watch Video Solution
<b>32.</b> Which of the following is not an $\alpha$ -amino acid ? Cysteine, Tyrosine,
Trumpin Dupling Coving
Trypsin, Proline, Serine
Watch Video Solution
Watch video Solution
22 Why a province pride have relatively higher molting point then
<b>33.</b> Why $lpha$ - amino acids have relatively higher melting point than
corresponding haloacids ?
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## 34. How are nucleosides, nucleotides and nucleic acids related ?



37. Fresh tomatoes are a better source of vitamin C than those present in

tomatoes which have been stored for some time.

38. Name the enzyme which converts sucrose int	to ş	glucose	and	fructose.
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Watch Video Solution
<b>39.</b> Name the enzyme which converts maltose into glucose.
Watch Video Solution
<b>40.</b> Name the enzyme which converts glucose into alcohol.
<b>Vatch Video Solution</b>
Watch Video Solution
Watch Video Solution
•11. What is superovulation and embryo transfer?
<b>41.</b> What is superovulation and embryo transfer?

42. Give appropriate reason for the following statement- An alloy is used

to make lockers and fish plates of the railway tracks.

Vatch Video Solution	
<b>12</b> Explain isoelectric point of <i>a</i> -amino acids	
<b>43.</b> Explain isoelectric point of $\alpha$ -amino acids.	

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44. Give reasons for the following statements- 14% of manganese and 80-

85% of iron makes an alloy used in making of lockers and fish plates.



**45.** Name the vitamins in the following whose deficiency causes poor coagulation of the blood.

46. Answer the following statement- Manganese steel is used in-

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47. What is meant by the secondary structure of proteins ?           Watch Video Solution
48. Give one example each for essential and non-essential amino acids.           Watch Video Solution
49. Differentiate between keratin and insulin.           ••••••••••••••••••••••••••••••••••••

**50.** Write the Zwitter ion structure of glycine.

Watch Video Solution
<b>51.</b> Answer the following question in one word- Magnets are made up of-
Watch Video Solution
<b>52.</b> Write the chemical name of vitamin $B_{12}$ .
Watch Video Solution
<b>53.</b> What is the chemical name of vitamin C and which disease is caused
by its deficiency ?
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54. What is the chemical name of vitamin A and which disease is caused

by its deficiency ?

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**55.** What are three types of RNA molecules which perform different functions?

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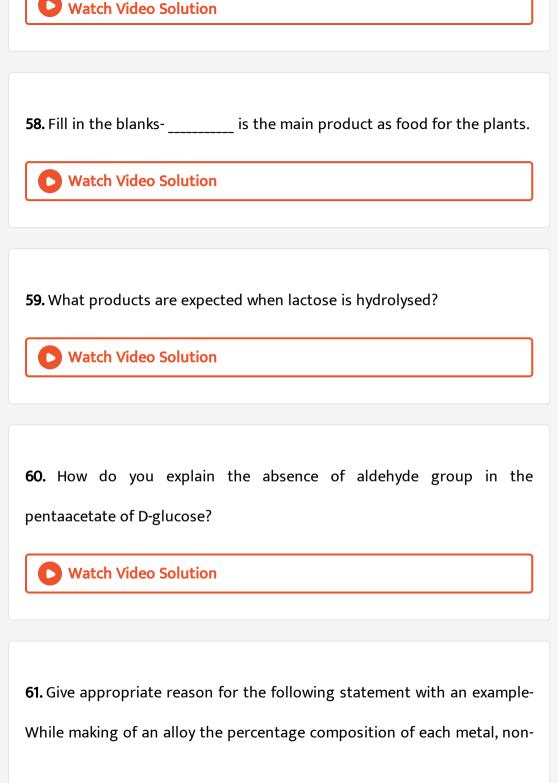
56. Vitamin C is found in fruits and vegetables. It cannot be stored in our

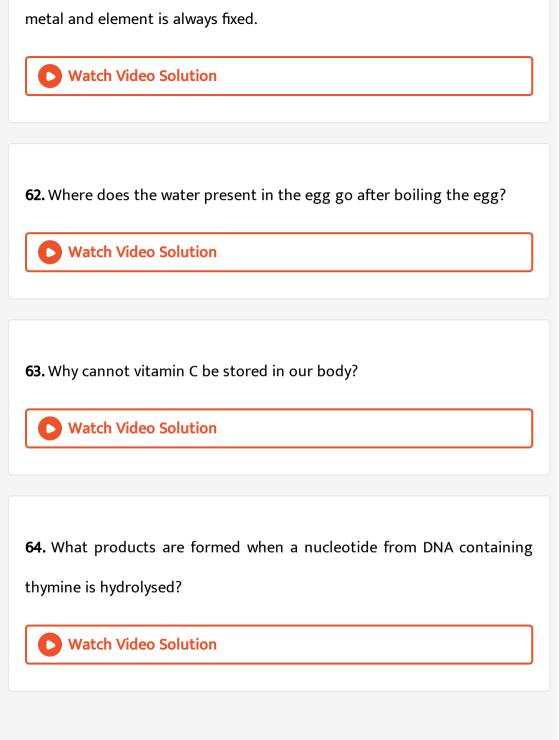
body. Why?



**57.** Name the vitamins whose deficiency cause (i) rickets (ii) night blindness, (iii) scurvy.





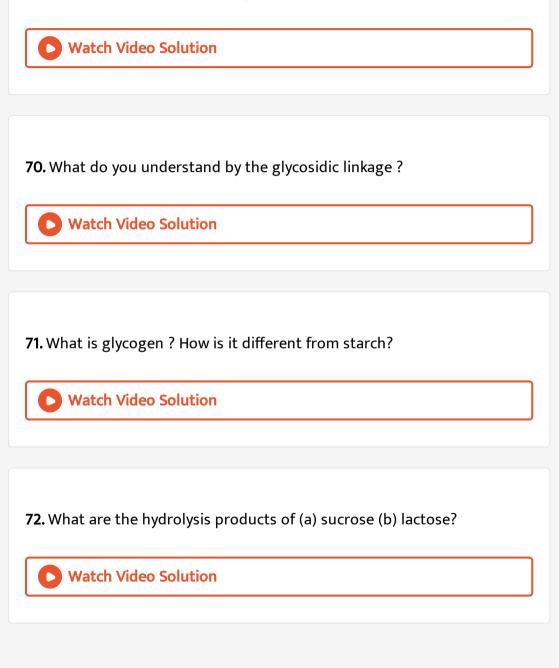


**65.** When RNA is hydrolsed, there is no relationship among the quantities of different bases obtained. What does this fact suggest about the structure of RNA?

Watch Video Solution	]
<b>66.</b> What are monosaccharides ?	
Watch Video Solution	]
<b>67.</b> What are reducing sugars ?	
Watch Video Solution	]
<b>68.</b> Write two main functions of carbohydrates in plants.	

69. Classify the following into monosaccharide and disacchardise.

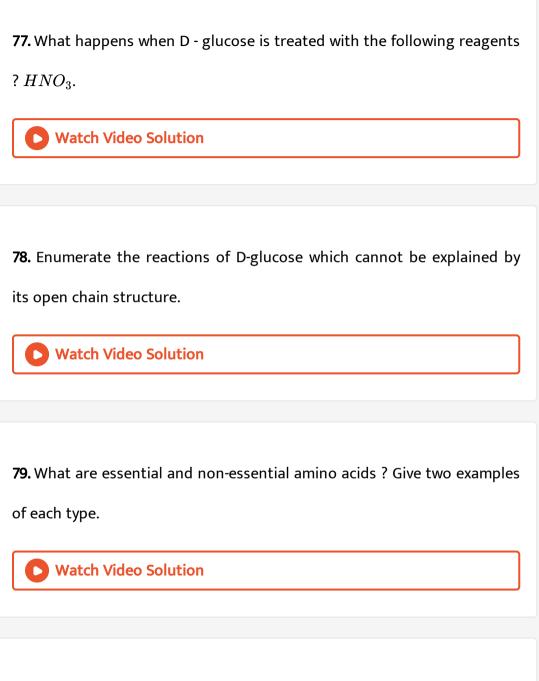
Ribose, 2-dexoyribose, maltose, galactose, fructose and lactose.



<b>73.</b> What are the hydrolysis products of (a) sucrose (b) lactose?
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<b>74.</b> What is the basic difference between starch and cellulose ?
Watch Video Solution
<b>75.</b> What happens when D - glucose is treated with the following reagents
?
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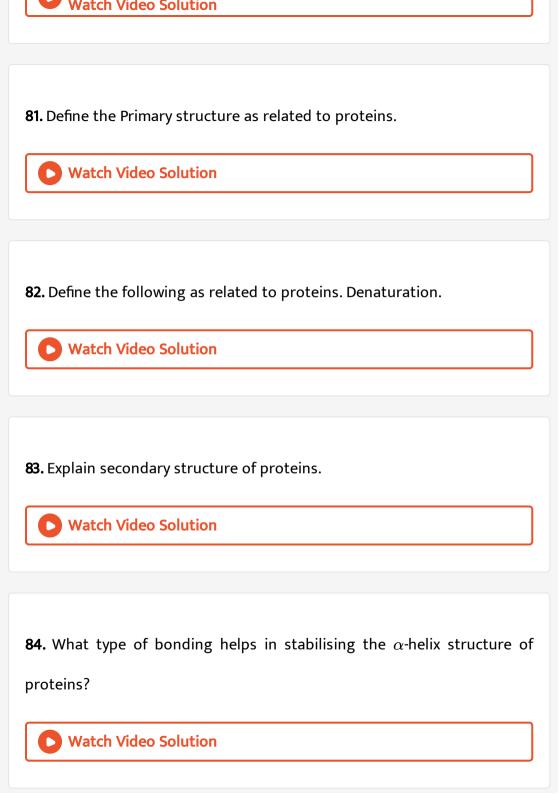
76. What happens when D - glucose is treated with the following reagents

? Bromine water.



**80.** Define the following as related to proteins. Peptide linkage.





### 85. What is the difference between globular and fibrous protein ?

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<b>86.</b> How do you explain amphoteric nature of amino acids?
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<b>87.</b> What are enzymes?
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88. What is the effect of denaturation on the structure of proteins?

**89.** How are vitamins classified ? Name the vitamin responsible for coagulation of blood ?

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90. Why are vitamins essential to us ? Give the roles of various vitamins in

our body.

Watch Video Solution

91. What is nucleic acid?

Watch Video Solution

92. What is the difference between nucleoside and nucleotide ?

93. The two strands in DNA are not identical but are complimentary.

Explain.

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<b>94.</b> Give reason for the following statement- Artificial gold is an alloy.
Watch Video Solution
<b>95.</b> What are different types of RNA formed in the cell ?
Watch Video Solution
96. Name the sugar present in milk. How many monosaccharide units are
present in it? What are such oligosaccharides called?
Watch Video Solution

97. Write a reaction which shows that all the carbon atoms in glucose are

in a straight chain.

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**98.** In nucleoside ae is attached at 1â€<sup>™</sup> position of sugar moiety. Nucleotide is formed by linking of phosphric acid unit to the sugar unit of nucleoside. At which position of sugar unit is the phosphoric acid linked in a nucleoside to give a nucleotide?



**99.** What is the name given to the linkage which holds together monosaccharide units in polysaccharides ?

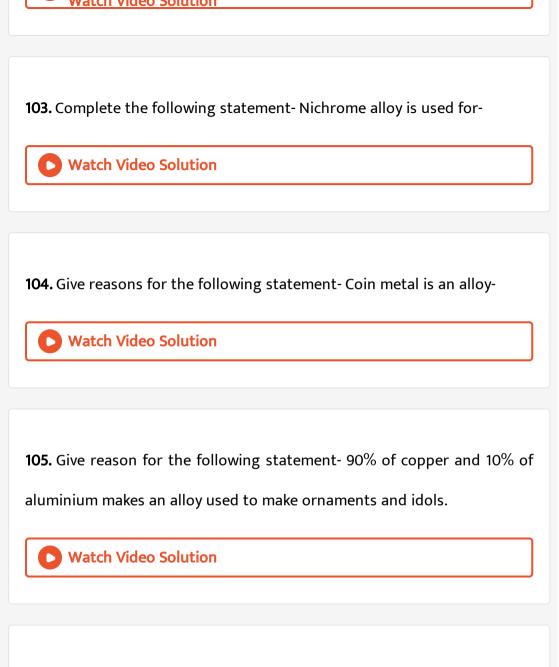
**100.** Under what conditions glucose is converted to gluconic and saccharic acid?



**101.** Monosaccharides contain carbonyl group hence are classified, as aldose or ketose. The number of carbon atoms present in the monosaccharide molecule are also considered for classification. In which class of monosaccharide will you place fructose?

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**102.** The letters  $\hat{a} \in \tilde{D} \hat{a} \in \mathbb{M}$  or  $\hat{a} \in \tilde{L} \hat{a} \in \mathbb{M}$  before the name of a stereoisomer of a compound indicate the correlation of configuration of that particular stereoisomer. This refers to their relation with one of the isomers of glyceraldehyde. Predict whether the following compound has  $\hat{a} \in \tilde{D} \hat{a} \in \mathbb{M}$  or  $\hat{a} \in \tilde{L} \hat{a} \in \mathbb{M}$  configuration.



106. Give reason for the following statement- Artificial jewellery and idols

are made up of an alloy.

**107.** Some enzymes are named after the reaction, where they are used. What name is given to the class of enzymes which catalyse the oxidation of one substrate with simultaneous reduction of another substrate.

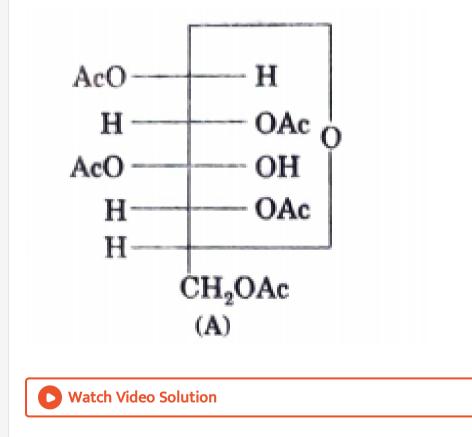
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108. During curdling of milk, what happens to sugar present in it?

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**109.** How do you explain the presence of five -OH groups in glucose molecule?

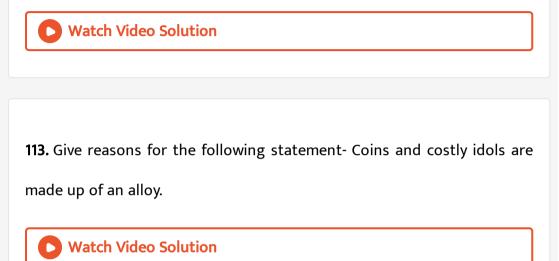
110. Why does compound (A) given below not form an oxime?



111. Complete the following statement- Artificial gold is used to make-

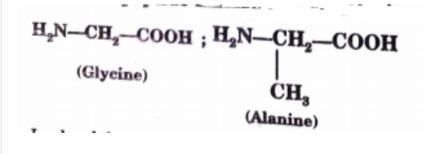
112. Sucrose is dextrorotatory but the mixture obtained after hydrolysis is

laevorotatory. Explain.



114. Structures of glycine and alanine are given below. Show the peptide

linkage in glycylalanine.



**115.** Protein found in a biological system with a unique three dimensional structure and biological activity is called a native protein. When a protein in its native form, is subjected to a physical change like change in temperature or a chemical change like, change in pH, denaturation of protein takes place. Explain the cause.



**116.** Activation energy for the acid catalysed hydrolysis of sucrose is 6.22 kJ  $mol^{-1}$ , while the activation energy is only 2.15 kJ  $mol^{-1}$  when hydrolysis is catalysed by the enzyme sucrase. Explain.



**117.** How do you explain the presence of an aldehydic group in a glucose molecule?

**118.** Which moieties of nucleoside are involved in the formation of phosphodiester linkage present in dinucleotides ? What does the word diester in the name of linkage indicate? Which acid is involved in the formation of this linkage ?

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**119.** What are glycosidic linkages? In which type of biomolecules are they present ?

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120. Which monosaccharide units are present in starch, cellulose and

glucose and which linkages link these units?

121. How do enzymes help a substrate to be attacked by the reagent

effectively?

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122. Complete the following statement- Uses of coins metal are-

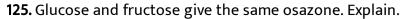
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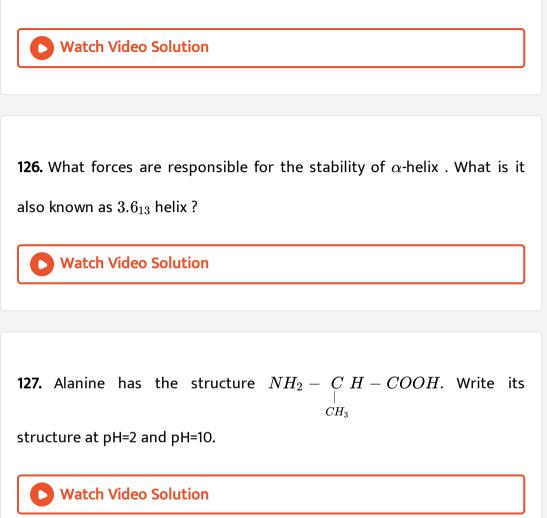
**123.** Answer the following question- Uses of nichrome metal alloy are-

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124. Coagulation of egg white on boiling is an example of denaturation of

protein. Explain in terms of structural changes.





**128.** Glucose shows mutarotation when it dissolves in water. The specific rotation of  $\alpha$ - D glucose and  $\beta$ - D glucose is  $+112.2^{\circ}$  and  $+18.7^{\circ}$  respectively. Calculate the percentage of two anomers present at equilibrium mixture with a specific rotation of  $+52.6^{\circ}$ .

**129.** he Chargoff's rule says that DNA contains equal amounts of guanine and cytosine and also equimolar amounts of adenine and thymine as: G= C and A= T

Does Chargoff's rule imply that equal amounts of guanine and adenine are present in DNA?

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**130.** he Chargoff's rule says that DNA contains equal amounts of guanine and cytosine and also equimolar amounts of adenine and thymine as: G= C and A= T Does Chargoff's rule imply that the sum of purine residues equals the

sum of pyrimidine residues i.e. does A + G = C + T ?

**131.** he Chargoff's rule says that DNA contains equal amounts of guanine and cytosine and also equimolar amounts of adenine and thymine as: G= C and A= T

Does Chargoff's rule imply that equal amounts of guanine and adenine are present in DNA?

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**132.** Explain : On electrolysis in acidic solution, glycine migrates towards

cathode while in alkaline solution, it migrates towards anode.

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**133.** Glucose forms an oxime but glucose pentaacetate does not. Explain.

Watch Video Solution

**134.** The  $K_{\alpha}$  and  $K_{\beta}$  values of  $\alpha$ -amino acids are very low. Explain.

**135.** Give one example each of  $\alpha$ -amino acid which is achiral and  $\alpha$ -amino

acid having more than one chiral centre.

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136. What is the smallest aldose which can form a cyclic hemiacetal ?

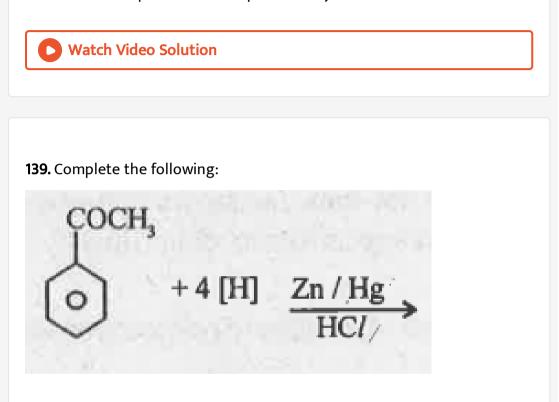
Which functional groups are involved in its formation?

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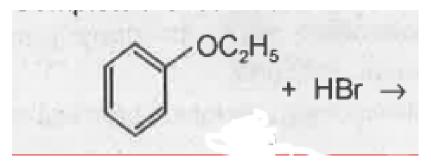
137. Do the anomers of  $\alpha$ -D-glucose have specific rotation of the same

magnitude but opposite signs ?

**138.** Give reason for the following statement- Bells that are used in schools and temples are made up of an alloy.



### 140. Complete the reaction :





**141.** Predict towards which electrode would an  $\alpha$ - amino acid migrate in an electric field at a pH > pI. Explain.

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**142.** Predict towards which electrode would an  $\alpha$ - amino acid migrate in an electric field at a pH > pl. Explain.



**143.** Predict towards which electrode would an  $\alpha$ - amino acid migrate in an electric field at a pH = pI. Explain.



**144.** If one of the strands of DNA has the following sequence of bases

:

running in the 5'-3' direction

5' - G - G - A - C - A - A - T - C - T - G - C - 3'

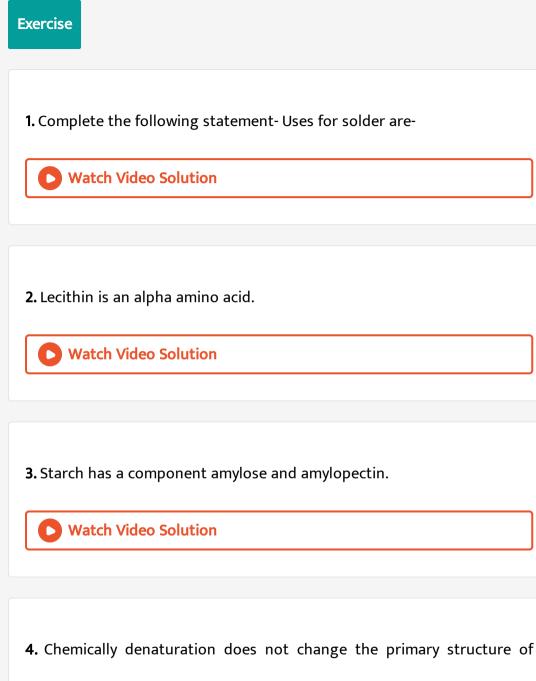
What is the sequence of bases in the complementary strand ?

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145. If one of the strands of DNA has the following sequence of bases

running in the 5'-3' direction : 5' - G - G - A - C - A - A - T - C - T - G - C - 3'

Which base is closest to the 5'- end in the complementary strand.



protein.

**5.** True of False : The disease albinism is caused by the deficiency of enzyme tyrosinase.

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<b>6.</b> Uracil occurs in DNA and not in RNA.
Watch Video Solution
7. True of False : Lactose on hydrolysis with acids gives galactose and
fructose.
<b>Vatch Video Solution</b>

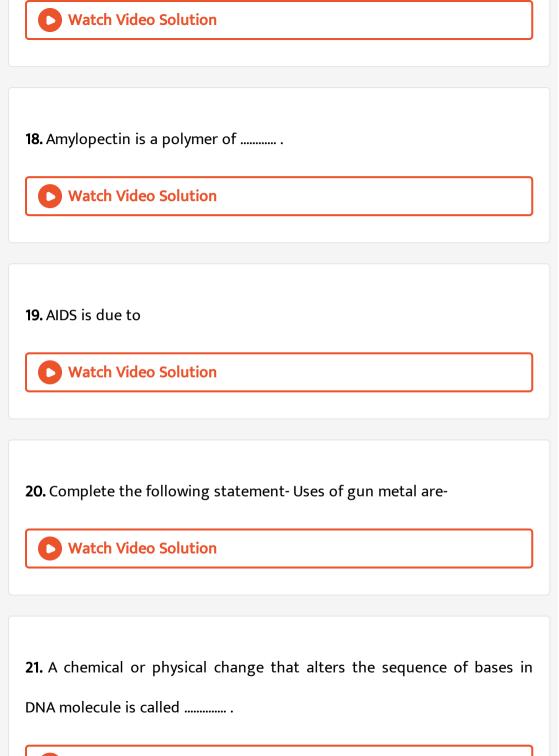
8. True of False : Glycogen is a polymer of glucose units.

<b>9.</b> Answer the following question- Uses of Manganese steel are-
Watch Video Solution
<b>10.</b> Give reason for the following question- Gun metal is an alloy.
Watch Video Solution
<b>11.</b> True of False : The synthesis of proteins is governed by DNA.
Watch Video Solution
<b>12.</b> Give reason for the following question- Mixture of 88% of copper,

10% of tin, 2% of zinc makes an alloy.

Watch Video Solution
14. Keratin, fibrin and collagen are fibrous proteins.
Vatch Video Solution
<b>15.</b> True of False : Deficiency of vitamin D causes rickets.
Vatch Video Solution
<b>16.</b> Complete the missing links: The sugar in DNA is
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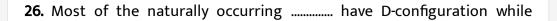
**17.** Cellulose is a polymer of:



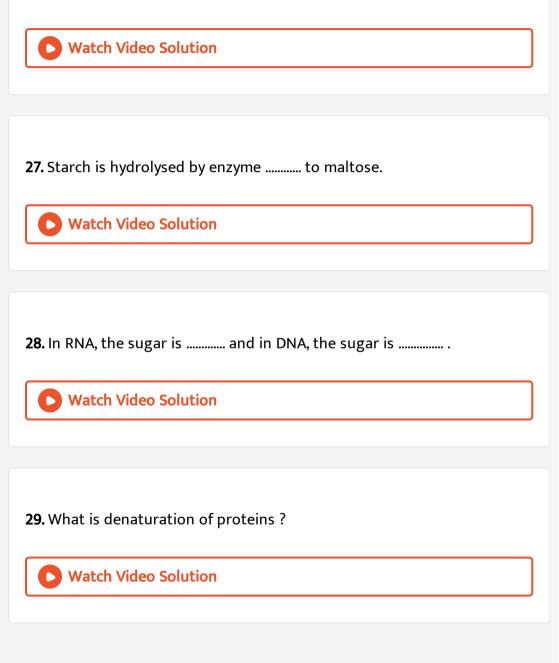
22. Heart attacks can be checked by using the enzyme .....

Watch Video Solution
<b>23.</b> Write chemical name of Vitamin $B_2$ .
Watch Video Solution
<b>24.</b> Bell metal is an alloy. Give reasons.
Watch Video Solution

**25.** The two strands of the double helix of DNA are held together at definite distances through .....

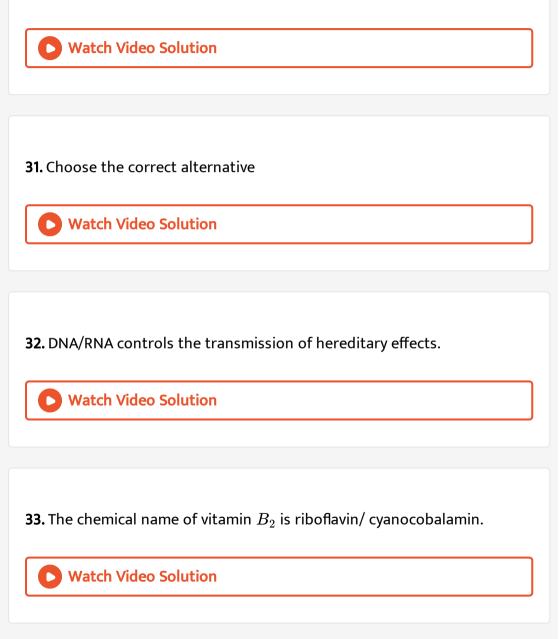


most of the naturally occurring ...... have L-configuration.



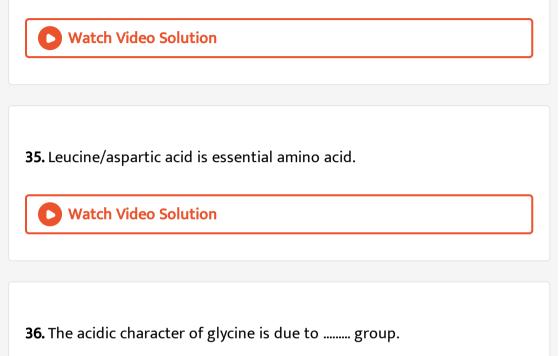
**30.** A mixture of 80% of copper and 20% of tin makes an alloy. Give

explanation for this statement.



**34.** The disease xerophthalmia is caused by deficiency of vitamin

D/vitamin A.



> Watch Video Solution

37. Pairing of thymine with adenine occurs through three/ two hydrogen

bonds.

## 38. DNA is present in:

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**39.** Not the relationship between the first two words and suggest a suitable word for the fourth place:

purine : guanine :: pyrimidine : .....

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**40.** The conversion of sucrose to glucose and fructose is carried out by

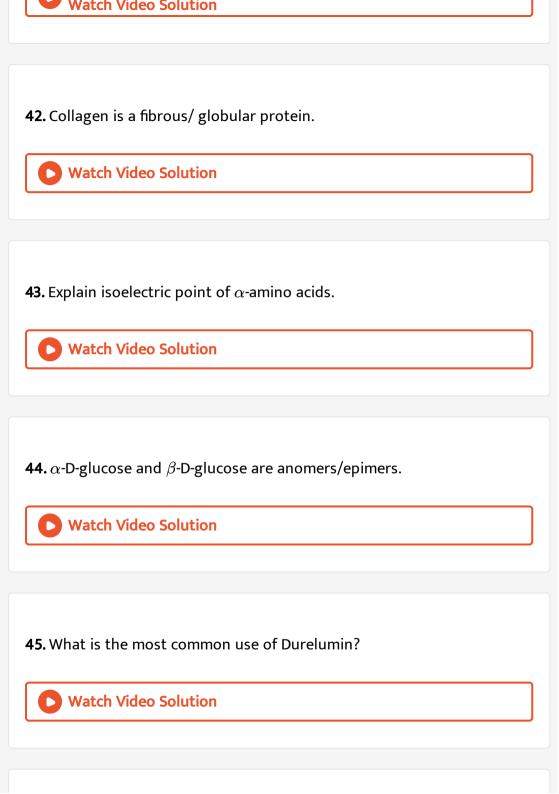
amylase/invertase enzyme.

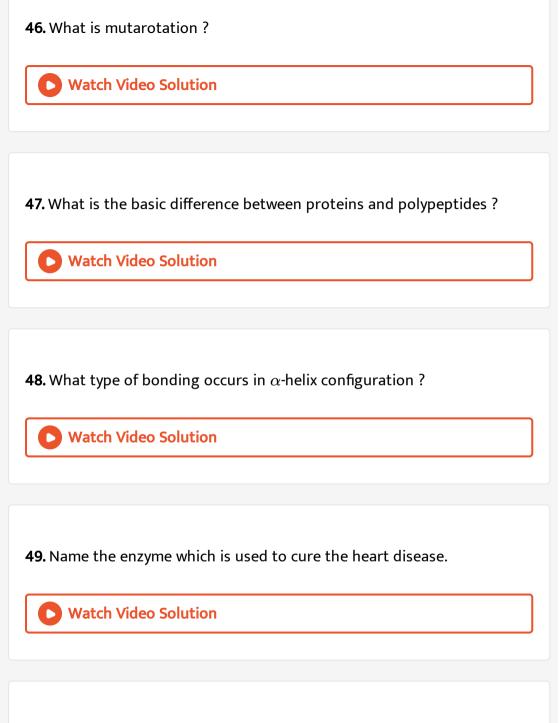


41. Chemically denaturation does not change the primary structure of

protein.

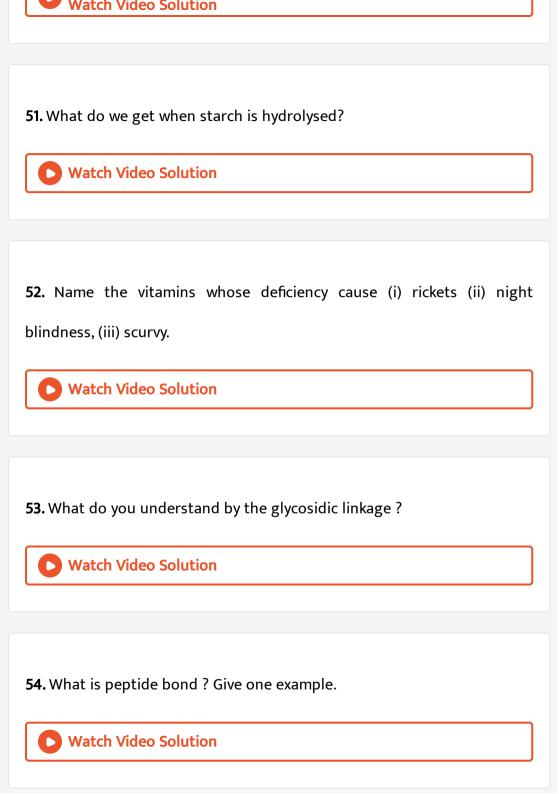






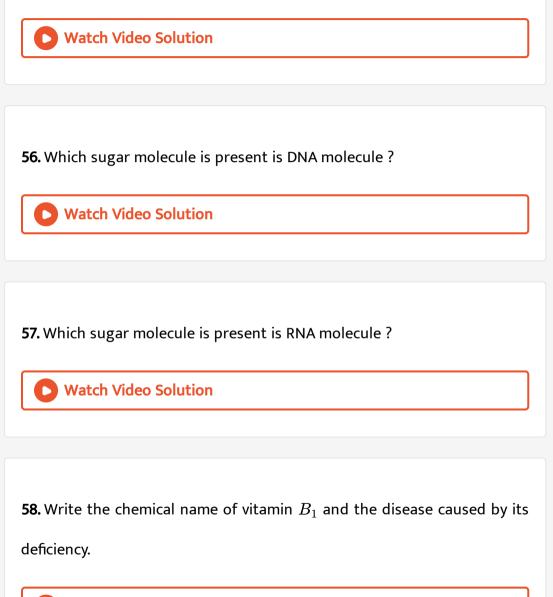
50. Name the enzyme whose deficiency causes albinism.





55. Cellulose is not digestible by human beings due to the absence of a

cellulose hydrolysing enzyme called



59. What is the chemical name of vitamin C and which disease is caused

by its deficiency ?

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**60.** Write the chemical name of vitamin  $B_1$  and the disease caused by its

deficiency.

Watch Video Solution

61. What is the chemical name of vitamin A and which disease is caused by

its deficiency?



62. What is the basic difference between starch and cellulose ?

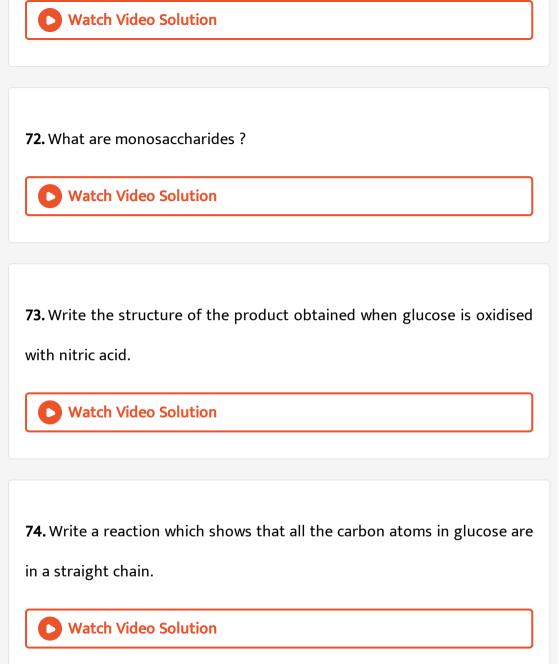
**63.** Name the enzyme which converts glucose into alcohol.

Vatch Video Solution
<b>64.</b> Name the enzyme which converts starch into maltose.           Watch Video Solution
<b>65.</b> What is the difference between nucleoside and nucleotide ?
Watch Video Solution
<b>66.</b> Name the components of a habitat?
Vatch Video Solution

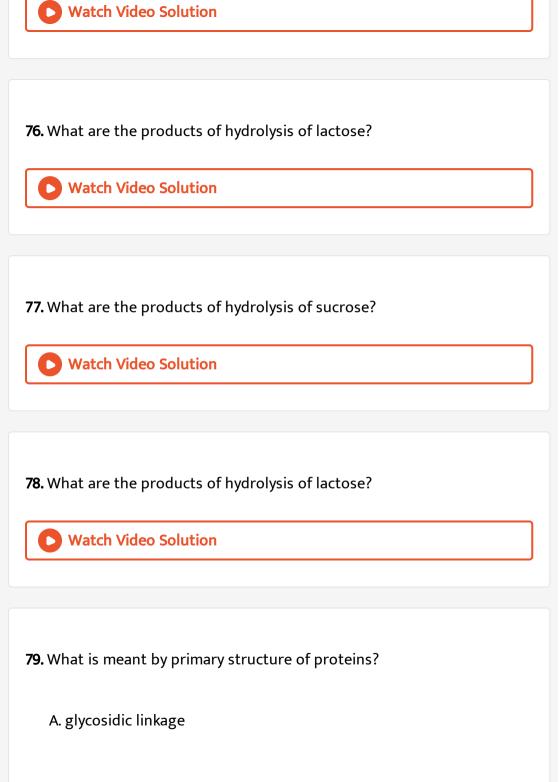
# **67.** Which is not a polymer

Vatch Video Solution
<b>68.</b> Name the products of hydrolysis of sucrose.
Watch Video Solution
<b>69.</b> Name the vitamin whose deficiency causes Beri-Beri.
,
Vatch Video Solution
<b>70.</b> What are nucleotides ?
Watch Video Solution
Watch Video Solution

**71.** What is meant by pumping?



**75.** Write the name of linkage joining two amino acids.



B. hydrogen bond

C. peptide linkage

D. ionic bond

#### Answer:

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**80.** Vitamin â€~A' is called

A. Ascorbic acid

B. Rentinol

C. Calciferol

D. Tocoferol

#### Answer:

**81.** The deficiency of vitamin  $B_1$  causes which disease ?

A. Beri-Beri

**B.** Rickets

C. Anaemia

D. Xerosis

#### Answer:

Watch Video Solution

**82.** Explain the following statement giving reason- Bell metal is not a metal.

\_\_\_\_\_

83. An example of non-reducing sugar is

A. Sucrose

B. Lactose

C. Maltose

D. None

Answer:

Watch Video Solution

**84.** Which are the most important nutrients needed for the plants?

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85. Which of following is water soluble vitamin ?

A. Vitamin 'E'

B. Vitamin 'K'

C. Vitamin 'B'

D. Vitamin 'A'

#### Answer:



**86.** Vitamin  $B_1$  is.

A. Riboflavin

B. Cobalamin

C. Thiamine

D. Pyridoxine

#### Answer:



87. Which is sweetest of the following:

A. Sucrose

B. Glucose

C. Fructose

D. Maltose

Answer:

Watch Video Solution

88. Which nutrient is important for vegetative growth and for protein

synthesis for the plants?

Watch Video Solution

89. The function of enzymes in the living system is to

A. Maintain pH

B. Catalyse biochemical process

C. provide immunity

D. transport oxygen

Answer:

Watch Video Solution

90. The disaccharide present in milk is

A. sucrose

B. maltose

C. lactose

D. cellulose

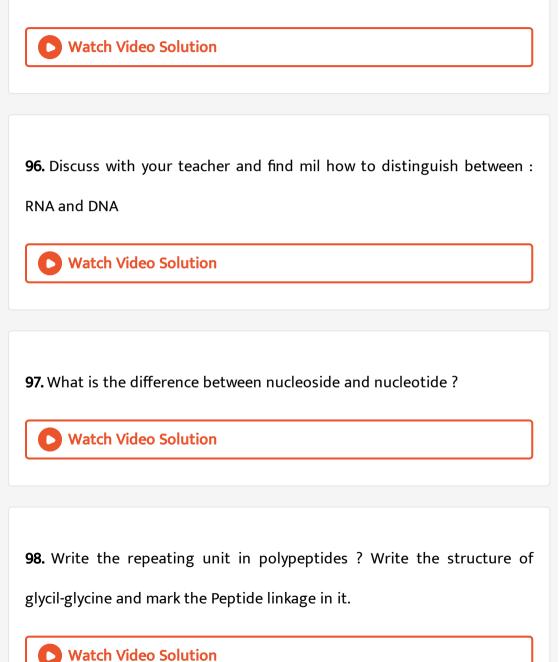
Answer:

91.	What	are	monosaccharides?	Draw	open	chain	structure	of
aldo	pentos	e and	aldohexose. How m	any asy	mmetri	c carbo	ns are prese	ent
in e	ach ?							

<b>Watch Video Solution</b>
<b>92.</b> What are reducing sugars ?
Watch Video Solution
<b>93.</b> What is the difference between globular and fibrous protein ?
Watch Video Solution
<b>94.</b> Constantin is an alloy. Give reason.

**95.** State differences between primary and secondary structure of

proteins.



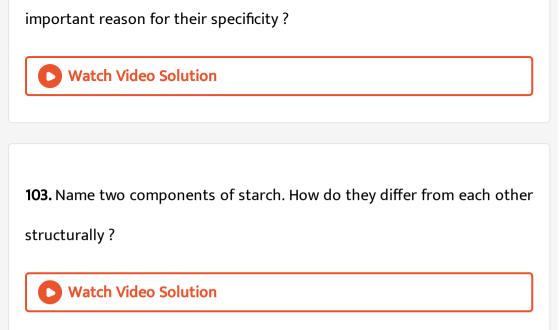
99. What type of forces are responsible for the formation of Cross linking

of polypeptide chains.

Watch Video Solution **100.** What type of forces are responsible for the formation of  $\alpha$ -helix formation Watch Video Solution **101.** What type of forces are responsible for the formation of  $\beta$ -sheet structure? Watch Video Solution

102. What are enzymes ? How do enzymes differ from ordinary chemical

catalysts ? Comment on the specificity of enzyme action. What is the most



104. Describe the following statement- Constantin is not a metal.

**Watch Video Solution** 

**105.** Explain briefly : Essential and non-essential amino acids with one example of each.

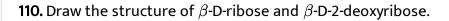


**106.** Explain briefly : Replication.

Watch Video Solution **107.** Explain what is meant by a peptide linkage. Watch Video Solution 108. Explain what is meant by a glycosidic linkage. Watch Video Solution

109. List the important structural and functional differences between DNA

and RNA.



 Watch Video Solution

 111. What are nucleic acids ? Give their role in replication.

 Image: Watch Video Solution

 112. What are hormones? Why are they called chemical messengers? What

are the general properties of hormones?

Watch Video Solution

**113.** What is essentially the difference between  $\alpha$ -form of glucose and  $\beta$ -

form of glucose.

114. Describe what you understand by primary and secondary structure of

proteins.

Watch Video Solution 115. What is meant by (i) a peptide linkage (ii) a glycosidic linkage ? Watch Video Solution 116. Name the bases present in RNA. Which one of these is not present in DNA? Watch Video Solution

**117.** Write two differences between starch and cellulose.

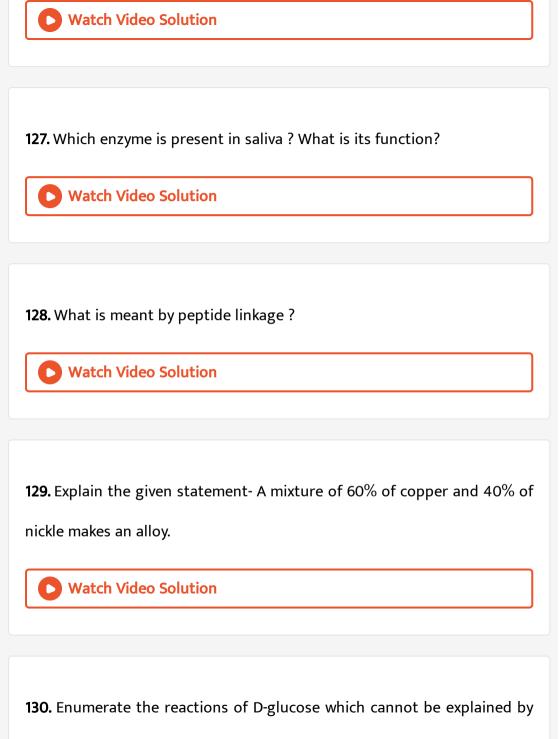
118.	Write	one	function	and	two	sources	of	vitamin	D.
------	-------	-----	----------	-----	-----	---------	----	---------	----

Watch Video Solution
119. Define the term genetic code           Watch Video Solution
120. What type of forces are responsible for the formation of $\beta$ -sheet structure ?
121. What are reducing sugars ?           Watch Video Solution

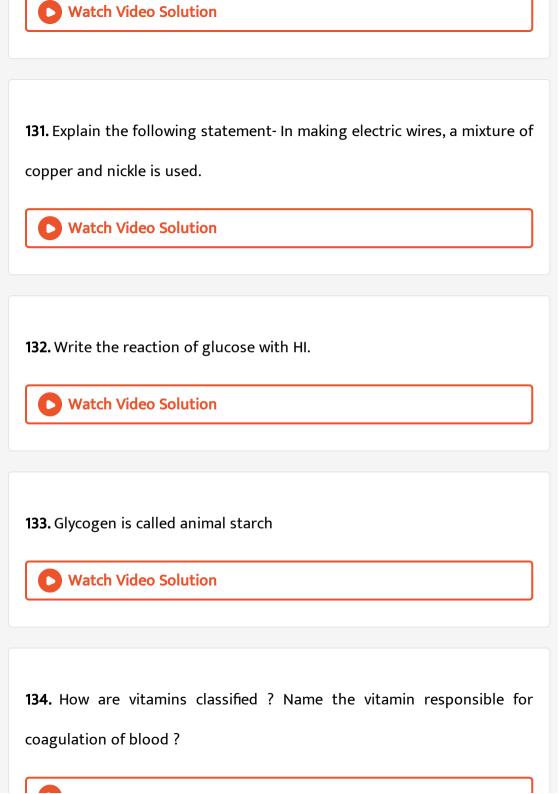
**122.** What is co-enzyme ? Give one example.

Watch Video Solution
<b>123.</b> What are the constituents of starch ?
Watch Video Solution
124. Whjat is a nucleotide?           Watch Video Solution
<b>125.</b> What is denaturation of proteins ?
<b>Watch Video Solution</b>

126. What type of bonds hold a DNA double helix together ?



its open chain structure.



135. What is the basic difference between starch and cellulose?

Watch	Video	Solution
Tracen	Thaco	50101011

136. Describe the following statement- Monel metal is an alloy.

Watch Video Solution

**137.** Amino acids can be classified into essential amino acids and nonessential amino acid. Write one example each for essential and nonessential amino-acids.



138. Write six differences between DNA and RNA.



139. Give one example each of disaccharide and a polysaccharide.

|--|

140. What are three types of RNA molecules which Perform different

functions?

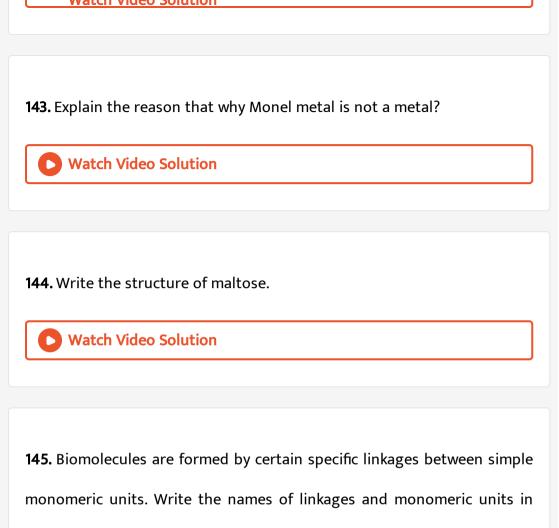
Watch Video Solution

141. A mixture of 70% of nickle, 28% of copper and 2% of iron makes an

alloy.

**D** Watch Video Solution

142. Mention one water soluble vitamin.



the following class of biomolecules. Starch.



146. Explain the following statement- German silver is an alloy.

**147.** Biomolecules are formed by certain specific linkages between simple monomeric units. Write the names of linkages and monomeric units in the following class of biomolecules. Nucleic acid .

Watch Video Solution

148. Give reasons for the following statement- German silver is an alloy

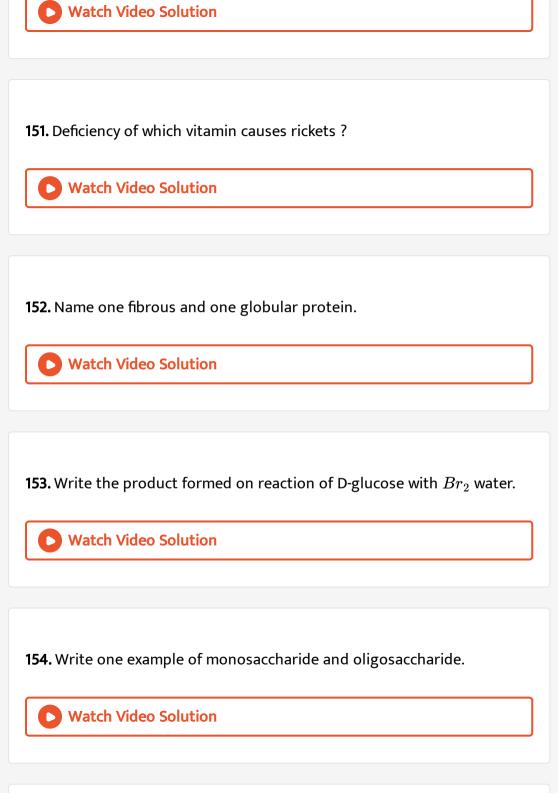
which is used to make utensils and idols.

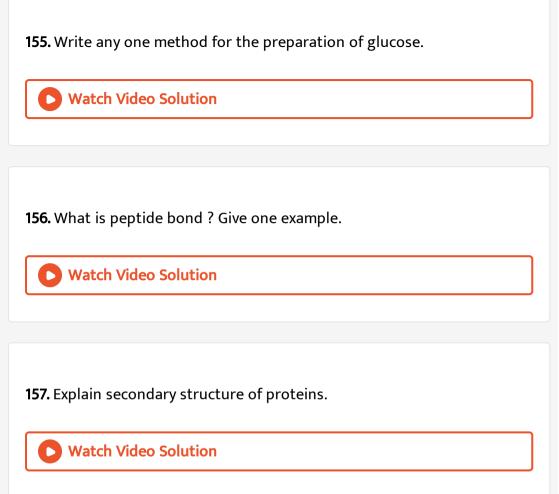
Watch Video Solution

149. What are lipids ? Give their applications.

Watch Video Solution

**150.** What are phospholipids? Mention their importance.





158. What are glycosidic linkages? In which type of biomolecules are they

present?

159. What are nucleic acids ? What is the base unit of such acids ?

Watch Video Solution

160. Write the full form of DNA and RNA. Name the specific nitrogenous

bases present in DNA and RNA.

Watch Video Solution

161. What are carbohydrates?

Watch Video Solution

162. Name one fibrous and one globular protein.

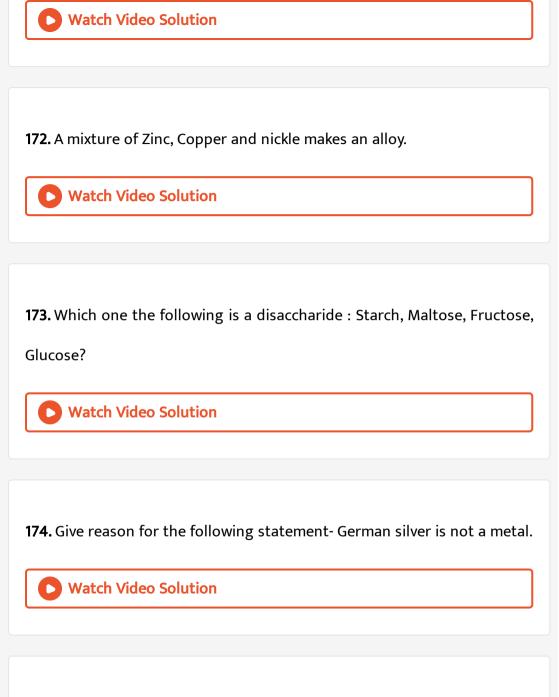
## 163. What is denaturation of proteins ?

Vatch Video Solution
<b>164.</b> What are carbohydrates?
Watch Video Solution
165. Why are vitamins essential to us ? Give the roles of various vitamins
in our body.
<b>Watch Video Solution</b>
<b>166.</b> What is zwitter ion ? Give the zwitter ion structure of a-amino acid.

## 167. What is denaturation of proteins ?

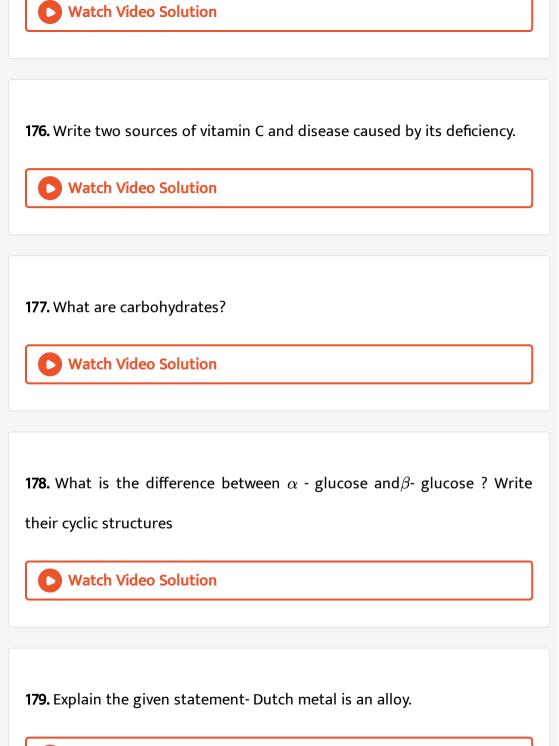
Vatch Video Solution
<b>168.</b> What do you mean by inversion of cane sugar ?
<b>Vatch Video Solution</b>
<b>169.</b> What is mutarotation ?
Watch Video Solution
<b>170.</b> What are carbohydrates?
<b>Vatch Video Solution</b>

171. Give reactions of glucose with HI.



175. Write the name of vitamin whose deficiency causes bone deformities

in children.



**180.** Name the three major classes of carbohydrates and give the distinctive characteristic of each class.

Vatch Video Solution
<b>181.</b> Various parts of the machines and electrical devices are made of a certain alloy. Name that alloy and also its composition?
<b>O</b> Watch Video Solution
<b>182.</b> Explain the following terms in relation to proteins: Denaturation.
<b>Watch Video Solution</b>
<b>183.</b> Explain the following statement- Dutch metal is not a metal.

184. Describe the following statement- Aircrafts and aeroplanes are made

up of a special alloy.

Watch Video Solution
<b>185.</b> What is a polysaccharide?
Watch Video Solution
<b>186.</b> What is meant by primary structure of proteins?
Watch Video Solution
187. What are neutral, acidic and basic amino acids? Which vitamin
deficiency lead to scurvy? Mention one function of vitamin C.

Watch Video Solution

188. How many moles of sulphur atom and oxygen atoms are present in

one mole each of H2SO4 and SO2 ?

• Watch Video Solution 189. Describe the following statement- Magnelium is not a metal. • Watch Video Solution

**190.** Explain the following statement- Durelumin is an alloy.

Watch Video Solution

**191.** Answer the following statement in one word- The mixture of aluminium, copper, magnesium makes an alloy which is used to make pressure cookers.

**192.** Explain the following statement- Plants make their own food through the process of photosynthesis.

Watch Video Solution
193. Cane Sugar, Glucose and Starch are carbohydrates. Suggest any two
uses of carbohydrates.
Watch Video Solution

194. Explain how fibres rich food helps to maintain the cholesterol level in

the body?

**Watch Video Solution** 

195. Name a source of vitamin E.





196. Name the disease caused due to deficiency of vitamin K in our body.

Watch Video Solution	
<b>197.</b> Name one source of vitamin K?	
Watch Video Solution	

198. Which protein is synthesized by Vitamin K to protect the brain from

hemorrhage?



199. Brain hemorrhage is caused by the deficiency of vitamin-

**200.** Which protein helps in the formation of bone tissue in our body?

Watch Video Solution
<b>201.</b> Why cannot vitamin C be stored in our body?
Watch Video Solution
<b>202.</b> What is the difference between nucleoside and nucleotide ?
Watch Video Solution
<b>203.</b> Describe the main functions of vitamin k in our body?
Watch Video Solution

**204.** Osteoporosis is the disease that is caused by the deficiency of

vitamin-

Watch Video Solution

**205.** Fill in the blanks- The coloured substances that impart permanent

colour to the fabrics, food stuffs etc. are called as\_\_\_\_\_.

Watch Video Solution

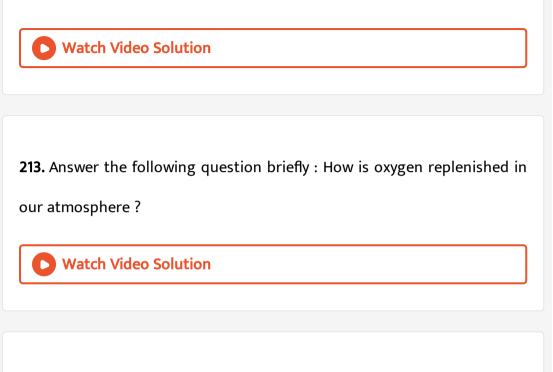
206. What are the functions of carbohydrates in living organisms?

Watch Video Solution

207. Write one function and two sources of vitamin A.

<b>208.</b> What are nucleotides ?
<b>Watch Video Solution</b>
<b>209.</b> Fill in the blanks dyes are used to dye wool, silk, nylon
fabrics.
<b>Watch Video Solution</b>
<b>210.</b> Explain the statement- Hydroleum is an alloy.
<b>Watch Video Solution</b>
<b>211.</b> What are reducing sugars ?
<b>Watch Video Solution</b>

## 212. What is denaturation of proteins ?



214. Define enzyme. Give its biological importance.

Watch Video Solution

**215.** What happens when D - glucose is treated with the following reagents ?

HI

**216.** What happens when D - glucose is treated with the following reagents ? Bromine water.

Watch Video Solution

**217.** What happens when D - glucose is treated with the following reagents ?  $HNO_3$ .

Watch Video Solution

218. Uses of common salt are-



**219.** Define the following in relation to proteins : Primary structure.

**220.** Define the following in relation to proteins : Denaturation.

Watch Video Solution
<b>221.</b> Define the following in relation to proteins : Peptide linkage.
Watch Video Solution
222. Name two water soluble vitamins, their sources and the diseases
caused by their deficiency in diet.
<b>Vatch Video Solution</b>

**223.** Name the four bases present in DNA. Which one of these is not present in RNA ?

224. Name two fat soluble vitamins, their sources and the diseases caused

due to their deficiency.

Watch Video Solution

**225.** Name the four bases present in DNA. Which one of these is not present in RNA ?

Watch Video Solution

226. What is meant by peptide linkage?

Watch Video Solution

227. What is meant by pyranose structure of glucose.

228. Write the main structural differences between DNA and RNA. Of the

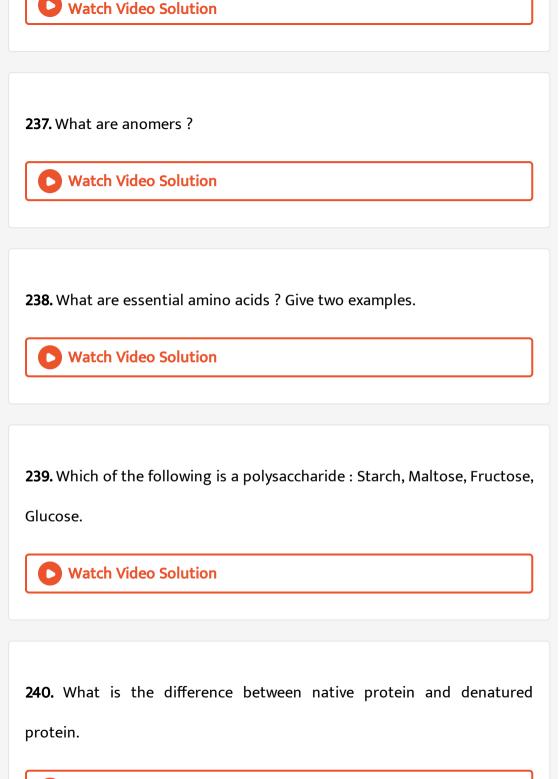
four bases present, name those which are common to both DNA and RNA.

Watch Video Solution
<b>229.</b> Write the linear and cyclic structures of glucose. What is the difference between $\alpha$ -glucose and $\beta$ -glucose ? <b>Watch Video Solution</b>
<b>230.</b> Define the following terms as related to proteins : Peptide linkage.
Watch Video Solution
<b>231.</b> Define the following terms as related to proteins : Primary structure.

## **232.** Define the following terms as related to proteins : Denaturation .

Watch Video Solution
<b>233.</b> Define the following terms : Glycosidic linkage.
Watch Video Solution
<b>234.</b> Define the following terms : Invert sugar .
Watch Video Solution
<b>235.</b> Define the following terms : Oligosaccharides .
Watch Video Solution
<b>236.</b> Define the following terms : Nucleotide .







**241.** How are vitamins classified ? Name the vitamin responsible for coagulation of blood ?

**Watch Video Solution** 

242. Enumerate the reactions of D-glucose which cannot be explained by

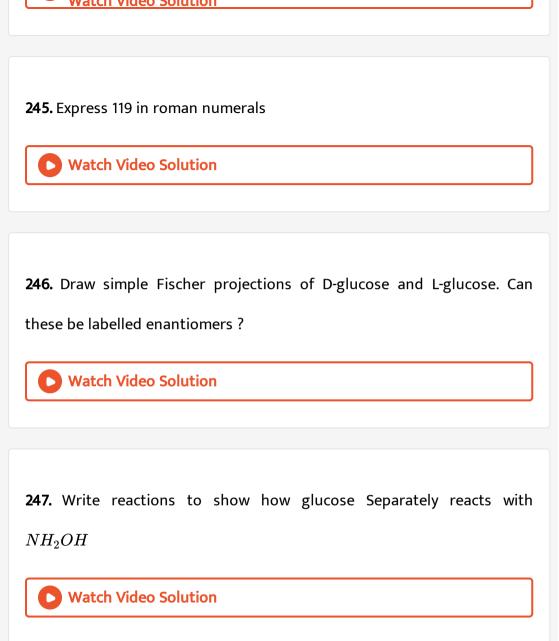
its open chain structure.

Watch Video Solution

243. What type of linkage is present in nucleic acids?



244. Express 118 in roman numerals.



248. Express 120 in roman numerals.

249. Write reactions to show how glucose Separately reacts with ammoniacal  $AgNO_3$ 

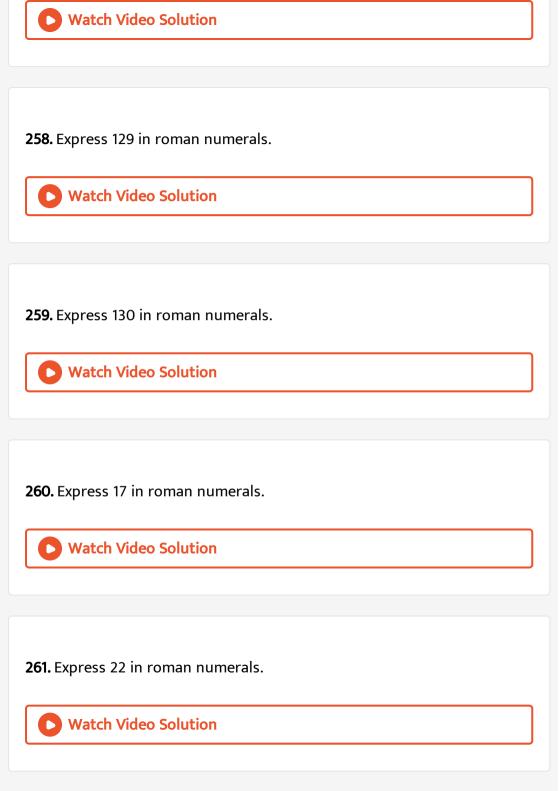
<b>O</b> Watch Video Solution	
<b>250.</b> Express 121 in roman numerals	
Watch Video Solution	
<b>251.</b> Express 122 in roman numerals	
Watch Video Solution	ך

**252.** Express 123 in roman numerals.

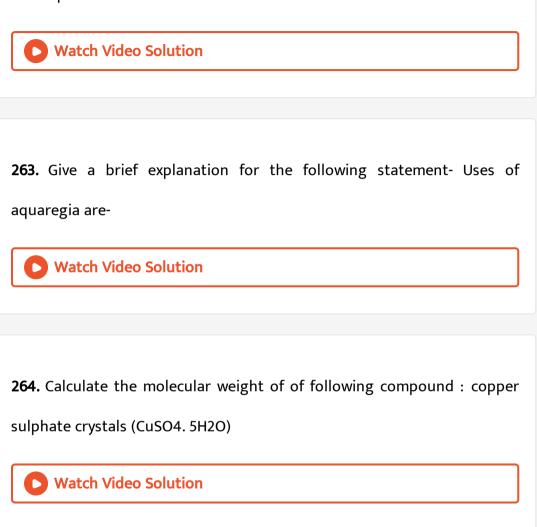
**253.** Express 124 in roman numerals.

Watch Video Solution
<b>254.</b> Express 115 in roman numerals.
<b>Watch Video Solution</b>
<b>255.</b> Express 416 in roman numerals.
<b>Watch Video Solution</b>
<b>256.</b> Express 427 in roman numerals.
<b>Watch Video Solution</b>

**257.** Express 238 in roman numerals.



**262.** Express 25 in roman numerals.



265. Name the food sources and the deficiency diseases caused due to

the lack of any two vitamins A, C,E and K.

**266.** Explain the following statement- Ammonal is an explosive.

Watch Video Solution
<b>267.</b> Calculate the molecular weight of of following compound : ammonium sulphate (NH4)2SO4
Watch Video Solution
<b>268.</b> Animal products that are used by Human beings are-
Watch video Solution
<b>269.</b> Explain in brief- Gun powder is an explosive.
Watch Video Solution

270. Answer the following questions briefly : What are two good sources

of vitamin A ?

• Watch Video Solution 271. Calculate the molecular weight of of following compound : cane sugar C12H22O11

Watch Video Solution

**272.** Mixture of potassium nitrate, sulphur and charcoal used as an explosive.

**Watch Video Solution** 

273. What is bronze?

# **274.** Calculate the number of molecules in 14g of nitrogen gas.

<b>Vatch Video Solution</b>
<b>275.</b> What is Brass?
Watch Video Solution
<b>276.</b> Calculate the total number of atoms in 18g of water.
Watch Video Solution
<b>277.</b> Calculate number of moles in 36g of water.
Watch Video Solution

278. Calculate the mass of one atom of oxygen.

279. How many moles of NaOH are present in 160g of it?



**280.** After watching a programme on TV about the adverse effects of junk food and soft drinks on the health of school children, Sonali, a student of Class XII, discussed the issue with the school principal. The principal immediately instructed the canteen contractor to replace the fast food with the fibre and vitamin rich food like sprouts, salad, fruits, etc. This decision was welcomed by the parents and the students. After reading the above passage answer the following question : Give two examples of water-soluble vitamins.

Watch Video Solution

281. Which of the following is not a monosaccharide?

A. Glucose

**B.** Fructose

C. Cellulose

D. Ribose.

Answer:

Watch Video Solution

282. What is coin metal?

Watch Video Solution

283. The monomer units of starch are

A.  $\alpha$ -glucose

B.  $\beta$ - glucose

C. pyranose

D. galactose.

### Answer:

Watch Video Solution

284. The amino acids are the end products of the digestion of

A. fats

B. lipids

C. proteins

D. enzymes.

## Answer:

Watch Video Solution

285. Which of the following is the sweetest ?

A. Glucose

**B.** Fructose

C. Maltose

D. Sucrose.

**Answer:** 

Watch Video Solution

286. Express 29 in roman numerals.

Watch Video Solution

287. Express 30 in roman numerals.

**288.** Express 46 in roman numerals.

Watch Video Solution
<b>289.</b> Express 47 in roman numerals.
Watch Video Solution
<b>290.</b> Express 48 in roman numerals.
Watch Video Solution
<b>291.</b> Express 49 in roman numerals.
Watch Video Solution
<b>Watch Video Solution</b>

292. In nucleic acids, the individual nucleotides are linked through

A. peptide linkage

B. phosphate group

C. glycosidic linkage

D. hydrogen bonds.

### Answer:

Watch Video Solution

**293.** The relation between the nucleotide triplets and the amino acids is

called :

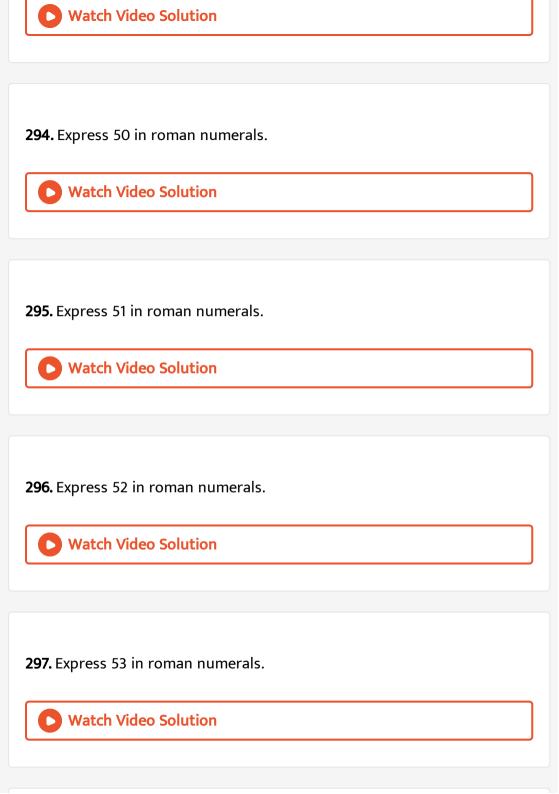
A. Gene

B. Genetic code

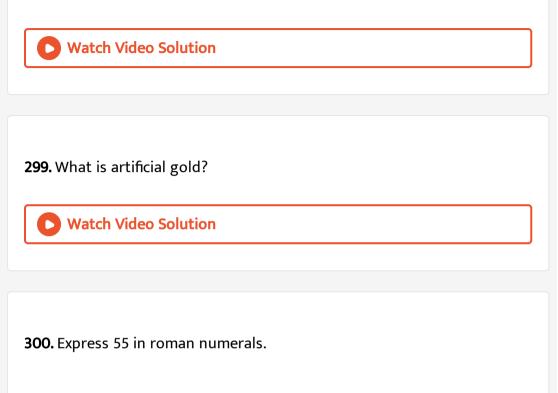
C. Replication

D. Enzymes.

### Answer:



298. Express 54 in roman numerals.



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r	٦.

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Β.

C.

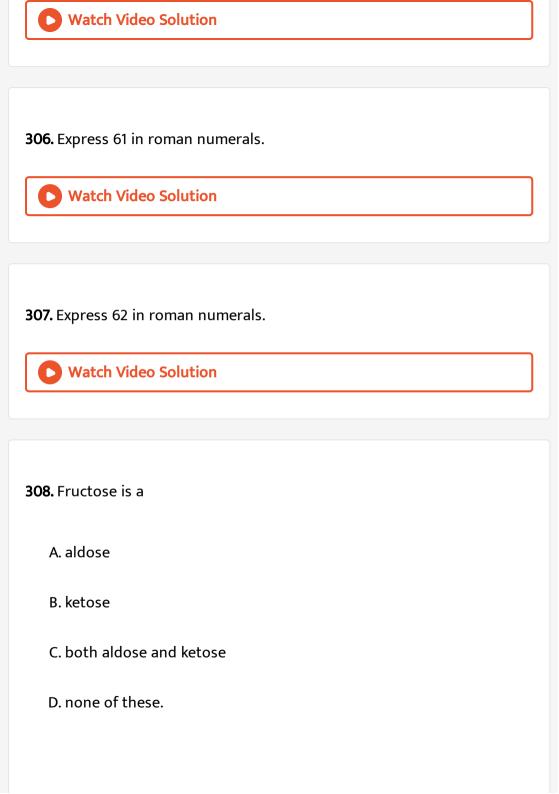
D.

Answer:

**301.** Express 56 in roman numerals.

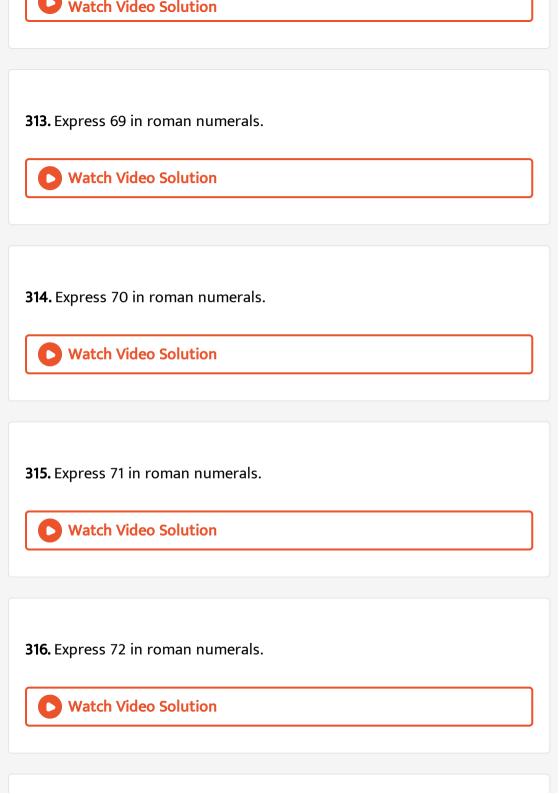
Watch Video Solution
<b>302.</b> Express 57 in roman numerals.
Watch Video Solution
<b>303.</b> Express 58 in roman numerals.
<b>Vatch Video Solution</b>
<b>304.</b> Express 59 in roman numerals.
Watch Video Solution

**305.** Express 60 in roman numerals.



# Answer:

Vatch Video Solution
<b>309.</b> Express 63 in roman numerals.
<b>Vatch Video Solution</b>
310. Express 64 in roman numerals.           Watch Video Solution
<b>311.</b> Express 67 in roman numerals.
<b>Vatch Video Solution</b>
<b>312.</b> Express 68 in roman numerals.



**317.** Express 73 in roman numerals.

<b>Watch Video Solution</b>	]
<b>318.</b> Express 74 in roman numerals.	
Watch Video Solution	]
<b>319.</b> Express 75 in roman numerals.           Watch Video Solution	]
320. What is Gun metal?           Watch Video Solution	]
<b>321.</b> Express 76 in roman numerals.	
	ר



**322.** Express 70 in roman numerals.

**Watch Video Solution** 

323. Express 78 in roman numerals.

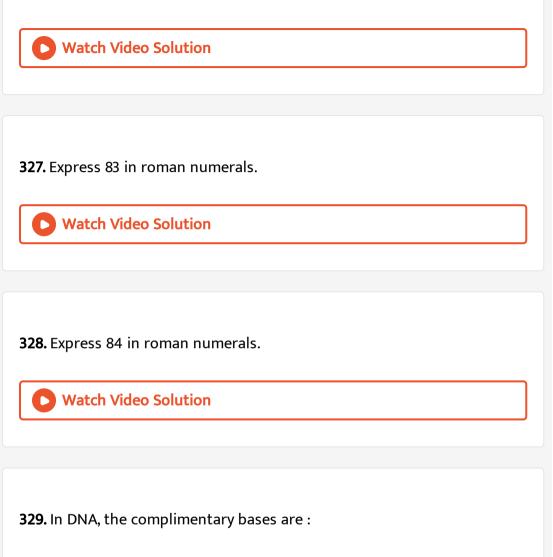
Watch Video Solution

324. Express 79 in roman numerals.



325. Express 81 in roman numerals.

326. Express 82 in roman numerals.



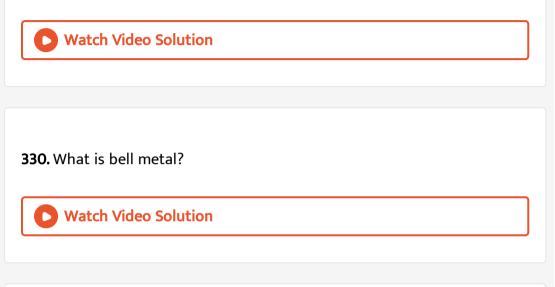
A. adenine and thymine, guanine and cytosine

B. adenine and thymine, guanine and uracil

C. adenine and guanine, thymine and cytosine

D. uracil and adenine, cytosine and guanine

### Answer:



**331.** Which of the following does not exhibit the phenomenon of mutarotation ?

A. (+) Maltose

B. (-) Fructose

C. (+) Sucrose

D. Lactose.

# Answer:

Watch Video Solution

**332.** Which one of the following statements is not true regarding (+) lactose ?

A. On hydrolysis (+) lactose gives equal amount of D(+) glucose and

D(+) galactose.

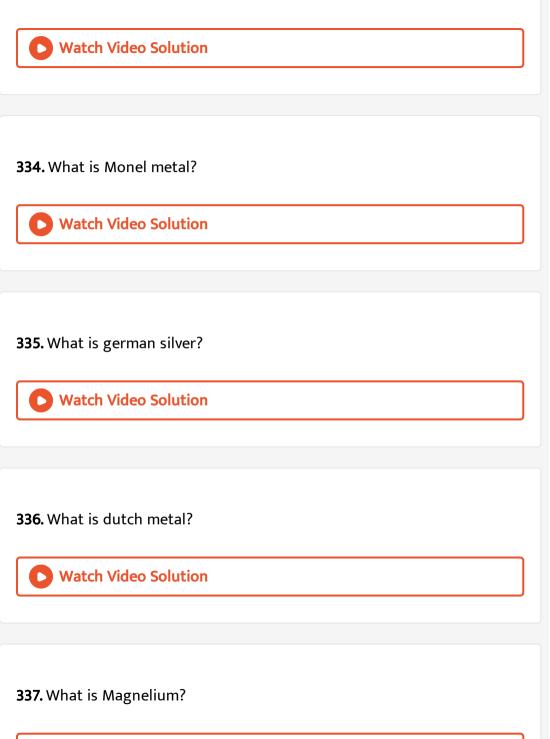
B. (+) Lactose is a B-glucoside formed by the union of a molecule of

D(+) glucose and a molecule of D(+) galactose.

- C. (+) Lactose is a reducing sugar and does not exihibit mutarotation.
- D. (+) Lactose,  $C_{12}H_{22}O_{11}$  contains 8-OH groups.

### Answer:

# 333. What is constantin?



338. What is durelumine?



339. What are amino acids?

A. peptide bond

B. dative bond

C.  $\alpha$ -glycosidic bond

D.  $\beta$  -glycosidic bond

### Answer:

**Watch Video Solution** 

340. Sucrose is a non-reducing sugar.

A. Glucose

**B. Sucrose** 

C. Maltose

D. Lactose

#### Answer:

Watch Video Solution

**341.** The central dogma of molecular genetics states that the genetic information flows from

A. Amino acids  $\rightarrow$  Proteins  $\rightarrow$  DNA

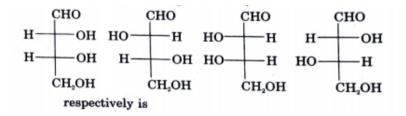
B. DNA  $\rightarrow$  Carbohydrates  $\rightarrow$  Proteins

C. DNA  $\rightarrow$  RNA  $\rightarrow$  Proteins

D. DNA  $\rightarrow$  RNA  $\rightarrow$  Carbohydrates

### Answer:

**342.** The correct corresponding order of names of four aldoses with configuration given below,



A. L-erythrose, L-threose, L-erythrose, D-threose

B. D-threose, D-erythrose, L-threose, L-erythrose

C. L-erythrose, L-threose, D-erythrose, D-threose

D. D-erythrose, D-threose, L-erythrose, L-threose

# Answer:



343. If one strand of DNA has the sequence ATGCTTGA, the sequence in

the complimentary strand would be

A. TCCGAACT

**B. TACGTAGT** 

C. TACGAACT

D. TAGCTAGT

## Answer:

Watch Video Solution

**344.** Which one of the following metals is required as cofactor by all enzymes utilizing ATP in phosphate transfer ?

A. K

B. Ca

C. Na

D. Mg

### Answer:



345. In aqueous solution, an amino acid exists as

A. cation

B. anion

C. dianion

D. zwitter ion

### Answer:



346. The linkage between the two monosaccharide units in lactose is

A.  $C_1$  of  $\beta$ - D-glucose and  $C_4$  of  $\beta$ - D-galactose

B.  $C_1$  of  $\beta$ - D-galactose and  $C_4$  of  $\beta$ - D-glucose

C.  $C_1$  of  $\alpha$ - D-galactose and  $C_4$  of  $\beta$ - D-glucose

D.  $C_1$  of  $\beta$ - D-galactose and  $C_4$  of  $\alpha$ - D-glucose

#### Answer:

Watch Video Solution

# 347. The vitamin that is not soluble in water is

A. vitamin  $B_1$ 

B. vitamin  $B_2$ 

C. vitamin C

D. vitamin D

#### Answer:

348. The scientific principle involved in radio and television is:

- A.  $C_1 C_4 \beta$  linkage
- B.  $C_1 C_6 \alpha$  linkage
- C.  $C_1 C_6 \beta$  linkage
- D.  $C_1 C_4 \alpha$  linkage

### Answer:

Watch Video Solution

349. A basic amino acid among the following is

A. glycine

B. valine

C. proline

D. histidine

# Answer:



**350.** Glucose on oxidation with bromine water yields gluconic acid. This reaction confirms the presence of :

A. gluconic acid

B. tartaric acid

C. saccharic acid

D. mesooxalic acid

### Answer:

351. Cheilosis and digestive disorders are due to the deficiency of

A. Vitamin A

B. thiamine

C. riboflavin

D. ascorbic acid

## Answer:

Watch Video Solution

352. Glucose does not react with

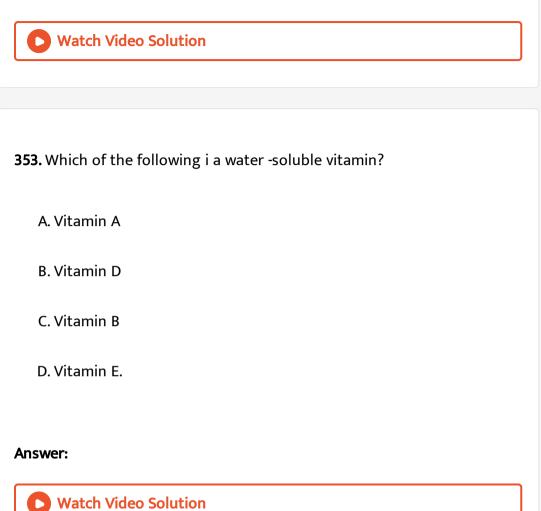
A. Hydroxylamine

B. Conc.  $HNO_3$ 

C. acetic anhydride

D. sodium bisulphite

# Answer:



354. What is the mass in grams of 2.5 moles of slaked lime Ca(OH)2 ?

**355.** Explain secondary structure of proteins.

- A. hydrophobic interactions
- B. sequence of  $\alpha$  -amino acids
- C. fixed configuration of the polypeptide backbone
- D.  $\alpha$ -helical backbone.

## Answer:

Watch Video Solution

356. The two functional groups present in a typical carbohydrate are :

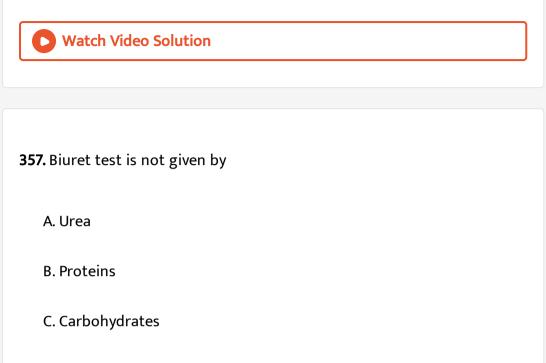
A. -OH and -COOH

B. -CHO and -COOH

C. > C=O and -OH

D. -OH and -CHO

# Answer:



D. Polypeptides

# Answer:



358. The presence or absence of hydroxy group on which carbon atom of

sugar differentiates RNA and DNA.

A. 1st

B. 2nd

C. 3rd

D. 4th

### Answer:

Watch Video Solution

359. Raising of crops for the production of ethanol is known as

A. racemisation

B. specific rotation

C. mutarotation

D. tautomerism

### Answer:

360. Which one of the following statements is correct ?

A. All amino acids are optically active

B. All amino acids except glycine are optically active

C. All amino acids except glutamic acid are optically active

D. All amino acids except lysine are optically active

# Answer:

Watch Video Solution

361. Which of the following compounds can be detected by Molisch's test

?

A. Sugars

**B.** Amines

C. Primary alcohols

D. Nitro compounds

### Answer:

Watch Video Solution

362. Synthesis of each molecule of glucose in photosynthesis involves :

A. 6 molecules of ATP

B. 18 molecules of ATP

C. 10 molecules of ATP

D. 8 molecules of ATP

#### Answer:



363. Which one of the following base is not present in DNA?

A. quinoline

B. adenine

C. cytosine

D. thymine

Answer:

Watch Video Solution

**364.** Which of the vitamins given below is water soluble?

A. Vitamin E

B. Vitamin K

C. Vitamin C

D. Vitamin D

Answer:

365. Thiol group is present in

A. cytosine

B. cystine

C. cysteine

D. methionine

#### Answer:

Watch Video Solution

**366.** A tripeptide is written as Glycine-Al anine-Glycine. The correct structure of the tripeptide is -

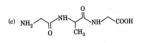
A.

(a)  $NH_2$  NH  $H_2$  NH  $H_2$  NH  $H_2$  OOOH

Β.

(b) NH<sub>2</sub> NH NH COOH

C.



D.

(d) NH<sub>2</sub> NH H COOH

#### Answer:



367. What is solder?



368. Which of the following base is not present in DNA?

A. Adenine

B. Guanine

C. Cytosine

D. Uracil.

Answer:

Watch Video Solution

369. Haemophilia is due to absence of:

A. cellulase

B. zymase

C. invertase

D. urease

Answer:

370. What is hydroleum?



371. Lactose is made of

A.  $\alpha$ -D -glucose only

B.  $\alpha$ -D -glucose and  $\beta$ -D-glucose

C.  $\beta$ -D -galactose and  $\beta$ -D-glucose

D.  $\alpha$ -D -galactose and  $\alpha$ -D -glucose

#### Answer:

**Watch Video Solution** 

372. Answer the following question- Is nichrome a mixture?



373. Which one is not a constituent of nucleic acid ?

A. Uracil

B. Guanidine

C. Phosphoric acid

D. Ribose sugar

Answer:

Watch Video Solution

**374.** Phenol reacts with  $Br_2$  water to give

A. monocarboxylic acid

B. dicarboxylic acid

C. ketone

D. keto acid

## Answer:



# 375. How many monosaccharides are obtained by hydrolysis of sucrose ?

A. 1

B. 2

C. 3

D. 4

#### Answer:



**376.**  $\alpha$ - D (+) glucose and  $\beta$ - D (+) glucose are

A. isomers of D(+) glucose and L(-) glucose respectively

B. diastereomers of glucose

C. anomers of glucose

D. isomers which differ in the configuration of C-2

#### Answer:

Watch Video Solution

377. Which one of the following forms the constituent of cell wall plant

cells ?

A. Starch

B. Glycogen

C. Cellulose

D. Amylose

#### Answer:



378. What is alanko?

Watch Video Solution

379. Aldehyde and ketones cannot be distinguished by:

A. Lucas test

B. Ninhydrin test

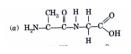
C. Benedict reagent test

D. All the above

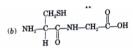
#### Answer:

380. The correct structure of the dipeptide gly-ala is

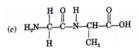




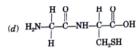
Β.



C.



D.



#### Answer:



# 381. What is Stainless steel?

**Watch Video Solution** 

382. Glucose when reduced with HI and red phosphorus gives

A. n-hexane

B. n-heptane

C. n-pentane

D. n-octane

#### Answer:



383. How many amino acids are present in insulin?

B. 51

C. 20

D. 22

#### Answer:

Watch Video Solution

384. What is manganese steel?

Watch Video Solution

385. Define the term- Alanko?

**Watch Video Solution** 

**386.** The monosaccharide constituents of lactose are :

A.  $\alpha$ -D -glucose and  $\beta$ -D-fructose

B.  $\alpha$ -D -glucose only

C.  $\beta$ -D -glucose only

D.  $\beta$ -D -glucose and  $\beta$ -D -galactose

#### Answer:

Watch Video Solution

# 387. Which one of the following is an essential amino acid?

A. Cysteine

B. Serine

C. Tyrosine

D. Isoleucine

#### Answer:

388. Adenosine is an example of

A. purine base

B. nucleoside

C. nucleotide

D. pyrimidine base

#### Answer:

Watch Video Solution

389. Glycogen is

A. a structural polysaccharide

B. structurally similar to amylopectin but extensively branched

C. a polymer of  $\beta$ -D- glucose units

D. structurally very much similar to amylopectin.

## Answer:

**Watch Video Solution** 

390. Answer the following- For what purpose Bell metal is used?

Watch Video Solution

**391.** During conversion of glucose into glucose cyanohydrin, what functional group/atom of glucose is replaced ?

A. hydrogen

B. aldehydic group

C. primary alcoholic group

D. secondary alcoholic group

## Answer:



# 392.

Let

 $f(x) = (1-x)^2 x + x^2, \, orall x \in R \, ext{ and } g(x) = \int_1^x igg( rac{2(t-1)}{t+1} - Int igg) f(t) dt$ 

Which of the following is true ?

# A. Collagen

B. Albumin

C. Myosin

D. Fibroin

## Answer:

Watch Video Solution

393. Glucose on oxidation with bromine water gives

A. six carbon atoms linked in straight chain

B. secondary alcoholic group in glucose

C. aldehyde group in glucose

D. primary alcoholic group in glucose.

#### Answer:

Watch Video Solution

394. Define the term- chromium steel?

Watch Video Solution

**395.** In double strand helix structure of DNA, heterocyclic base cytosine forms hydrogen bond with

A. adenine

B. guanine

C. purine

D. thyamine

Answer:

**Watch Video Solution** 

**396.** Calculate the mass of one molecule of oxygen.

Watch Video Solution

**397.** Which one given below is a non-reducing sugar?

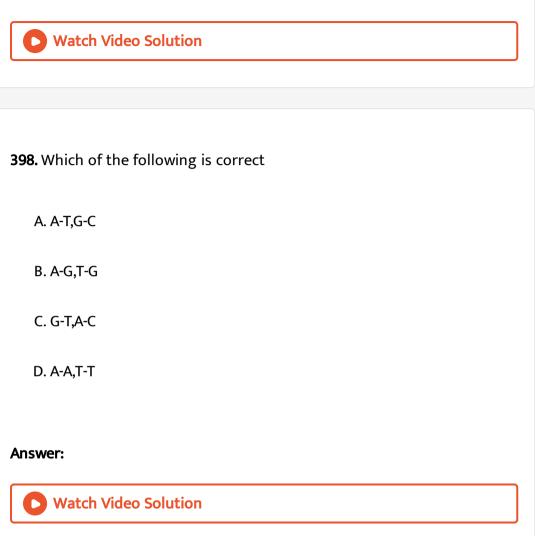
A. Maltose

B. Lactose

C. Sucrose

D. glucose

# Answer:



399. Which of the following cannot reduce Fehling solution?

A. Sucrose

B. Glucose

C. Fats

D. Protein

Answer:

Watch Video Solution

400. Express 1037 in roman numbers.

Watch Video Solution

401. CH4 reacts with Cl2 to form CH2Cl2 and HCl . calculate the volume of

HCl formed when 80ml of methane reacts completely with Cl2.

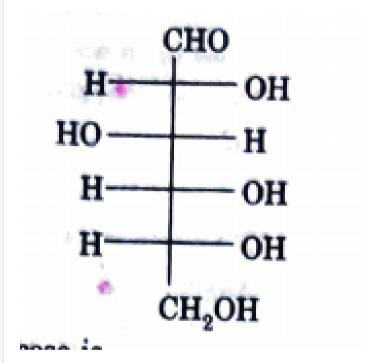
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402. Express 1038 in roman numbers.

A.			
В.			
C.			
D.			

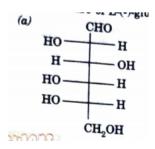
# Answer:

# 403. The structure of D-(+)-glucose is

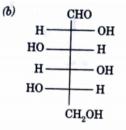


The structure of L-(-)-glucose is

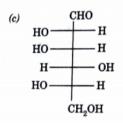
A.



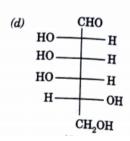
Β.



C.



D.



## Answer:

# 404. Define the term- Brass?

**D** Watch Video Solution

405. Starch is a mixture of

A. amylum

B. amylopectin

C. amylose

D.  $\beta$  -D-glucose

#### Answer:

Watch Video Solution

406. Which of the following are essential amino acids ?

A. Valine

B. Lysine

C. Alanine

D. Serine

Answer:

Watch Video Solution

407. Which of the following contain transition metal ?

A. Vitamin  $B_{12}$ 

B. Chlorophyll

C. Haemoglobin

D. DNA

Answer:

# 408. Define the term-Coin metal? Watch Video Solution 409. Fibrous proteins are present in A. myosin B. albumins C. collagen D. fibroin **Answer:**

Watch Video Solution

**410.** Calculate the volume occupied by 2.8g of N2 at STP ?

# 411. Express in roman numbers : 85

**O** Watch Video Solution

412. Which of the following statements are not true?

A. Collagen in tendons is a globular protein

B. Keratin protein present in hair has  $\alpha$ -helix structure

C. Coagulation of albumin present in white of an egg is an example of

denaturation of protein.

D. The enzymes are not specific in nature.

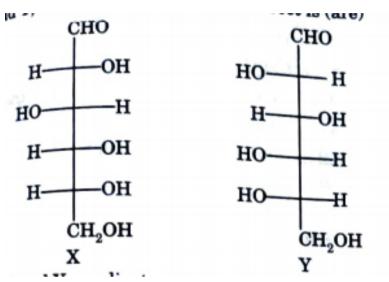
#### Answer:



413. Express 1039 in roman numbers.



414. Among the following statements about molecules X and Y, the one



which is (are) correct is (are)

A. X and Y are diastereomers

B. X and Y are enantiomers

C. X and Y are both aldohexoses

D. X is a D-sugar and Y is an L-sugar.

#### Answer:





415. Express in roman numbers:86

**416.** The pair of optical isomers of glucose which differ in the configuration only around  $C_1$  atom are called

A. epimers

**B.** Fischer projections

C. anomers

D. mutarotational isomers

#### Answer:

417. The maximum number of optical isomers of glucose expected are

A. 8 B. 12 C. 16

D. 25

## Answer:

Watch Video Solution

418. Which of the following statements is not correct ?

A. Monosaccharides reduce Tollen's reagent.

B. On dissolving lpha-D-glucose in water having specific rotation  $111^{\circ}$ , its

specific rotation decreases

C. Glucose is aldohexose while fructose is ketohexose

D. In D-glucose, -OH group is present to left at 5th carbon atom.

#### Answer:



419. The group of fungi the are called fungi imperfecti are

A. epimers

B. anomers

C. enantiomers

D. diastomers.

#### Answer:



420. Mutarotation does not occur in

A. sucrose

B. D-glucose

C. L-glucose

D. none of these.

#### Answer:

Watch Video Solution

421. Which of the following pairs give positive Tollen's test?

A. Glucose, sucrose

B. Glucose, fructose

C. Hexanal, acetophenone

D. Fructose, sucrose.

#### Answer:



422. Define the term- Gun metal?



423. Which of the following statements is not correct?

A. Amino acids exist as zwiter ions

B. All naturally occurring lpha-amino acids have  $-NH_2$  group on the

right.

C. Except glycine, all other naturally occuring  $\alpha$ -amino acids have a

chiral carbon atom.

D. The basic character in  $\alpha$ -amino acids is due to the  $-COO^-$  group.

#### Answer:

424. All proteins on hydrolysis give

A. peptides

B.  $\alpha$ -amino acids

C. amines and carboxylic acid residues

D. enzymes

## Answer:

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**425.** The sequence in which amino acids are arranged in a protein is called

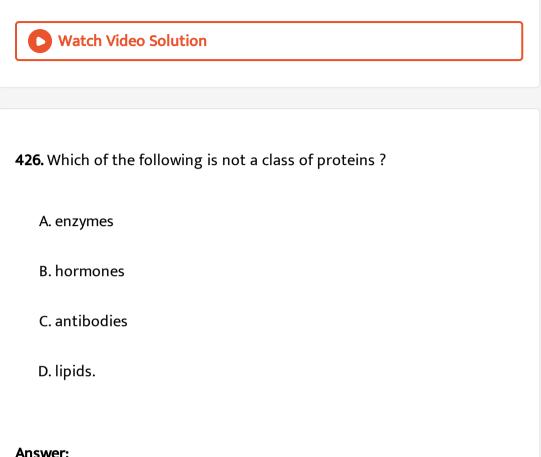
A. primary structure

B. secondary structure

C. tertiary structure

D. configuration.

# Answer:



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**427.** The questions given below consist of an Assertion and Reason. Use the following key to choose the appropriate answer. (a) If both assertion and reason are CORRECT and reason is the CORRECT explanation of the

assertion. (b) If both assertion and reason are CORRECT, but reason is NOT THE CORRECT explanation of the assertion. (c) If assertion is CORRECT but reason is INCORRECT. (d) If assertion ig INCORRECT but reason ig CORRECT. (e) If both assertion and reason are INCORRECT. Assertion :Glycosides are hydrolysed in acidic conditions. Reason =: Glycosides are acetals.

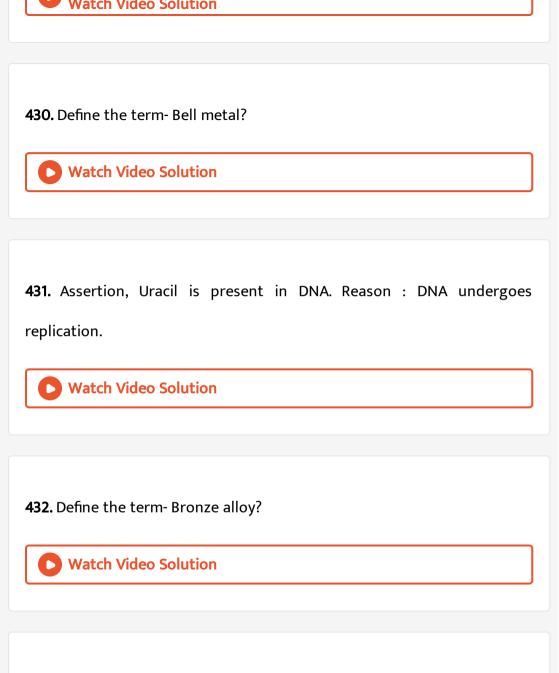
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**428.** Assertion: A solution of Sucrose in water is dextrorotatory but on hydrolysis in presence of little hydrochloric acid it becomes laevorotatory. Reason : Sucrose on hydrolysis gives unequal amounts of glucose and fructose as a result of which change in sign of rotation is observed.



**429.** Assertion : Fats and oils are one of the main sources of food for all living organisms. Reason =: Lipids act as energy reserves.





**433.** Describe the following processes in the body.

Role of bile salts in the digestion and absorption of fats.

434. Except glycine all other naturally occurring amino acids are optically

active.

<b>Watch Video Solution</b>
<b>435.</b> Define the term- Constantin alloy?
<b>Vatch Video Solution</b>
<b>436.</b> Define the term- Monel metal alloy?
<b>Watch Video Solution</b>

437. Match the carbohydrate in Column I with its characteristic given in

Column II

Colu	mn I	Column II
(A)	Lactose	(p) Ketohexose
( <b>B</b> )	Starch	(q) Disaccharide
(C)	Sucrose	(r) Polysaccharide
(D)	Fructose	<ul> <li>(s) on hydrolysis gives β-D-glucose and β-D-galactose</li> </ul>

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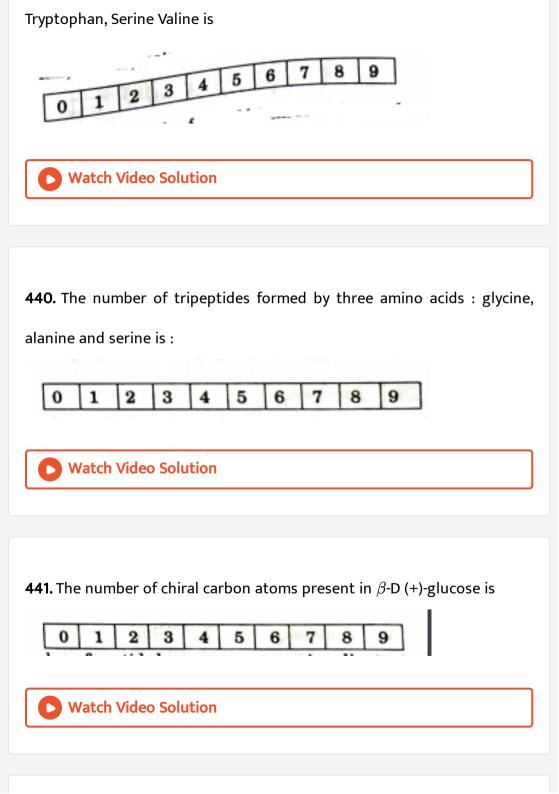
438. Match the carbohydrate in Column I with its characteristic given in

Column II

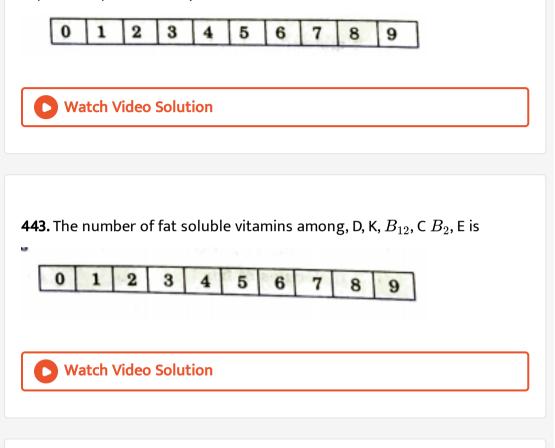
Column I			Column II
(A)	Keratin	(p)	protein
(B)	Haemoglobin	(q)	β-pleated protein
(C)	Riboflavin		α-amino acid
(D)	Glycine	(s)	Water soluble vitamin

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**439.** The answer to to each of the following question is a single-digitinteger ranging from 0 to 9. Darken the correct digit. Among the following total number of essential amino acids : Leucine, Alanine, Phenylalanine, Proline, Threonine, Lysine, Histidine, Arginine, Cysteine,



**442.** The number of peptide hormones among: insulin, testosterone, oxytocin, thyroxine, vasopressin, cortisone is



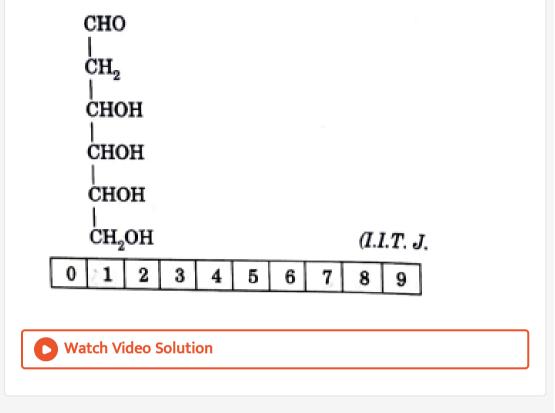
**444.** The substituents  $R_1$  and  $R_2$  for nine peptides are listed in the table given below. How many of these peptides are positively charged at pH =

	8 prr - 1.v :			
н <sub>3</sub> м-СН-СО-М   Н	NH-CH-CO-NH-   R <sub>1</sub>	CH-(   R,	CO-NH-CH-C   H	0
Peptide	R <sub>1</sub>		R <sub>2</sub>	1
I	н		Н	ł
п	н		CH <sub>3</sub>	1
ш	CH <sub>2</sub> COOH		н	1
IV	CH <sub>2</sub> CONH <sub>2</sub>		$(CH_2)_4NH_2$	┥
v	CH2CONH2		CH2CONH2	┨
VI	$(CH_2)_4NH_2$		(CH <sub>2</sub> ) <sub>4</sub> NH <sub>2</sub>	┥
VII	CH <sub>2</sub> COOH		CH2CONH2	
VIII	CH <sub>2</sub> OH		(CH <sub>2</sub> ) <sub>4</sub> NH <sub>2</sub>	
IX	$(CH_2)_4NH_2$		CH <sub>3</sub>	-
0	1 2 3 4	5		9



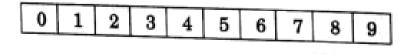
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**445.** When the following aldohexose exists in its D-configuration, the total number of stereoisomers in its Pyranose form is



**446.** A tetrapeptide has - COOH group on alanine. This produces glycine (Gly), valine (Val), Phenyl-alanine (Phe) and alanine (Ala), on complete hydrolysis. For this tetrapeptide, the number of possible Sequences (primary strutures) with  $NH_2$  group attached to a chiral center is.

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# 447. Define the term- German silver alloy?

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448. Which of the following polymer is stored in the liver of animals?

A. Amylose

B. Cellulose

C. Amylopectin

D. Glycogen

#### Answer:



449. Sucrose (cane Sugar) is a disaccharide. One molecule of Sucrose on

hydrolysis gives \_\_\_\_\_.

A. 2 molecules of glucose

B. 2 molecules of glucose + 1 molecule of fructose

C. 1 molecule of glucose + 1 molecule of fructose

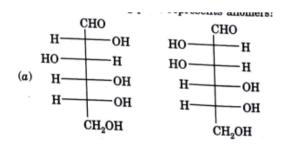
D. 2 molecules of fructose

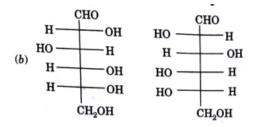
#### Answer:

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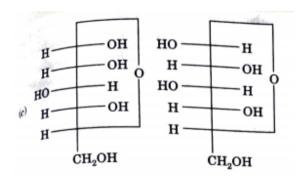
450. Which of the following pairs represents anomers?

A.

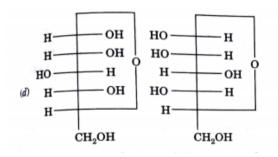




C.



D.



## Answer:

**451.** Proteins are found to have two different types of secondary structures viz.  $\alpha$ -helix and  $\beta$ -pleated sheet structure.  $\alpha$ -helix structure of protein is stabilised by :

A. Peptide bonds

B. van der Waals forces

C. Hydrogen bonds

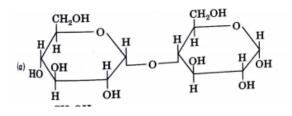
D. Dipole-dipole interactions

# Answer:

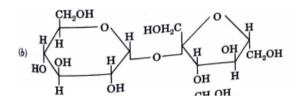
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**452.** In disaccharides, if the reducing groups of monosaccharides i.e. aldehydic or ketonic groups are bonded, these are non- reducing sugars. Which of the following disaccharide is a non-reducing sugar?

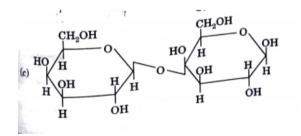




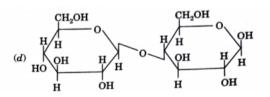
Β.



C.



D.



#### Answer:



**453.** Which of the following acids is a vitamin?

A. Aspartic acid

B. Ascorbic acid

C. Adipic acid

D. Saccharic acid

Answer:

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454. Define the term- Dutch metal alloy?

455. Fill in the blanks

Nucleic acids are polymers of .....

A. Nucleosides

**B.** Nucleotides

C. Bases

D. Sugars

## Answer:

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456. Define the term- Magnelium alloy?



**457.** Give answers for the following question- For what purpose Magnelium alloy is used?

**458.** Name the four bases present in DNA. Which one of these is not present in RNA ?

A. Adenine

B. Uracil

C. Thymine

D. Cytosine

## Answer:

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**459.** Answer the following question- For what purpose Bronze alloy is

used?

460. Which of the following base is not present in DNA?

A. Adenine

B. Thymine

C. Cytosine

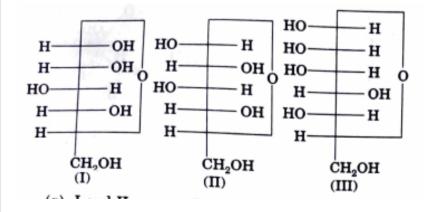
D. Uracil

## Answer:

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461. Three cyclic structures of monosaccharides are given below. Which of

these are anomers ?



A. I and II

B. II and III

C. I and III

D. III is anomer of I and II

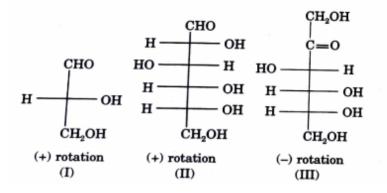
#### Answer:

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462. Express in roman numbers:87

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**463.** Optical rotations of some compounds along with their Structures are given below. Which of them have D configuration ?



A. I, II, III

B. II,III

C. I, II

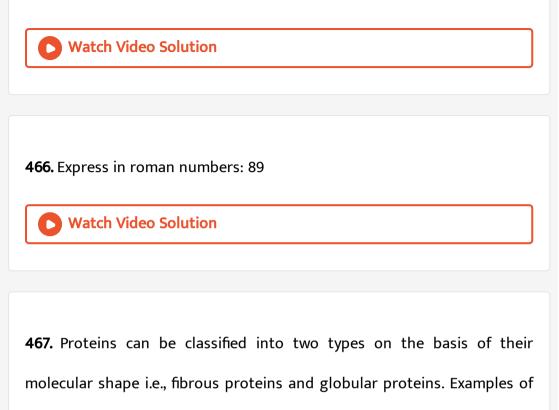
D. III

## Answer:

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464. Express 1040 in roman numbers.

**465.** Express 1041 in roman numbers.



globular proteins are -

A. Insulin

B. Keratin

C. Albumin

D. Myosin

#### Answer:



468. Answer the following question- For what purpose Brass alloy is used?

**469.** Amino acids are classified as acidic, basic or neutral depending upon the relative number of amino and carboxyl groups in their molecule. Which of the following are acidic?

A. 
$$(CH_3)_2 CH - CH - COOH$$
  
 $|_{NH_2}$   
B.  $HOOC - CH_2 - CH_2 - CH - COOH$   
C.  $H_2N - CH_2 - CH_2 - CH_2 - COOH$   
D.  $HOOC - CH_2 - CH_2 - COOH$ 

#### Answer:

470. Define the following term- Manganese steel?

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<b>471.</b> Express 91 in roman numerals.
Watch Video Solution
<b>472.</b> Express 93 in roman numerals.
Watch Video Solution
<b>473.</b> Which of the following are purine bases?

A. Guanine

B. Adenine

C. Thymine

D. Uracil.

Answer:

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474. Express 96 in roman numerals.

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**475.** Match the vitamins given in Column I with the deficiency disease they

cause given in Column II.

Column I (Vitamins)	Column II (Diseases)		
(a) Vitamin A	(i) Pernicious anaemia		
(b) Vitamin B <sub>1</sub>	(ii) Increased blood clotting time		
(c) Vitamin B <sub>12</sub>	(iii) Xerophthalmia		
(d) Vitamin C	(iv) Rickets		
(e) Vitamin D	(v) Muscular weakness		
(f) Vitamin E	(vi) Night blindness		
(g) Vitamin K	(vii) Beri Beri		
	(viii) Bleeding gums		
	(ix) Osteomalacia		



476. Match the following enzymes given in Column I with the reactions

they catalyse given in Column II.

Column I (Enzymes)	Column II (Reactions)	
(a) Invertase	(i) Decomposition of urea into NH, and CO <sub>2</sub> .	
(b) Maltase	(ii) Conversion of glucose into ethyl alcohol.	
(c) Pepsin	(iii) Hydrolysis of maltose into glucose	
(d) Urease	(iv) Hydrolysis of cane sugar.	
(e) Zymase	(v) Hydrolysis of proteins into peptides	

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**477.** Assertion : D(+) - Glucose is dextrorotatory in nature.

Reason : 'D' represents its dextrorotatory nature.

A. (a) Assertion and reason both are correct statements and reason

explains the assertion.

B. (b) Assertion and reason both are correct statements but reason is

not correct explanation for assertion.

C. (c) Assertion is correct statement and reason is wrong Statement.

D. (d) Assertion is wrong statement and reason is correct statement.

#### Answer:

**O** Watch Video Solution

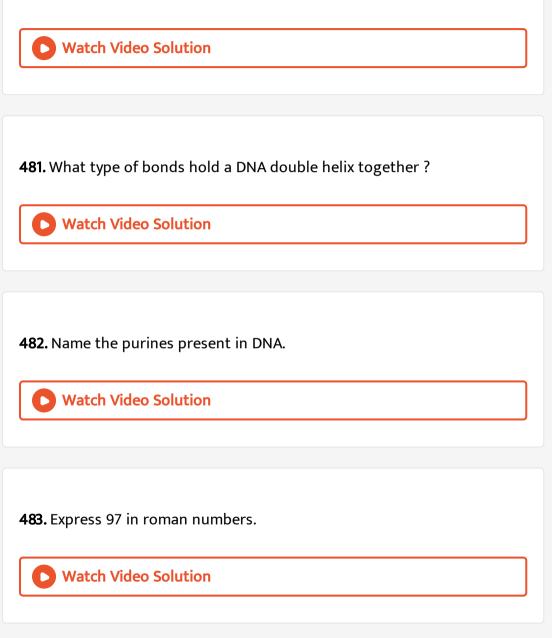
478. Express 94 in roman numerals.

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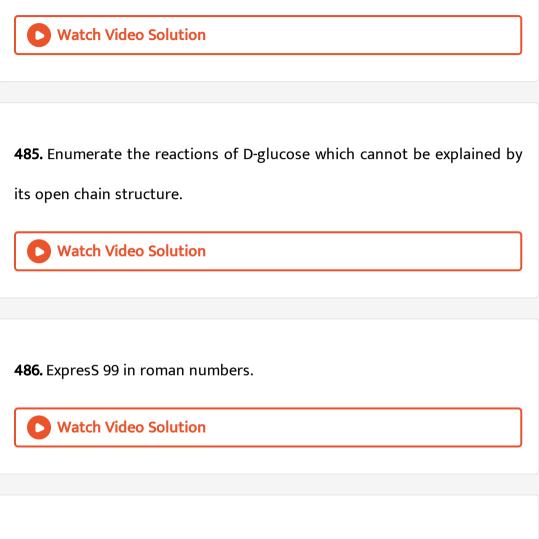
**479.** Name the products of hydrolysis of sucrose.

480. Answer the following question- For what purpose Artificial gold alloy

is used?



**484.** Express 98 in roman numbers.



487. For what purpose Coins metal is used?

# **488.** What is glycogen ? How is it different from starch?

<b>Watch Video Solution</b>
<b>489.</b> Express 100 in roman numbers.
<b>Watch Video Solution</b>
<b>490.</b> For what purpose Gun metal alloy is used?
<b>491.</b> Express 101 in roman numerals.
Vatch Video Solution

**492.** What are essential and non-essential amino acids ? Give two examples of each type.

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**493.** What happens when D - glucose is treated with the following reagents ? Bromine water.

Watch Video Solution

**494.** What happens when D - glucose is treated with the following reagents ?  $HNO_3$ .



495. What happens when D-glucose is treated with the following reagent

ı.	ī	ı	
F	1	I	•

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<b>496.</b> What are disaccharides ?
Watch Video Solution
<b>497.</b> What is mutarotation ?
Vatch Video Solution
<b>498.</b> For what purpose Monel metal is used?
Watch Video Solution
<b>499.</b> What are vitamins ? How are these classified.

**500.** Name the vitamins whose deficiency cause (i) rickets (ii) night blindness, (iii) scurvy.

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501. Name the vitamin whose deficiency causes Beri-Beri.

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**502.** Name the vitamins whose deficiency cause (i) rickets (ii) night blindness, (iii) scurvy.



503. Write two differences between hormones and vitamins.