



CHEMISTRY

NCERT - NCERT CHEMISTRY(ENGLISH)

BIOMOLECULES

Exercise

1. Glucose or sucrose are soluble in water but cyclohexane or benzene (simple six membered

ring compounds) are insoluble in water.
Explain.



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2. What are the expected products of hydrolysis of lactose ?



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3. How do you explain the absence of aldehyde group in the pentaacetate of D-glucose ?



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4. The melting points and solubility in water of amino acids are generally higher than that of the corresponding halo acids. Explain.



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5. Where does the water present in the egg go after boiling the egg ?



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6. Why cannot vitamin *C* be stored in our body ?



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7. What products would be formed when a nucleotide from DNA containing thymine is hydrolysed?



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



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9. What are monosaccharides?



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10. What are reducing sugars ?



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11. Write two main functions of carbohydrates in plants.



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12. Classify the following into monosaccharides and disaccharides: Ribose, 2 – deoxyribose, maltose, galactose, fructose, and lactose.



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13. What do you understand by the term glycosidic linkage?



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14. What is glycogen? How is it different from starch?



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15. What are the hydrolysis products of (i) sucrose and (ii) lactose?



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16. What is the basic structural difference between starch and cellulose?



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17. What happens when D – glucose is treated with the following reagents?

(i). HI

(ii). Bromine water

(iii). HNO_3



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18. Enumerate the reactions of D -Glucose which cannot be explained by its open-chain structure.



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



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20. Define the following as related to proteins:

(i) Peptide linkage

(ii) Primary structure

(iii) Denaturation.



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21. What are the common types of secondary structures for proteins?



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22. What type of bonding helps in stabilising the α -helix structure of proteins?



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23. Differentiate between globular and fibrous proteins.



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24. How do you explain the amphoteric behaviour of amino acids ?



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25. What are enzymes ?



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26. What is the effect of denaturation on the structure of proteins?



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



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28. Why are vitamin *A* and vitamin *C* essential for us? Give their important sources.



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29. What are nucleic acids ? Mention their two important functions.



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30. What is the difference between a nucleoside and a nucleotide ?



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31. The two strands of *DNA* are not identical, but are complementary'. Explain this statement.



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32. Write the main structural difference between *DNA* and *RNA*. Of the four bases, common to both *DNA* and *RNA*.



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33. What are the different types of *RNA* found in the cell?



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