

Single Correct Answer Type:

- Glucose gives silver mirror with Tollen's reagent. It shows the presence of
(A) An acidic group (B) An alcoholic group (C) A ketonic group (D) An aldehydic group
- The 'epimerisation' involves
(A) Change of configuration (B) Addition of one more 'C'
(C) Substraction of a 'C' (D) Conversion of $-CHO$ to $-C=O$
- Molecular formula of pentahydroxy acid obtained when glucose is oxidised with Br_2 water is
(A) $C_6H_{12}O_7$ (B) $C_6H_{12}O_8$ (C) $C_6H_{12}O_6$ (D) $C_6H_{10}O_6$
- Amylopectin is
(A) Water soluble (B) Water insoluble
(C) Forms colloidal solution with water (D) Both (B) and (C)
- The correct name of 'sucrose' is
(A) α -D-glucopyranosyl- β -D-fructofuranoside (B) β -D-glucopyranosyl- β -D-fructofuranoside
(C) α -D-glucopyranosyl- α -D-fructofuranoside (D) β -D-glucopyranosyl- α -L-fructofuranoside
- The reagent which forms crystalline osazone derivative when reacted with glucose, is
(A) Fehling solution (B) Phenylhydrazine (C) Benedict solution (D) Hydroxylamine
- Irreversible precipitation of proteins is called
(A) Denaturation (B) Hydrolysis (C) Rearrangement (D) Electrophoresis
- Which of the following is not essential amino acid
(A) Valine (B) Lysine (C) Histidine (D) Glycine
- For α -amino acids having the structure

$$R - \underset{\substack{| \\ NH_2}}{CH} - CO_2H$$

Which of the following statements are true
(A) Water solubility is maximum at a pH when concentrations of anions and cations are equal
(B) They give ninhydrin test
(C) On reacting with nitrous acid give off N_2
(A) All (B) B and C (C) A and B (D) A
- Of the following statements about enzymes which ones are true
(i) Enzymes lack in nucleophilic groups
(ii) Enzymes are highly specific both in binding chiral substrates and in catalyzing their reactions
(iii) Enzymes catalyse chemical reactions by lowering the activation energy
(iv) Pepsin is a proteolytic enzyme
(A) (i) and (iv) (B) (i) and (iii) (C) (ii), (iii) and (iv) (D) (i)
- Which of the following statements about proteins is not true
(A) Amino acid residues join together to make a protein molecule
(B) Proteins are polymers with formula $(C_6H_{10}O_5)_n$
(C) Eggs are rich in protein
(D) Pulses are good source of proteins

12. Which one of the following is a linear polymer
 (A) Amylopectin (B) Glycogen (C) Starch (D) Amylose
13. Which of the following is an example of condensation polymers
 (A) Polythene (B) PVC (C) Orlon (D) Terylene
14. A condensation polymer among the following polymers is
 (A) PVC (B) Teflon (C) Decron (D) Polystyrene
15. When condensation product of hexamethylenediamine and adipic acid is heated to 553 K (80°C) in an atmosphere of nitrogen for about 4-5 hours, the product obtained is
 (A) Solid polymer of nylon 66 (B) Liquid polymer of nylon 66
 (C) Gaseous polymer of nylon 66 (D) Liquid polymer of nylon 6
16. The catalyst used in the manufacture of polyethene by Ziegler method is
 (A) Titanium tetrachloride and triphenyl aluminium
 (B) Titanium tetrachloride and trimethyl aluminium
 (C) Titanium dioxide
 (D) Titanium isopropoxide
17. The compound used in the manufacture of terylene is
 (A) Ethylene (B) Vinyl chloride (C) Ethylene glycol (D) Adipic acid
18. Which of the following has cross-links
 (A) Vulcanised rubber (B) Nylon
 (C) Phenol-formaldehyde resins (D) Both (A) and (C) are correct
19. Orlon is a polymer of
 (A) Styrene (B) Tetrafluoro ethylene (C) Vinyl chloride (D) Acrylonitrile
20. Caprolactam is the monomer of
 (A) Nylon-6 (B) Glyptal (C) P.T.F.E. (D) Melamine

Numerical Based:

21. Number of chiral carbons in $\beta\text{-D-(+)-glucose}$ is
22. Subunits present in haemoglobin are
23. A compound of mol. wt. 180 is acetylated to give a compound of mol. wt. 390. The number of amino groups in the initial compound is
24. Starting with three different amino acid molecules, how many different tripeptide molecules are formed
25. The mass average molecular mass & number average molecular mass of a polymer are respectively 40,000 and 30,000. The polydispersity index of polymer will be

KEY

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|-------|-------|-------|-------|---------|
| 1. D | 2. A | 3. A | 4. B | 5. A |
| 6. B | 7. A | 8. D | 9. B | 10. C |
| 11. B | 12. D | 13. D | 14. C | 15. B |
| 16. B | 17. C | 18. D | 19. D | 20. A |
| 21. 4 | 22. 4 | 23. 2 | 24. 6 | 25. 1.5 |