



CHEMISTRY

BOOKS - BITSAT GUIDE

POLYMERS,BIOMOLECULES AND CHEMISTRY IN ACTION

Practice Exercise

1. Polymers are also referred to as

- A. micromolecules
- B. small molecules
- C. macromolecules
- D. hug molecules

Answer: C



Watch Video Solution

2. On the basis of strcture of polymers, they can be classified as

- A. ilnear, synthetic and network polymers
- B. natural, synthetic and polymers
- C. natural, synthetic and semi synthetic polymers
- D. natural, synthtic and linear polymers

Answer: A



Watch Video Solution

3. The correct classification of polymers based on molecular forces is

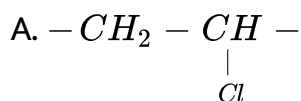
- A. elastomers, fibres and the thermosetting polymers
- B. elastomers, fibres, thermoplastic and thermosetting polymers
- C. homopolymers and copolymers
- D. None of the above

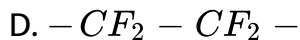
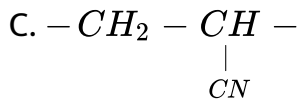
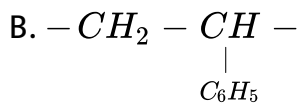
Answer: B



Watch Video Solution

4. Repeating unit of polystyrene is





Answer: B



Watch Video Solution

5. Given the polymers,

$A = \text{Nylon-6,6}$, $B = \text{Buna-S}$, $C = \text{Polythene}$

Arrange these in decreasing order of their intermolecular forces:

A. $A < B < C$

B. $B < C < A$

C. $B < A < C$

D. $C < A < B$

Answer: B



Watch Video Solution

6. Synthetic polymer prepared by using caprolactam is known as

A. terylene

B. teflon

C. nylon-6

D. neoprene

Answer: C



Watch Video Solution

7. Relation between number of average molecular mass (\overline{M}_n) and weight of average molecular mass (\overline{M}_w) of synthetic polymers is

A. $\overline{M}_n < \overline{M}_w$

B. $\overline{M}_n > \overline{M}_w$

C. $\overline{M}_n \overline{M}_w$

D. $\overline{M}_n > M_w$

Answer: A



Watch Video Solution

8. Bakelite is obtained from phenol by reacting with.

A. acetaldehyde

B. acetal

C. formaldehyde

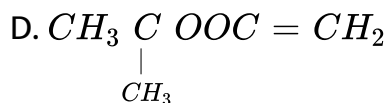
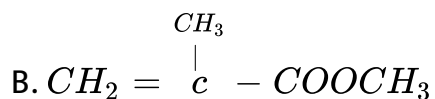
D. chlorobenzene

Answer: C



Watch Video Solution

9. The structural formula of monomer of poly methyl methacrylate (PMMA) is



Answer: B



[Watch Video Solution](#)

10. The element present in teflon is

- A. fluorine
- B. chlorine
- C. nitrogen
- D. oxygen

Answer: A



[Watch Video Solution](#)

11. Glyptal is classified as a

- A. polyolefin

- B. polyester
- C. polyamide
- D. polyether

Answer: B



Watch Video Solution

12. Bakelite is made from phenol and formaldehyde. The initial reaction between them is the example of

- A. electrophilic aromatic addition
- B. nucleophilic aromatic substitution
- C. free radical reaction
- D. aldol reaction

Answer: A



Watch Video Solution

13. Artificial silk is a

- A. polypeptide
- B. polysaccharide
- C. polythene
- D. polyvinyl chloride

Answer: B



Watch Video Solution

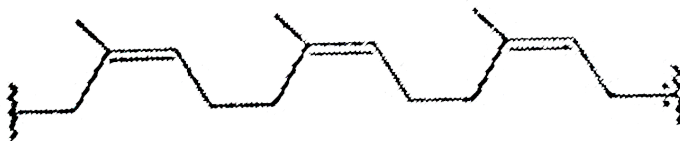
14. Which one of the following pairs is not correctly matched?

- A. Terylene Condensation polymer of terephthalic acid and ethylene glycol
- B. Perspex A homopolymer of methyl methacrylate
- C. Teflon Thermally stable cross-linked polymer of phenol and formaldehyde
- D. Synthetic rubber A co-polymer of butadiene and styrene

Answer: D

 **Watch Video Solution**

15. Identify the following polymer:



A. Gutta percha

B. Neoprene

C. Polypropylene

D. Natural rubber

Answer: D



Watch Video Solution

16. Orlon is a polymer of

A. styrene

B. tetrafluoro ethylene

C. vinyl chloride

D. acrylonitrile

Answer: B



Watch Video Solution

17. Melamine formaldehyde resin is

- A. an addition polymer
- B. a copolymer
- C. a fibre type polymer
- D. dimer of melamine and formaldehyde

Answer: D



Watch Video Solution

18. Which one of the following compounds is different from the rest?

- A. Sucrose

B. Maltose

C. Lactose

D. Glucose

Answer: A



Watch Video Solution

19. A carbohydrate which cannot be hydrolysed to simpler compounds, is called

A. monosaccharide

B. disaccharide

C. trisaccharide

D. polysaccharide

Answer: B



Watch Video Solution

20. Carbohydrate that yieldmonosaccharide unit on hydrolysis are called oligosaccharide.

A. 1 – 10

B. 2 – 10

C. 4 – 10

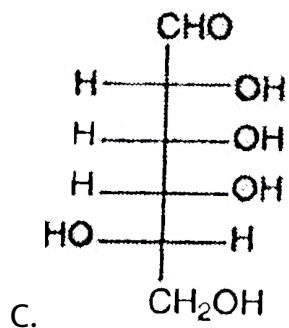
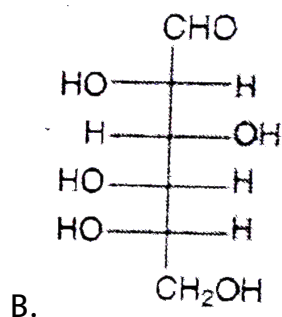
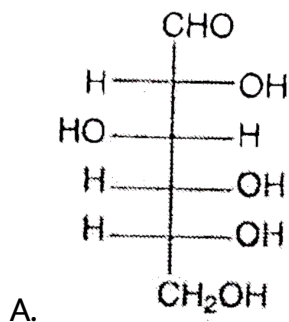
D. 5 – 10

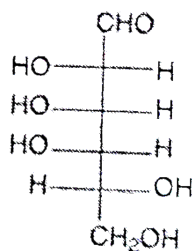
Answer: B



Watch Video Solution

21. Which of the following structures represent the L-glucose?





D.

Answer: B

 **Watch Video Solution**

22. Each polypeptide in a protein has amino acids linked each other in a specific sequence. This sequence of amino acid is said to be

- A. primary structure of proteins
- B. secondary structure of proteins
- C. tertiary structure of proteins
- D. quaternary structure of proteins

Answer: A



[Watch Video Solution](#)

23. Which of the following pairs form same osazone?

- A. Glucose and fructose
- B. Glucose and galactose
- C. Glucose and arabinosa
- D. Lactose and maltose

Answer: A



[Watch Video Solution](#)

24. Adenosine is an example of

- A. nucleotide

B. nucleoside

C. purine base

D. pyrimidine base

Answer: B



Watch Video Solution

25. The base adenine occurs in

A. DNA only

B. RNA only

C. Both DNA and RNA

D. protein

Answer: C





Watch Video Solution

26. Eezyme trypsin converts

- A. proteins into $\alpha - a$ min oacids
- B. starch into sugar
- C. glucose into glycogen
- D. $\alpha - a$ min o acids into proteins

Answer: A



Watch Video Solution

27. In *DNA*, the complementary bases are:

- A. uracil and adenine , cytosine and guanine
- B. adenine and guanine, thymine and cytosine

C. adenine and guanine, guanine and uracil

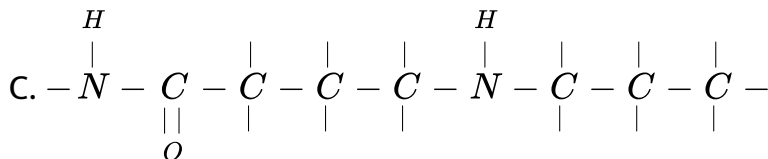
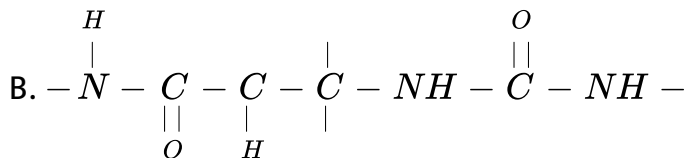
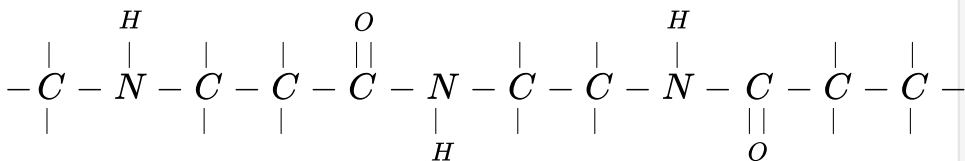
D. adenine and thymine, guanine and cytosine

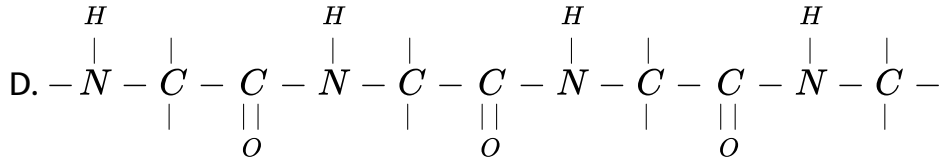
Answer: D

 **Watch Video Solution**

28. Which of the following structures represents the peptide chain?

A.





Answer: D



Watch Video Solution

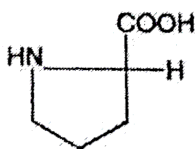
29. Match the following amino acids given in Column I with their characteristic feature of side chain given in the Column II and select the appropriate option from the codes given below.

Column I

Column II

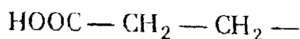
A. Asparagine (Asn, N)

1.



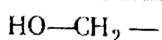
B. Proline (Pro, P)

2.



C. Glutamic acid (Glu, E)

3.



D. Serine (Ser, S)

4.



A.

A	B	C	D
4	1	2	3

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	2	1	3

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	1	2

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	3	2

Answer: A



Watch Video Solution

30. Pyridoxin is also known as

A. Vitamin B_2

B. Vitamin B_6

C. Vitamin B_{12}

D. Vitamin B_1

Answer: B

31. Artificial sweetener used in soft drinks is:

- A. aspartame
- B. cellulose
- C. fructose
- D. Glucose

Answer: A

32. Which base is present in *RNA* but not in *DNA*?

- A. uracil
- B. thiamine

C. adenine

D. guanine

Answer: A



Watch Video Solution

33. Which of the following statement(s) is/are correct regarding vitamins?

A. They are designated by A, B, C and D.

B. They are further named as B_1 , B_2 , B_6 and B_{12}

C. Vitamin pills should not be taken without the advice of doctor

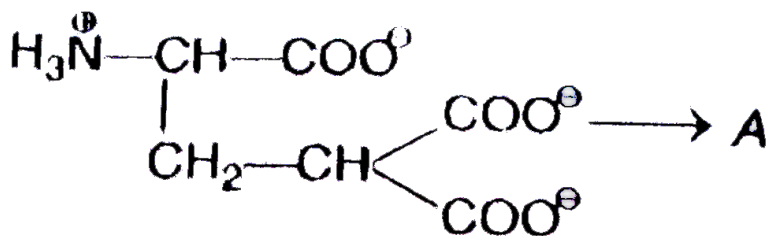
D. All of the above

Answer: D

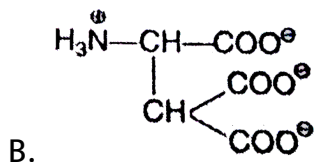
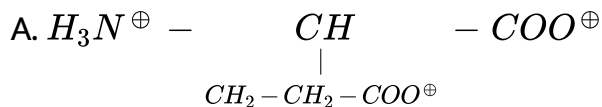


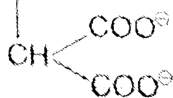
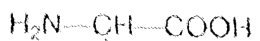
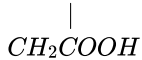
Watch Video Solution

34. Following amino acid has been found in protein prothrombin, but remains undetected due to the formation of another common acid (A)



Identify A.





D.

Answer: A



Watch Video Solution

35. Which of the following hormones is responsible for the growth of animals ?

A. Auxin

B. Insulin

C. Adrenaline

D. Somatotropin

Answer: D



[Watch Video Solution](#)

36. Which of the following is present in DNA?

- A. Deoxyribose
- B. starch
- C. Riboflavin
- D. None of these

Answer: A



[Watch Video Solution](#)

37. Which of the following have transition metal?

- A. Haemoglobin

B. Chlorophyll

C. Insulin

D. Vitamin B_1

Answer: B



Watch Video Solution

38. Molecular masses of drugs lie in the range of

A. $\sim 5u - 10u$

B. $\sim 50u - 60u$

C. $\sim 100u - 500u$

D. Above $2000u$

Answer: C



39. Difference in the antiseption and disinfectants is

- A. Antiseptics are used against micro-organisms which disinfectants are used against insects
- B. antiseptics are used over skin while disinfectants can be taken orally also
- C. antiseptics merely inhibit the growth and disinfectant kill the micro-organisms
- D. antiseptics are used over living tissues while disinfectants cannot be used over living tissues

Answer: D



40. Chloraming - T is a/an

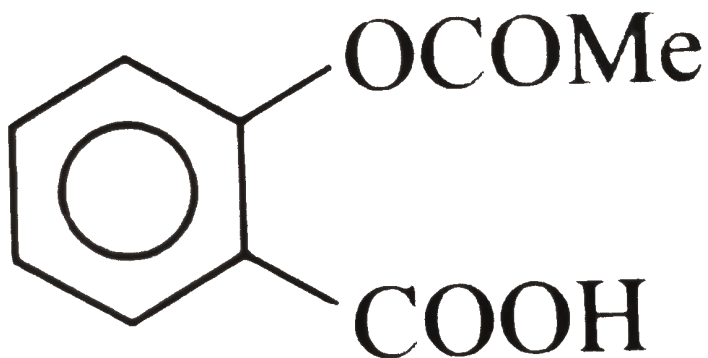
- A. antiseptic
- B. disinfectant
- C. analgasic
- D. antipyretic

Answer: A



Watch Video Solution

41. Aspirin is widely used as an analgesic drug. It is optically inactive. The structure of asprim is:



Which of the following is not the correct name for aspirin?

- A. methyl salicylate
- B. acetylsalicylic acid
- C. sodium salicylate
- D. salicylic acid

Answer: B



Watch Video Solution

42. Which statement about aspirin is not true?

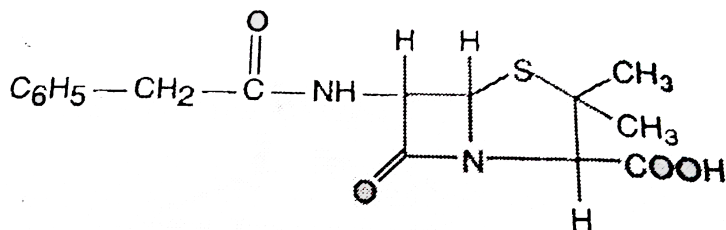
- A. Aspirin belongs to narcotic analgesics
- B. It is effective in relieving pain
- C. It has antiblood clotting action
- D. It is a neurologically active drug

Answer: A



Watch Video Solution

43. Consider the following structure.



It is the structure of

- A. penicillin K
- B. penicillin V
- C. penicillin G
- D. chloramphenicol

Answer: C



Watch Video Solution

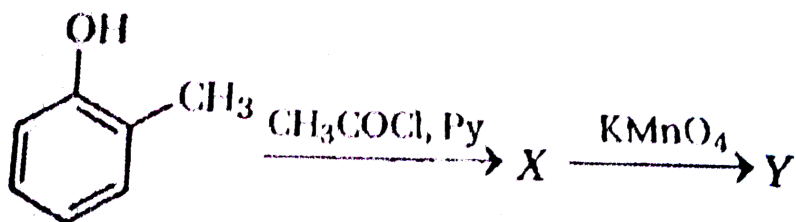
44. A drug that is antipyretic as well as analgesic is :

- A. chlorpromazine hydrochloride
- B. para-acetamidophenol
- C. chloroquine
- D. penicillin

Answer: B

 Watch Video Solution

45. Consider the following reaction,



The and product Y formed in the above reaction is a well known medicine. Which of the following is incorrect regarding Y ?

- A. It has analgesic as well as antipyretic properties
- B. It helps to prevent heart attack
- C. It has anti-blood clotting property
- D. It suppresses the gastric anionities

Answer: D



Watch Video Solution

46. Trauquillisers are the substances used for the treatment of

A. cancer

B. AICS

C. mental diseases

D. physical disorders

Answer: C



Watch Video Solution

Column I	Column II
A. Ranitidine	1. Tranquiliser
B. Furacine	2. Antibiotic
C. Phenelzine	3. Antihistamine
D. Chloramphenicol	4. Antiseptic

47.

A. $\begin{matrix} A & B & C & D \\ 3 & 4 & 1 & 2 \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ 4 & 1 & 2 & 3 \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ 1 & 2 & 3 & 4 \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ 2 & 3 & 4 & 1 \end{matrix}$

Answer: A



View Text Solution

48. Chloramphenicol is used in the treatment of

A. typhoid

B. malaria

C. acidity

D. tuberculosis

Answer: A



Watch Video Solution

49. Aresnic drugs are mainly used in the treatment of

A. jaundice

B. typhoid

C. syphilis

D. cholera

Answer: C



50. Compound which is added to soap to impart antiseptic properties is

- A. sodium lauryl sulphate
- B. sodium dodecylbenzene sulphonate
- C. rosin
- D. bithioal

Answer: D

51. The pH value of gastric juice in human stomach is about 1.8 and in intestine, it is about 7.8. The pK_a value of aspirin is 3.5 Aspirin

will be

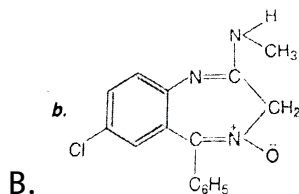
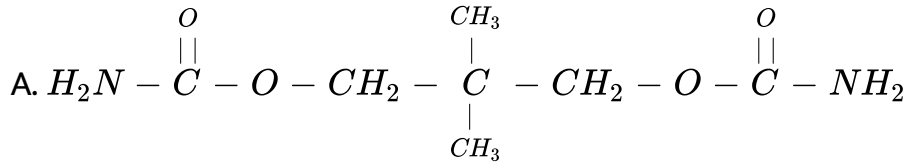
- A. ionised in the small intestine and almost unionised in the stomach
- B. unionised in the small intestine and in the stomach
- C. completely ionised in the small intestine and in the stomach
- D. ionised in the stomach and almost unionised in the small intestine

Answer: A

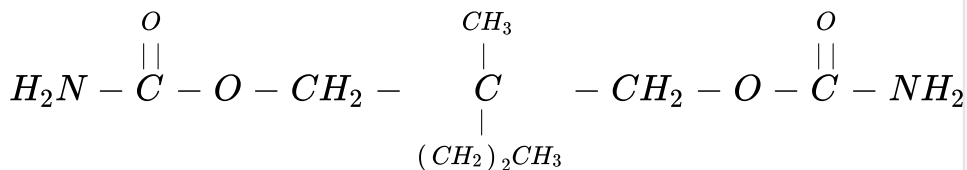


Watch Video Solution

52. Which of the following is the structure of squanil?



C.



D. None of the above

Answer: A

 **Watch Video Solution**

Bitsat Archives

1. The catalyst used for olefin polymerisation is

A. Ziegler-Natta catalyst

B. Raney-nickal catalyst

C. Wilkinson catalyst

D. Merrified resin

Answer: A



Watch Video Solution

2. A copolymer of ethene and vinyl chloride contains alternate monomers for each type. What is the mass percentage of vinyl chloride in this copolymer?

A. 38 %

B. 69 %

C. 72 %

D. 82 %

Answer: B



Watch Video Solution

3. The number of disulphide linkages present in insulin are

A. 1

B. 2

C. 3

D. 4

Answer: B



Watch Video Solution

4. Which of the following statements is not true about the drug barbital ?

- A. It is used in sleepin pills
- B. It is a non-hypnotic drug
- C. It is trauquilliser
- D. It causes addiction

Answer: B



Watch Video Solution

5. The monosaccharide having anomeric carbon atoms are

- A. geometrical isomers
- B. α and β — *optical* isomers

C. having symmetrical carbon atoms

D. None of the above

Answer: B



Watch Video Solution

6. In vulcanisation of rubber,

A. sulphur reacts to form a new compound

B. sulphur crows-links are introduced

C. sulphur forms very thin protective layer on rubber

D. All of the above

Answer: B



Watch Video Solution

7. Which of the following antibiotics contain nitro group attached to aromatic in its structure?

- A. Tetracyclin
- B. penicillin
- C. Streptomycin
- D. chloramphenicol

Answer: D



Watch Video Solution

8. Alizarin is an example of

- A. triaryl dye
- B. azo dye

C. vat dye

D. anthraquinone dye

Answer: D



Watch Video Solution

9. Which of the following hormones, is responsible for the growth of animals?

A. Auxin

B. Insulin

C. Adrenaline

D. Somatotropin

Answer: D



Watch Video Solution

10. The polymer polyurethanes are formed by treating diisocyanate with

- A. butadiene
- B. isoprene
- C. glycol
- D. acrylonitrile

Answer: C



[Watch Video Solution](#)

11. A synthetic rubber which is resistant to the action of oils gasoline and other solvents is

- A. buna-S
- B. polyisoprene
- C. neoprene
- D. polystyrene

Answer: C



Watch Video Solution

12. The number of polypeptide chains present in a molecule of haemoglobin is/are

- A. four
- B. one
- C. two
- D. three

Answer: A



Watch Video Solution

13. The pentose sugar in *DNA* and *RNA* has the :

A. open chain structure

B. pyranose structure

C. furanose structure

D. All of these

Answer: C



Watch Video Solution

14. Which of the following is an artificial edible colour?

- A. Saffron
- B. Carotene
- C. Tetrazine
- D. Melamine

Answer: C



Watch Video Solution

15. The well known urinary antiseptic urotropine is formed when formaldehyde reacts with

- A. NH_2OH
- B. NH_3
- C. $NH_2 \cdot NH_2$
- D. $C_6H_5NH \cdot NH_2$

Answer: B



Watch Video Solution

16. Correct statement is

- A. keratin is fibrous protein
- B. androsterone is male sex hormone
- C. *vitamin B₁* is antineutritic factor
- D. All of the above

Answer: D



Watch Video Solution

17. A certain compound gives negative test with ninhydrin and positive test with Benedict's solution, the compound is:

- A. a protein
- B. monosaccharide
- C. lipid
- D. an amino acid

Answer: B



Watch Video Solution

18. Natural rubber and gutta-percha respectively are

- A. cis-polyisoprene and trans-polyisoprene
- B. both are cis-polyisoprene

C. both are trans-polyisoprene

D. trans-polychloroprene and cis polychloroprene and cis-polychichloroprene

Answer: A



Watch Video Solution

19. Match the following columns

List I	List II
A. Oxyhaemoglobin	1. Analgesic
B. Aspirin	2. Oxygen carrier
C. Haemoglobin	3. Photosynthesis
D. Chlorophyll	4. Oil of winter green
	5. Fe^{2+} paramagnetic

A. *A* *B* *C* *D*
 5 1 2 3

- B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	2	1	3
- C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	1	2	4
- D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
5	2	3	1

Answer: A



Watch Video Solution

20. If \overline{M}_w is the weight average molecular weight and \overline{M}_n is the number average molecular weight of a polymer, the polydispersity index (PDI) of the polymer is given by

- A. $\frac{\overline{M}_n}{\overline{M}_w}$
- B. $\frac{\overline{M}_w}{\overline{M}_n}$
- C. $\overline{M}_w \times \overline{M}_n$
- D. $\frac{1}{\overline{M}_w \times \overline{M}_n}$

Answer: B



Watch Video Solution

21. Hydrolysis of sucrose with dilute aqueous sulphuric acid yields

- A. 1:1 D-(+)-glucose, D-(-)-fructose
- B. 1:2 D-(+)-glucose, D-(-)-fructose
- C. 1:1 D-(-)-glucose, D-(+)-fructose
- D. 1:2 D-(-)-glucose, D-(+)-fructose

Answer: A



Watch Video Solution

22. Alizarin belongs to the class of

- A. vat dyes
- B. mordant dyes
- C. basic dyes
- D. reactive dyes

Answer: B



Watch Video Solution

23. 2,4-Dichlorophenoxyacetic acid is used as

- A. fungicide
- B. insecticide
- C. herbicide
- D. moth repellent

Answer: C



Watch Video Solution

24. Bakelite is prepared by the reaction between

A. formaldehyde and NaOH

B. aniline and urea

C. phenol and methanal

D. phenol and chloroform

Answer: C



Watch Video Solution

25. Cellulose is a polymer of

A. Glucose and fructose

B. fructose

C. ribose

D. sucrose

Answer: A



Watch Video Solution

26. Raffinose is

A. frisaccharide

B. monosaccharide

C. disaccharide

D. None of these

Answer: A



Watch Video Solution

27. How many hydrogen bonds is/are present between pair of thymine and adenine in DNA?

A. 1

B. 2

C. 3

D. No bond occurs

Answer: B



Watch Video Solution

28. Dacron is polymer of

- A. glycol and formaldehyde
- B. glycol and phenol
- C. glycol and phthalic acid
- D. glycol and terephthalic acid

Answer: D



Watch Video Solution

29. Natural rubber is a polymer of

- A. styrene
- B. isoprene
- C. ethylene

D. butadiene

Answer: B



Watch Video Solution

30. Milk of magnesia is used as

A. antichlor

B. antacid

C. antiseptics merely inhibit the growth and disinfectant kill
the micro-organisms

D. food preservative

Answer: B



Watch Video Solution

31. Which destroy antigens?

- A. insulin
- B. Antibodies
- C. chromprotein
- D. Phosphoprotein

Answer: C



Watch Video Solution

32. Nylon -66 is

- A. poly propylene
- B. polyester
- C. polyamide

D. polystyrene

Answer: C



Watch Video Solution

33. Which purine and pyrimidine bases are present in *DNA* and *RNA*?

A. guanine

B. thymine

C. cytosine

D. uracil

Answer: D



Watch Video Solution

34. Glyptal polymer is obtained by the reaction of glycerol with

A. malonic acid

B. acetic acid

C. phthalic acid

D. maleic acid

Answer: C



Watch Video Solution