EXERCISE-I (Conceptual Questions) Build Up Your Understanding

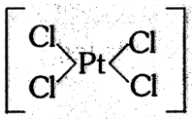
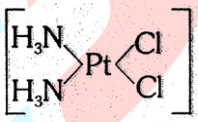
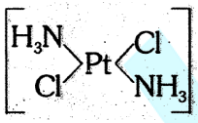
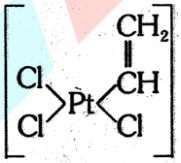
1. The nitrogenous base having two possible hydrogen bonding sites is -
(1) Thymine (2) Cytosine (3) Guanine (4) None

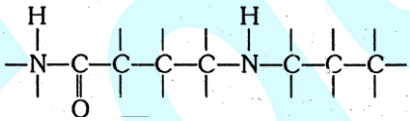
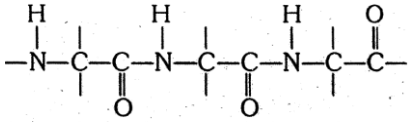
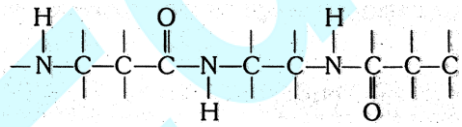
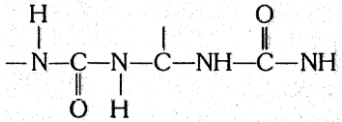
2. The correct statement in respect of protein haemoglobin is that it –
(1) Maintains blood sugar level
(2) Acts as an oxygen carrier in the blood
(3) Forms antibodies and offers resistance to diseases
(4) acts as a catalyst for biological reactions

3. A sequence of how many nucleotides in messenger RNA makes a codon for an amino acid ?
(1) 4 (2) 1 (3) 2 (4) 3

4. The hormone that helps in the conversion of glucose to glycogen is –
(1) Bile acids (2) Adrenaline (3) Insulin (4) Cortisone

5. The helical structure of protein is stabilized by –
(1) Hydrogen bonds (2) ether bonds (3) peptide bonds (4) dipeptied binds

6. Which of the following is considered to be an anticancer species
(1) 
(2) 
(3) 
(4) 

7. Which of the following structures represents the peptide chain –
(1) 
(2) 
(3) 
(4) 

8. Which functional group participates in disulphide bond formation in proteins –
(1) Thioether (2) Thiol (3) Thioester (4) Thiolactone

9. The cell membranes are mainly composed of -
(1) Phospholipids (2) Proteins (3) Fats (4) Carbohydrates

10. Which is simplest amino acid -
(1) Alanine (2) Asparagine (3) Glycine (4) Tyrosine

11. Which of the following biomolecules is insoluble in wafer -
(1) α-Keratin (2) Haemoglobin (3) Ribonuclease (4) Adenine

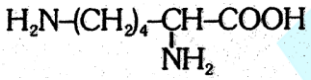
12. Which one of the following statements is true for protein synthesis (translation) -
(1) Amino acids are directly recognized by m-RNA
(2) The third base of the codon is less specific
(3) Only one codon codes for an amino acid
(4) Every t-RNA molecule has more than one amino acid attachment site

13. The presence or absence of hydroxy group on which carbon atom of sugar differentiates RNA and DNA ?
(1) 3^{rd} (2) 4^{th} (3) 1^{st} (4) 2^{nd}

14. The change in the optical rotation of freshly prepared solution of glucose is known as :-
(1) tautomerism (2) racemisation (3) specific rotation (4) mutarotation

15. Synthesis of each molecule of glucose in photosynthesis involves :-
(1) 18 molecules of ATP (2) 10 molecules of ATP
(3) 8 molecules of ATP (4) 6 molecules of ATP

16. Which one of the following bases is not present in DNA?
(1) Cytosine (2) Thymine (3) Quinoline (4) Adenine

17. Lysine;  is :-
(1) α-Amino acid (2) γ-amino acid
(3) Amino acid synthesised (4) β-Amino acid

18. In fibrous protein, polypeptide chains are held toegether by :-
(1) Vander waals forces (2) Disulphide linkage
(3) Electrostatic forces attaction (4) None of these

19. Which is correct in following-
(1) Monosaccharides also known as sugar (2) Polysaccharides are non sugars
(3) Maltose and Lactose are reducing Sugar (4) All of these

20. Structure of glycogen is similar to :-
(1) Atylose (2) Amylopectin (3) Cellulose (4) Glucose

21. Which of the following gives osazone different from the other three :-
(1) Glucose (2) Mannose (3) Galactose (4) Fructose

22. Anomers of glucose (α-form & β-form) are differ in the stereochemistry at which carbon –
(1) C-1 (2) C-2 (3) C-3 (4) All of these

23. Sucrose in presence of invertase on hydrolysis gave -
(1) Glucose (2) Fructose (3) Ethyl alcohol (4) 1 & 2 both

24. Which of the following B group vitamins can be stored in our body.
(1) Vitamin B_1 (2) Vitamin B_2 (3) Vitamin B_6 (4) Vitamin B_{12}

25. Which of the following are polysaccharides -
(a) Starch (b) cellulose (c) dextrins (d) glycogen
(1) a, b & c (2) a, b, d (3) a & c (4) a, b, c, d

26. Cellulose can not be tested by followings -
(1) Fehling's solution (2)Tollen's reagent (3) Both of these (4) None of these

27. On hydrotysis of proteins, the product is/are -
(1) Amino acids (2) Peptides (3) Enzymes (4) 1 & 2 both

28. Which of the following do not have hemiacetal group –
(1) Fructose (2) Maltose (3) Sucrose (4) Glucose

29. In amino acids, more number of amino than carboxyl groups makes it .
(l) acidic (2) Basic (3) Neutral (4) None of these

30. Which amino acids are called non essential –
(l) those which can be synthesized in the body.
(2) those which have more amino groups compared to carboxyl groups
(3) those which haw equal number of amino acid and carboxyl groups
(4) None of these

31. Which of the following is not essential amino acid –
(1) Serine (2) Lysine (3) Threonine (4) Tryptophan

32. In acidic & alkaline solution amino acids exits as a -
(1) Positive ion & negative ion respectively
(2) Negative ion & positive ions respectively
(3) Neutral in both medium
(4) None of these

33. In which of following shapes are found in tertiary structure of proteins -
(1) Fibrous (2) Globular (3) Both of these (4) None of these

34. The example of globular protein is
(1) Silk (2) Collagen (3) Haemoglobin (4) All of these

35. If a native protein is subjected to physical or chemical treatment which may disrupt its various forms without affecting its primary structure, are called –
(1) Inactive protein (2) Denatured protein (3) Both of these (4) None of these

36. The coagulation of egg protein while boiling of egg is called -
(1) Reversible protein denaturation (2) Irreversible protein denaturation
(3) Renaturation (4) None of these

37. An enzyme molecule may contain protein and non-protein part. Non-protein part is known as:-
(1) Holoenzyme (2) Cofactor (3) Inverted enzyme (4) None of these

38. Cofactor which gets attached to the enzyme at the time of reaction are known as.
(1) Coenzymes (2) Apoenzyme (3) Prothetic group (4) None of these

39. Mainly DNA is localized in –
(1) Cytoplasm (2) Nucleus (3) Mitochondria (4) Chloroplasts

40. RNA contains following pyrimidine bases –
(a) Thymine (b) Uracil (c) Cytosine (d) Adenine
(1) b & d (2) a, b, c (3) a, b, d (4) All of these

41. DNA molecules can duplicate themselves-called -
(1) Replication (2) Translation (3) Transcription (4) None of these

42. Which of the following carbohydrates are branched polymer of glucose.
(1) Glycogen (2) Amylopectin (3) Cellulose (4) Both (1) & (2)

43. Vitamin K
(1) Is phylloquinone (2) Soluble in oils and fats
(3) Dificiency lenthens the blood clotting (4) All of these

44. Which of the following is not an amino acid
(1) Histidine (2) Benzidine (3) Alanine (4) Proline

45. Vitamin C is called :
(1) Antisterility (2) Antiscurvy (3) both of these (4) None of these

46. Reducing sugars are one which :
(1) reduce fehling's solution
(2) not reduce tollen's reagent
(3) Have bonded aldehydic or ketonic groups
(4) Alf of these

47. Multiple deficiencies caused by lack of more than one vitamin are more common in human beings. This condition of vitamin deficiency is known as
(l) avitaminosis (2) xerophthalmia (3) convulsions (4) None of these

48. Which vitamin is synthesize in human body from carotene
(1) Vitamin-A (2) Vitamin-C (3) Vitamin-K (4) All of these

49. Which of the following is correct about H-bonding in nucleotide –
(1) A–T G–C (2) A–G T–C (3) G–T A–C (4) A–A T–T

POLYMER

50. Which of the following is monomer unit of polystyrene :-
(1) $-CH_2-\underset{CN}{CH}-$ (2) $-CF_2-CF_2^-$ (3) $-CH_2-\underset{Cl}{CH}-$ (4) $-\underset{C_6H_5}{CH}-CH_2-$

51. Weakest intermolecular forces are present in :-
(1) Neoprene (2) Terylene (3) Polystyrene (4) Bakelite

52. Thermosetting polymer, Bake1ite is formed by the reaction of phenol with :-
(1) CH_3CH_2CHO (2) CH_3CHO (3) HCHO (4) HCOOH

53. Which one is classified as a condensation polymer?
(1) Teflon (2) Acrylonitrile (3) Dacron (4) Neoprene

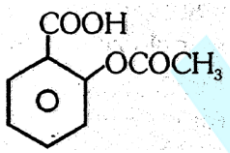
54. Novolac is a :
(1) linear polymer of urea and formaldehyde
(2) crosslink polymer of urea and formaldehyde
(3) linear polymer of phenol and formaldehyde
(4) crosslink polymer of phenol and formaldehyde

55. Which of the following is not a semisynthetic polymer.
(1) cis-polyisoprene (2) cellulose nitrate (3) cellulose acetate (4) valcanised rubber

CHEMISTRY IN EVERYDAY LIFE

56. Aspirin is also known as –
(1) Methyl salicyclic acid (2) acetyl salicylate
(3) Methyl salicylate (4) Acetyl salicylic acid

57. Paracetamol is :-
(1) Analgesic (2) Antipyretic (3) Both (4) Antiseptic

58.  is used as
(1) Antiseptic (2) Analgesic (3) Antibiotic (4) Micro organism

59. Which among the following is a tranquilizer ?
(1) Equanil (2) promethazine (3) Omeprazole (4) Cimetidine

EXERCISE-I (Conceptual Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	1	2	4	3	1	2	2	2	1	3	1	2	4	4	1
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	3	1	2	4	1	3	1	4	4	4	3	4	3	2	1
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	1	1	3	3	2	2	2	1	2	1	1	4	4	2	2
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	
Ans.	1	1	1	1	4	1	3	3	3	1	4	3	2	1	