

ORGANIC CHEMISTRY

ENTHUSIAST | LEADER | ACHIEVER



EXERCISE

Biomolecules, Polymers,
Chemistry In Everyday life

ENGLISH MEDIUM

EXERCISE-I (Conceptual Questions)
Build Up Your Understanding
BIOMOLECULES

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

BM0001

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

BM0002

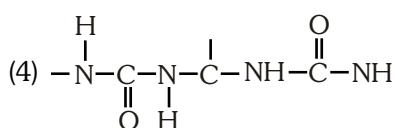
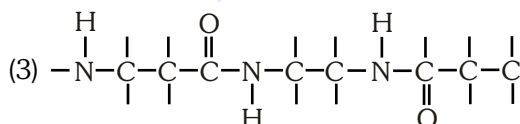
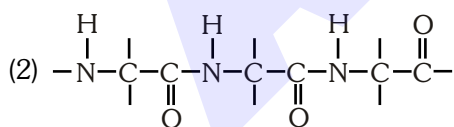
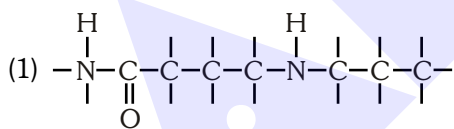
3. The hormone that helps in the conversion of glucose to glycogen is –
 (1) Bile acids (2) Adrenaline
 (3) Insulin (4) Cortisone

BM0004

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

BM0005

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


BM0007

6. Which functional group participates in disulphide bond formation in proteins ?

(1) Thioether (2) Thiol
 (3) Thioester (4) Thiolactone

BM0008

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

BM0009

8. Which is simplest amino acid ?

(1) Alanine (2) Asparagine
 (3) Glycine (4) Tyrosine

BM0010

9. Which of the following biomolecules is insoluble in water ?

(1) α -Keratin (2) Haemoglobin
 (3) Ribonuclease (4) Adenine

BM0011

10. The presence or absence of hydroxy group on which carbon atom of sugar differentiates RNA and DNA?

(1) 3rd (2) 4th (3) 1st (4) 2nd

BM0013

11. The change in the optical rotation of freshly prepared solution of glucose is known as :-

(1) tautomerism (2) racemisation
 (3) specific rotation (4) mutarotation

BM0014

12. Which one of the following bases is not present in DNA ?

(1) Cytosine (2) Thymine
 (3) Quinoline (4) Adenine

BM0016

13. Lysine; $\text{H}_2\text{N}-(\text{CH}_2)_4-\underset{\text{NH}_2}{\text{CH}}-\text{COOH}$ is :-

(1) α -Amino acid
 (2) γ -amino acid
 (3) Amino acid synthesised
 (4) β -Amino acid

BM0017

14. In fibrous protein, polypeptide chains are held together by :-
 (1) H-bond
 (2) Disulphide linkage
 (3) Electrostatic forces attraction
 (4) 1 and 2 both

BM0018

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

BM0019

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

BM0020

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

BM0021

18. 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

BM0022

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

BM0023

20. Which of the following B group vitamins can be stored in our body ?
 (1) Vitamin B₁ (2) Vitamin B₂
 (3) Vitamin B₆ (4) Vitamin B₁₂

BM0024

21. Which of the following are polysaccharides ?
 (a) Starch (b) cellulose
 (c) dextrans (d) glycogen
 (1) a, b & c (2) a, b, d
 (3) a & c (4) a, b, c, d

BM0025

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

BM0026

23. On hydrolysis of proteins, the product is/are –
 (1) Amino acids (2) Peptides
 (3) Enzymes (4) 1 & 2 both

BM0027

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

BM0028

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

BM0029

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

BM0030

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

BM0031

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

BM0032

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

BM0033

- 30.** The example of globular protein is
 (1) Silk (2) Collagen
 (3) Haemoglobin (4) All of these
BM0034
- 31.** 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
BM0035
- 32.** 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
BM0036
- 33.** 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
BM0037
- 34.** Cofactor which gets attached to the enzyme at the time of reaction are known as
 (1) Coenzymes (2) Apoenzyme
 (3) Prosthetic group (4) None of these
BM0038
- 35.** Mainly DNA is localized in –
 (1) Cytoplasm (2) Nucleus
 (3) Mitochondria (4) Chloroplasts
BM0039
- 36.** RNA contains following pyrimidine bases –
 (a) Thymine (b) Uracil
 (c) Cytosine (d) Adenine
 (1) b & c (2) a, b, c
 (3) a, b, d (4) All of these
BM0040
- 37.** DNA molecules can duplicate themselves-called –
 (1) Replication (2) Translation
 (3) Transcription (4) None of these
BM0041
- 38.** Which of the following carbohydrates are branched polymer of glucose ?
 (1) Glycogen (2) Amylopectin
 (3) Cellulose (4) Both (1) & (2)
BM0042
- 39.** Vitamin K
 (1) Is phyloquinone
 (2) Soluble in oils and fats
 (3) Deficiency lengthens the blood clotting
 (4) All of these
BM0043
- 40.** Which of the following is not an amino acid ?
 (1) Histidine (2) Benzidine
 (3) Alanine (4) Proline
BM0044
- 41.** Vitamin C is called :
 (1) Antisterility (2) Antiscorvy
 (3) both of these (4) None of these
BM0045
- 42.** Reducing sugars are one which :
 (1) reduce fehling's solutions
 (2) not reduce tollen's reagent
 (3) Have bonded aldehydic or ketonic groups
 (4) All of these
BM0046
- 43.** Multiple deficiencies caused by lack of more than one vitamin are more common in human beings. This condition of vitamin deficiency is known as
 (1) avitaminosis
 (2) xerophthalmia
 (3) convulsions
 (4) None of these
BM0047
- 44.** Which vitamin is synthesized in human body from carotene ?
 (1) Vitamin-A (2) Vitamin-C
 (3) Vitamin-K (4) All of these
BM0048
- 45.** 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
BM0049

POLYMER

46. Which of the following is monomer unit of polystyrene ?

- (1) $\text{—CH}_2\text{—CH—}$ (2) $\text{—CF}_2\text{—CF}_2\text{—}$
 |
 CN
 (3) $\text{—CH}_2\text{—CH—}$ (4) $\text{—CH—CH}_2\text{—}$
 |
 Cl₆H₅

PL0050

47. Weakest intermolecular forces are present in :-

- (1) Neoprene (2) Terylene
 (3) Polystyrene (4) Bakelite

PL0051

48. Thermosetting polymer, Bakelite is formed by the reaction of phenol with :-

- (1) $\text{CH}_3\text{CH}_2\text{CHO}$ (2) CH_3CHO
 (3) HCHO (4) HCOOH

PL0052

49. Which one is classified as a condensation polymer ?

- (1) Teflon (2) Acrylonitrile
 (3) Dacron (4) Neoprene

PL0053

50. 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

PL0054

51. Which of the following is not a semisynthetic polymer ?

- (1) cis-polyisoprene (2) cellulose nitrate
 (3) cellulose acetate (4) vulcanised rubber

PL0055

52. Branched chain polymer is-

- (1) High density polythene
 (2) Low density polythene
 (3) Poly vinyl chloride
 (4) Bakelite

PL0189

53. Mechanical properties like tensile strength, elasticity, toughness etc, are governed by intermolecular forces. These intermolecular forces are -

- (1) Hydrogen bond
 (2) Vander waals force
 (3) Both of these
 (4) None of these

PL0190

54. Monomer unit of Nylon-6,6 is/are -

- (1) Adipic acid
 (2) 1,4-butamethylene diamine
 (3) Caprolactum
 (4) All of these

PL0191

55. Which of following polymer is used as glass reinforcing materials in safety helmets ?

- (1) Terylene (2) Teflon
 (3) Terephthalic acid (4) Ethylene glycol

PL0192

56. Polymer used in radio and television cabinets-

- (1) PVC (2) Polystyrene
 (3) Polypropene (4) Glyptal

PL0193

CHEMISTRY IN EVERYDAY LIFE

57. Aspirin is also known as -

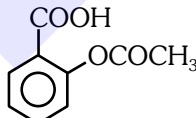
- (1) Methyl salicylic acid (2) acetyl salicylate
 (3) Methyl salicylate (4) Acetyl salicylic acid

CE0056

58. Paracetamol is :-

- (1) Analgesic (2) Antipyretic
 (3) Both (1) & (2) (4) Antiseptic

CE0057

59.  is used as

- (1) Antiseptic (2) Analgesic
 (3) Antibiotic (4) Micro organism

CE0058

60. Which among the following is a tranquilizer ?

- (1) Equanil (2) promethazine
 (3) Omeprazole (4) Cimetidine

CC0059

61. Which is incorrect statement ?

- (1) Drugs are chemicals of low molecular masses (100-500 μ)
 (2) When drugs interact with macromolecular target and produce a biological response, they are called as potential poisons
 (3) Use of chemicals for therapeutic effect is called chemotherapy
 (4) Medicines are used in diagnosis, prevention and treatment of diseases

CE0194

62. Drugs which interfere with natural action of histamine by competing with histamine are called _____

- (1) Antidepressant (2) Antihistamine
(3) Antimicrobial (4) Antipyretic

CE0195

63. Barbituric acid and its derivative constitutes an important class of

- (1) Narcotic analgesic (2) Antiallergic
(3) Tranquilizers (4) Antimicrobial

CE0196

64. Drugs bind to a site (other than enzyme's active site). This site is named is.

- (1) Competitive site (2) Allosteric site
(3) Non-active site (4) Super active site

CE0197

65. Name of drug that bind to the receptor site and inhibit its natural function

- (1) Antagonist
(2) Antireceptor
(3) Antacid
(4) Non-additive analgesic

CE0198

66. First popular antacid drug was _____

- (1) Cimetidine (2) Ranitidine
(3) Zantac (4) Equanil

CE0199

67. Which chemical is responsible for mood change?

- (1) Noradrenaline (2) Dimetapp
(3) Seldane (4) All

CE0200

68. Which is not an example of tranquilizer ?

- (1) Iproniazid (2) Phenelzine
(3) Ofloxacin (4) Barbiturates

CE0201

69. Morphine is used in

- (1) Cardiac pain (2) Terminal cancer
(3) Child birth (4) All

CE0202

70. The first effective antibacterial agent discovered by Ehrlich

- (1) Prontosil (2) Azo dye
(3) Salvarsan (4) Penicillin

CE0203

71. Which is not Bactericidal antibiotic ?

- (1) Penicillin (2) Aminoglycosides
(3) Ofloxacin (4) Erythromycin

CE0204

72. Which is not Bacteriostatic antibiotic ?

- (1) Erythromycin (2) Penicillin
(3) Tetracycline (4) Chloromphenicol

CE0205

73. Which broad spectrum antibiotic is given orally in case of typhoid and dysentery ?

- (1) Ampicillin (2) Amoxycillin
(3) Ofloxacin (4) Chloromphenicol

CE0206

74. Find incorrect match

Drug	Category
(1) Chlordiazepoxide	Tranquilizer
(2) Chloramphenicol	Antibiotic
(3) Veronal	Antiseptic
(4) Sulphanilamide	Antibiotic

CE0207

75. Find incorrect match

Drug	Treatment of
(1) Salvarsan	Syphilis
(2) Chloramphenicol	Typhoid
(3) Morphine	Cardiac pain
(4) Mixture of $Mg(OH)_2$ and $Al(OH)_3$	Analgesic

CE0208

76. Which artificial sweetener is of great value to diabetic person ?

- (1) Aspartame (2) Saccharin
(3) Sucrose (4) Alitame

CE0209

77. Which is mild tranquilizer used in controlling depression and hypertension ?

- (1) Meprobamate (2) Norethindrone
(3) Ethynylestradiol (4) Terpeneol

CE0210

78. 0.2% solution of phenol and 0.2-0.4 ppm chlorine in aqueous solution respectively behave as.

- (1) Antiseptic, Disinfectant
(2) Disinfectant, Antiseptic
(3) Disinfectant, Antacid
(4) Antiseptic, Antacid

CE0211

79. The first popular artificial sweetening agent is.

- (1) Saccharin (2) Aspartame
(3) Alitame (4) Sucralose

CE0212

80. Which is stable at cooking temperature & doesn't provide calories ?

- (1) Aspartame (2) Saccharin
(3) Sucralose (4) Alitame

CE0213

81. Highest sweetness value found in

- (1) Aspartame (2) Alitame
(3) Saccharin (4) Sucralose

CE0214

82. Which sweetening agent is used in soft drinks ?

- (1) Aspartame (2) Saccharin
(3) Sucralose (4) Alitame

CE0215

83. Which is unstable at cooking temperature ?

- (1) Aspartame (2) Alitame
(3) Saccharin (4) All

CE0216

84. Soap are sodium or potassium salt of fatty acid unlike.

- (1) Palmitic acid (2) Oleic acid
(3) 1 & 2 (4) Maleic acid

CE0217

85. Which enhance lathering property of soap ?

- (1) Sodium carbonate
(2) Sodium rosinate
(3) Sodium stearate
(4) Trisodium phosphate

CE0218

86. To make soft soap, saponification contain.

- (1) NaOH (2) KOH
(3) Glycocol (4) Glycol

CE0219

87. Hair conditioners contain which kind of detergent.

- (1) Cationic (2) Anionic
(3) Non ionic (4) All

CE0220

88. Which is used as food preservatives ?

- (1) NaCl (2) Sugar
(3) Vegetable oil (4) All

CE0221

89. Which is added to soap to impart antiseptic properties ?

- (1) Bithionol (2) Soframycin
(3) Glycol (4) Ethanol

CE0222

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	3	1	2	2	1	3	1	4	4	3	1	4	4
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	2	3	1	4	4	4	3	4	3	2	1	1	1	3	3
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	2	2	2	1	2	1	1	4	4	2	2	1	1	1	1
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	4	1	3	3	3	1	2	3	1	1	2	4	3	2	1
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	2	2	3	2	1	1	1	3	4	1	4	2	4	3	4
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	
Ans.	2	1	1	1	3	2	1	1	4	2	2	1	4	1	

EXERCISE-II (Previous Year Questions)

AIPMT/NEET

AIPMT 2006

1. Which one of the following is a peptide hormone ?
 (1) Glucagon (2) Testosterone
 (3) Thyroxine (4) Adrenaline

BM0060

2. During the process of digestion, the proteins present in food materials are hydrolysed to amino acids. The two enzymes involved in the process –



are respectively –

- (1) Amylase and Maltase
 (2) Diastase and Lipase
 (3) Pepsin and Trypsin
 (4) Invertase and Zymase

BM0061

AIPMT 2007

3. Which one of the following vitamins is water-soluble ?
 (1) Vitamin A (2) Vitamin B
 (3) Vitamin E (4) Vitamin K

BM0066

4. RNA and DNA are chiral molecules, their chirality is due to –
 (1) D-sugar Component
 (2) L-sugar component
 (3) Chiral bases
 (4) Chiral phosphate ester units

BM0067

5. Which one of the following polymers is prepared by condensation polymerization ?
 (1) Styrene (2) Nylon-66
 (3) Teflon (4) Rubber

PL0068

AIPMT 2008

6. In DNA, the complimentary bases are :
 (1) Adenine and thymine ; guanine and uracil
 (2) Adenine and guanine ; thymine and cytosine
 (3) Uracil and adenine ; cytosine and guanine
 (4) Adenine and thymine ; guanine and cytosine

BM0069

7. Which one of the following is an amine hormone ?
 (1) Oxytocin (2) Insulin
 (3) Progesterone (4) Thyroxine

BM0070

8. Which of the following statement is not true ?
 (1) Natural rubber has the trans-configuration at every double bond.
 (2) Buna-S is a copolymer of butadiene and styrene.
 (3) Natural rubber is a 1, 4-polymer of isoprene.
 (4) In vulcanization, the formation of sulphur bridges between different chains make rubber harder and stronger.

PL0071

9. Green chemistry means such reaction which :
 (1) reduce the use and production of hazardous chemicals.
 (2) are related to the depletion of ozone layer
 (3) study the reaction in plants
 (4) produce colour during reactions

CE0072

AIPMT 2009

10. Which one of the following is employed as a tranquilizer ?
 (1) Chlorpheniramine (2) Equanil
 (3) Naproxen (4) Tetracycline

CE0073

11. Structures of some common polymers are given. Which one is not correctly presented ?
 (1) Nylon 66 $\text{---} \text{NH}(\text{CH}_2)_6\text{NHCO}(\text{CH}_2)_4\text{---CO---}_n$
 (2) Teflon $\text{---} \text{CF}_2\text{---CF}_2\text{---}_n$
 (3) Neoprene $\left(\text{---CH}_2\text{---}\underset{\text{Cl}}{\text{C}}\text{=CH---CH}_2\text{---CH}_2\text{---} \right)_n$
 (4) Terylene $\left(\text{OC---}\text{C}_6\text{H}_4\text{---COOCH}_2\text{---CH}_2\text{---O} \right)_n$

PL0074

12. The segment of DNA which acts as the instrumental manual for the synthesis of the protein is :-
 (1) Nucleoside (2) Nucleotide
 (3) Ribose (4) Gene

BM0075

13. Which of the following hormones contains iodine ?
 (1) Thyroxine (2) Insulin
 (3) Testosterone (4) Adrenaline

BM0076

AIPMT 2010

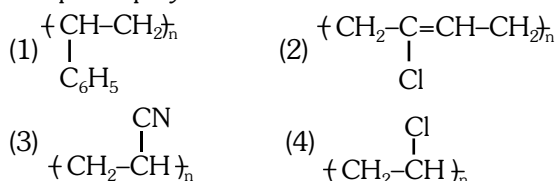
14. Which one of the following is employed as a tranquilizer drug ?
 (1) Mifepristone (2) Promethazine
 (3) Valium (4) Naproxen

CE0077

15. Which one of the following does not exhibit the phenomenon of mutarotation ?
 (1) (-) Fructose (2) (+) Sucrose
 (3) (+) Lactose (4) (+) Maltose

BM0078

16. Which of the following structures represents Neoprene polymer ?



PL0079

AIPMT Main 2010

17. Fructose reduces Tollen's reagent due to :-
 (1) primary alcoholic group
 (2) secondary alcoholic group
 (3) enolisation of fructose followed by conversion to aldehyde by base.
 (4) asymmetric carbons

BM0080

AIPMT Pre. 2011

18. Which one of the following statements is not true regarding (+) Lactose ?
 (1) On hydrolysis (+) Lactose gives equal amount of D(+) glucose and D(+) galactose
 (2) (+) Lactose is a β -glycoside formed by the union of a molecule of D(+) glucose and a molecule of D(+) galactose
 (3) (+) Lactose is a reducing sugar and does not exhibit mutarotation
 (4) (+) Lactose, $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ contains 8-OH groups

BM0083

19. Which one of the following is employed as Antihistamine ?
 (1) Chloramphenicol
 (2) Diphenyl hydramine
 (3) Norethindrone
 (4) Omeprazole

CE0084

20. Which of the following one is classified as polyester polymer ?

- (1) Terylene (2) Bakelite
 (3) Melamine (4) Nylon-66

PL0085

AIPMT Mains 2011

21. Which of the following is not a fat soluble vitamin ?

- (1) Vitamin A (2) Vitamin B complex
 (3) Vitamin D (4) Vitamin E

BM0086

22. Which of the following statements about 'Denaturation' given below are correct ?

Statements

- (a) Denaturation of proteins causes loss of secondary and tertiary structures of the protein
 (b) Denaturation leads to the conversion of double strand of DNA into single strand.
 (c) Denaturation affects primary structure which gets distorted

Options :

- (1) (a), (b) and (c) (2) (b) and (c)
 (3) (a) and (c) (4) (a) and (b)

BM0087

AIPMT Pre 2012

23. Deficiency of vitamin B₁ causes the disease

- (1) Cheilosis (2) Sterility
 (3) Convulsions (4) Beri-Beri

BM0090

24. Which one of the following sets of monosaccharides forms sucrose?

- (1) β -D-Glucopyranose and α -D-fructofuranose
 (2) α -D-Glucopyranose and β -D-fructopyranose
 (3) α -D-Galactopyranose and α -D-Glucopyranose
 (4) α -D-Glucopyranose and β -D-fructofuranose

BM0091

25. Which one of the following is not a condensation polymer?

- (1) Dacron (2) Neoprene
 (3) Melamine (4) Glyptal

PL0092

26. Which of the following statements is false?

- (1) The repeat unit in natural rubber is isoprene
- (2) Both starch and cellulose are polymers of glucose
- (3) Artificial silk is derived from cellulose
- (4) Nylon-66 is an example of elastomer

PL0093

AIPMT Mains 2012

27. Which one of the following sets forms the biodegradable polymer ?

- (1) $\text{HO}-\text{CH}_2-\text{CH}_2-\text{OH}$ & $\text{HOOC}-\text{C}_6\text{H}_4-\text{COOH}$
- (2) $\text{C}_6\text{H}_5-\text{CH}=\text{CH}_2$ and $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$
- (3) $\text{CH}_2=\text{CH}-\text{CN}$ and $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$
- (4) $\text{H}_2\text{N}-\text{CH}_2-\text{COOH}$ and $\text{H}_2\text{N}-(\text{CH}_2)_5-\text{COOH}$

PL0094

28. Chloroamphenicol is an :-

- (1) Antiseptic and disinfectant
- (2) Antibiotic broad spectrum
- (3) Antifertility drug
- (4) Antihistaminic

CE0095

NEET UG 2013

29. Nylon is an example of :-

- (1) Polythene
- (2) Polyester
- (3) Polysaccharide
- (4) Polyamide

PL0096

30. Antiseptics and disinfectants either kill or prevent growth of microorganisms. Identify which of the following statements is **not true** :-

- (1) Disinfectants harm the living tissues
- (2) A 0.2% solution of phenol is an antiseptic while 1% solution acts as a disinfectant
- (3) Chlorine and Iodine are used as strong disinfectants
- (4) Dilute solutions of Boric acid and Hydrogen Peroxide are strong antiseptics

CE0097

31. Which is the monomer of Neoprene in the following ?

- (1) $\text{CH}_2=\text{CH}-\text{C}\equiv\text{CH}$
- (2) $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}_2$
- (3) $\text{CH}_2=\underset{\text{CH}_3}{\text{C}}-\text{CH}=\text{CH}_2$
- (4) $\text{CH}_2=\underset{\text{Cl}}{\text{C}}-\text{CH}=\text{CH}_2$

PL0098

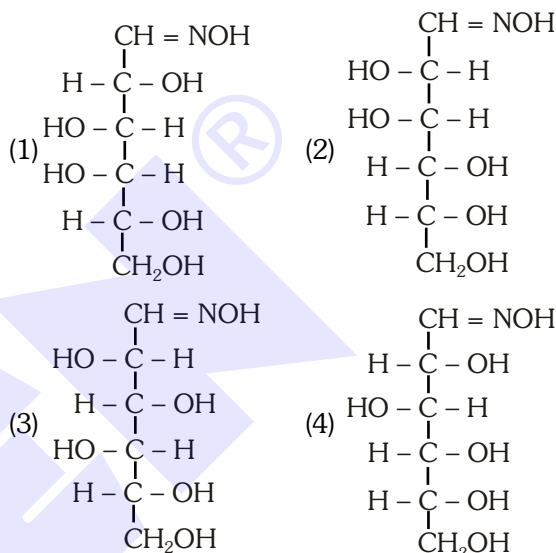
AIPMT 2014

32. Artificial sweetner which is stable under cold conditions only is :-

- (1) Saccharine
- (2) Sucralose
- (3) Aspartame
- (4) Alitame

CE0100

33. D (+) glucose reacts with hydroxylamine and yields an oxime. The structure of the oxime would be :



BM0101

34. Which one of the following is an example of a thermosetting polymer?

- (1) $\text{-(CH}_2-\text{C}(\text{Cl})=\text{CH-CH}_2\text{)-}_n$
- (2) $\text{-(CH}_2-\text{CH}(\text{Cl})\text{)-}_n$
- (3) $\text{-(NH-(CH}_2\text{)}_6\text{-N-C(=O)-(CH}_2\text{)}_4\text{-C(=O)-)}_n$
- (4) $\text{-(C}_6\text{H}_4\text{(OH)-CH}_2\text{-C}_6\text{H}_4\text{(OH)-CH}_2\text{)-}_n$

PL0102

35. Which of the following organic compounds polymerizes to form the polyester Dacron?

- (1) Propylene and para $\text{HO}-(\text{C}_6\text{H}_4)-\text{OH}$
- (2) Benzoic acid and ethanol
- (3) Terephthalic acid and ethylene glycol
- (4) Benzoic acid and para $\text{HO}-(\text{C}_6\text{H}_4)-\text{OH}$

PL0103

Re-AIPMT 2015

36. Caprolactam is used for the manufacture of :
 (1) Terylene (2) Nylon - 6, 6
 (3) Nylon - 6 (4) Teflon

PL0107

AIPMT 2015

37. Bithional is generally added to the soaps as an additive to function as a/an :-
 (1) Dryer (2) Buffering agent
 (3) Antiseptic (4) Softner

CE0108

38. Biodegradable polymer which can be produced from glycine and aminocaproic acid is :-
 (1) PHBV (2) Buna - N
 (3) Nylon 6, 6 (4) Nylon 2- nylon 6

PL0109

NEET-I 2016

39. In a protein molecule various amino acids are linked together by :
 (1) α -glycosidic bond (2) β -glycosidic bond
 (3) peptide bond (4) dative bond

BM0110

40. The **correct** statement regarding RNA and DNA, respectively is :
 (1) The sugar component in RNA is arabinose and the sugar component in DNA is 2'-deoxyribose.
 (2) The sugar component in RNA is ribose and the sugar component in DNA is 2'-deoxyribose.
 (3) The sugar component in RNA is arabinose and the sugar component in DNA is ribose.
 (4) The sugar component in RNA is 2'-deoxyribose and the sugar component in DNA is arabinose.

BM0111

41. Which one given below is a non-reducing sugar ?
 (1) Maltose (2) Lactose
 (3) Glucose (4) Sucrose

BM0112

42. Natural rubber has
 (1) All cis-configuration
 (2) All trans-configuration
 (3) Alternate cis-and trans-configuration
 (4) Random cis-and trans-configuration

PL0113

43. Which of the following is an analgesic ?
 (1) Novalgin (2) Penicillin
 (3) Streptomycin (4) Chloromycetin

CE0114

NEET-II 2016

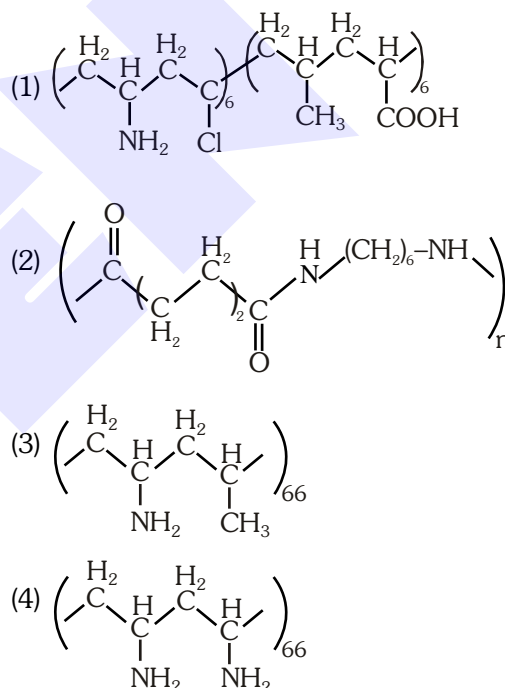
44. The central dogma of molecular genetics states that the genetic information flows from :-
 (1) DNA \rightarrow RNA \rightarrow Proteins
 (2) DNA \rightarrow RNA \rightarrow Carbohydrates
 (3) Amino acids \rightarrow Proteins \rightarrow DNA
 (4) DNA \rightarrow Carbohydrates \rightarrow Proteins

BM0115

45. Which one of the following compounds shows the presence of intramolecular hydrogen bond ?
 (1) Cellulose
 (2) Concentrated acetic acid
 (3) H_2O_2
 (4) HCN

BM0116

46. Which one of the following structures represents nylon 6,6 polymer ?



PL0117

NEET(UG) 2017

47. Mixture of chloroxylenol and terpineol acts as :
 (1) antiseptic (2) antipyretic
 (3) antibiotic (4) analgesic

CE0121

48. Which of the following statements is not correct ?
 (1) Ovalbumin is a simple food reserve in egg-white
 (2) Blood proteins thrombin and fibrinogen are involved in blood clotting
 (3) Denaturation makes the proteins more active
 (4) Insulin maintains sugar level in the blood of a human body

CE0122

NEET(UG) 2018

49. The difference between amylose and amylopectin is
 (1) Amylopectin have 1 → 4 α-linkage and 1 → 6 α-linkage
 (2) Amylose have 1 → 4 α-linkage and 1 → 6 β-linkage
 (3) Amylopectin have 1 → 4 α-linkage and 1 → 6 β-linkage
 (4) Amylose is made up of glucose and galactose

BM0127

50. Which of the following compounds can form a zwitterion ?

- (1) Aniline (2) Acetanilide
 (3) Benzoic acid (4) Glycine

BM0128

51. Regarding cross-linked or network polymers, which of the following statements is **incorrect**?

- (1) They contain covalent bonds between various linear polymer chains.
 (2) They are formed from bi-and tri-functional monomers.
 (3) Examples are bakelite and melamine.
 (4) They contain strong covalent bonds in their polymer chains.

PL0129

NEET(UG) 2019

52. Among the following, the narrow spectrum antibiotic is :-

- (1) penicillin G (2) ampicillin
 (3) amoxycillin (4) chloramphenicol

CE0223

53. The biodegradable polymer is :-

- (1) nylon-6,6 (2) nylon 2-nylon 6
 (3) nylon-6 (4) Buna-S

PL0224

54. The non-essential amino acid among the following is:

- (1) valine (2) leucine
 (3) alanine (4) lysine

BM0225

NEET(UG) 2019 (ODISHA)

55. Which structure(s) of proteins remains(s) intact during denaturation process ?

- (1) Both secondary and tertiary structures
 (2) Primary structure only
 (3) Secondary structure only
 (4) Tertiary structure only

BM0226

56. The polymer that is used as a substitute for wool in making commercial fibres is :-

- (1) Melamine (2) nylon-6, 6
 (3) polyacrylonitrile (4) Buna-N

PL0227

57. The artificial sweetner stable at cooking temperature and does not provide calories is :-

- (1) Saccharin (2) Aspartame
 (3) Sucralose (4) Alitame

CE0228

58. Match the catalyst with the process :-

- | Catalyst | Process |
|----------------------------|---|
| (i) V_2O_5 | (a) The oxidation of ethyne to ethanal |
| (ii) $TiCl_4 + Al(CH_3)_3$ | (b) Polymerisation of alkynes |
| (iii) $PdCl_2$ | (c) Oxidation of SO_2 in the manufacture of H_2SO_4 |
| (iv) Nickel complexes | (d) Polymerisation of ethylene |

Which of the following is the correct option ?

- (1) i-c, ii-d, iii-a, iv-b (2) i-a, ii-b, iii-c, iv-d
 (3) i-a, ii-c, iii-b, iv-d (4) i-c, ii-a, iii-d, iv-b

PL0229

NEET(UG) 2020

59. Sucrose on hydrolysis gives :

- (1) α-D-Fructose + β-D-Fructose
 (2) β-D-Glucose + α-D-Fructose
 (3) α-D-Glucose + β-D-Glucose
 (4) α-D-Glucose + β-D-Fructose

BM0240

60. Which of the following is a cationic detergent ?

- (1) Sodium dodecylbenzene sulphonate
 (2) Sodium lauryl sulphate
 (3) Sodium stearate
 (4) Cetyltrimethyl ammonium bromide

CE0241

61. Which of the following is a natural polymer ?

- (1) poly (Butadiene-acrylonitrile)
 (2) cis-1,4-polyisoprene
 (3) poly (Butadiene-styrene)
 (4) polybutadiene

PL0242

62. Which of the following is a basic amino acid ?

- (1) Lysine (2) Serine
(3) Alanine (4) Tyrosine

BM0243

NEET(UG) 2020 (COVID-19)

63. Which of the following is **not** true about chloramphenicol ?

- (1) It inhibits the growth of only grampositive bacteria.
(2) It is a broad spectrum antibiotic.
(3) It is not bactericidal.
(4) It is bacteriostatic.

CE0244

64. Which of the following statement is correct about Bakelite ?

- (1) It is a cross linked polymer.
(2) It is an addition polymer.
(3) It is a branched chain polymer.
(4) It is a linear polymer.

PL0245

65. The reaction of concentrated sulphuric acid with carbohydrates ($C_{12}H_{22}O_{11}$) is an example of

- (1) Dehydration (2) Oxidation
(3) Reduction (4) Sulphonation

BM0246

66. Deficiency of which vitamin causes osteomalacia?

- (1) Vitamin A (2) Vitamin D
(3) Vitamin K (4) Vitamin E

BM0247

NEET(UG) 2021

67. Given below are two statements:

Statement I :

Aspirin and Paracetamol belong to the class of narcotic analgesics.

Statement II :

Morphine and Heroin are non-narcotic analgesics. In the light of the above statements, choose the **correct** answer from the options given below.

- (1) Both **Statement I** and **Statement II** are true.
(2) Both **Statement I** and **Statement II** are false.
(3) **Statement I** is correct but **Statement II** is false.
(4) **Statement I** is incorrect but **Statement II** is true.

CE0248

68. The RBC deficiency is deficiency disease of:

- (1) Vitamin B_{12} (2) Vitamin B_6
(3) Vitamin B_1 (4) Vitamin B_2

BM0249

69. Which one of the following polymers is prepared by addition polymerisation ?

- (1) Teflon (2) Nylon-66
(3) Novolac (4) Dacron

PL0250

NEET (UG) 2021(Paper-2)

70. Which of the following polymers can be used for lubrication and as an insulator?

- (1) SBR (2) PVC
(3) PTFE (4) PAN

PL0251

NEET (UG) 2022

71. Which statement regarding polymers is not correct ?

- (1) Fibers possess high tensile strength.
(2) Thermoplastic polymers are capable of repeatedly softening and hardening on heating and cooling respectively.
(3) Thermosetting polymers are reusable.
(4) Elastomers have polymer chains held together by weak intermolecular forces.

PL0252

72. Match **List-I** with **List-II**.

	List-I (Drug class)		List-II (Drug molecule)
(a)	Antacids	(i)	Salvarsan
(b)	Antihistamines	(ii)	Morphine
(c)	Analgesics	(iii)	Cimetidine
(d)	Antimicrobials	(iv)	Seldane

Choose the correct answer from the options given below:

- (1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(2) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii)
(3) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
(4) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

CE0253

73. The incorrect statement regarding enzymes is:

- (1) Like chemical catalysts enzymes reduce the activation energy of bio processes.
(2) Enzymes are polysaccharides.
(3) Enzymes are very specific for a particular reaction and substrate.
(4) Enzymes are biocatalysts.

BM0254

NEET (UG) 2022 (Overseas)
74. Match **List-I** with **List-II** :

List-I (Monomers)	List-II (Polymers)
(a) Caprolactam	(i) Bakelite
(b) Ethylene glycol and Benzene-1,4-dicarboxylic acid	(ii) Nylon 6,6
(c) Hexamethylenediamine and adipic acid	(iii) Nylon-6
(d) Phenol and Formaldehyde	(iv) Terylene

 Choose the **correct answer** from the options given below :

- (1) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
 (2) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
 (3) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
 (4) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)

PL0255
75. The **incorrect statement** among the following regarding food preservatives is

- (1) antioxidants used in wine are SO_2 and sulphites.
 (2) antioxidants help in preserving the food longer.
 (3) antioxidants react with oxygen with a slower rate than food.
 (4) sorbic acid and propanoic acid are good food preservatives.

CE0256
Re-NEET (UG) 2022
76. Match List - I with List - II

List - I	List - II
(a) Sodium laurylsulphate	(i) Toilet soap
(b) Cetyltrimethyl ammonium chloride	(ii) Non-ionic detergent
(c) Sodium stearate	(iii) Anionic detergent
(d) Polyethyleneglycol stearate	(iv) Cationic detergent

Choose the correct answer from the options given below :

- (1) (a) - (iv), (b) - (iii), (c) - (i), (d) - (ii)
 (2) (a) - (i), (b) - (iv), (c) - (ii), (d) - (iii)
 (3) (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)
 (4) (a) - (iii), (b) - (i), (c) - (ii), (d) - (iv)

CE0257
77. Which among the following is a thermoplastic polymer ?

- (1) Bakelite
 (2) Polythene
 (3) Urea-formaldehyde resin
 (4) Melamine polymer

PL0258
78. The incorrect statement about denaturation of proteins is

- (1) It results due to change of temperature and/or pH
 (2) It results in loss of biological activity of proteins.
 (3) A protein is formed from amino acids linked by peptide bonds.
 (4) Uncoiling of the helical structure takes place.

BM0259
EXERCISE-II (Previous Year Questions)
ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	1	3	2	1	2	4	4	1	1	2	3	4	1	3	2
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	2	3	3	2	1	2	4	4	4	2	4	4	2	4	4
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	4	3	4	4	3	3	3	4	3	2	4	1	1	1	1
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	2	1	3	1	4	4	1	2	3	2	3	3	1	4	4
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	2	1	1	1	1	2	2	1	1	1	3	1	2	2	3
Que.	76	77	78												
Ans.	3	2	3												

EXERCISE-III (Analytical Questions)

Master Your Understanding

1. In which of the following properties of an open chain structure of glucose could not be explained by Baeyer ?

- (1) Glucose contain aldehyde group, but does not give schiff's test
- (2) Glucose does not react with sodium hydrogen sulphite and ammonia
- (3) The pentaacetate of glucose does not react with hydroxy amine indicates absence of $-CHO$ group
- (4) All of these

BM0139

2. When glucose was crystallized from a concentrated solution at 30°C & 98°C . It gave α & β form of glucose respectively what are the angle of rotation $[\alpha_D]$ for both forms ?

- (1) $(+)$ 111° & $(+)$ 19.2°
- (2) $(+)$ 19.2° & $(-)$ 111°
- (3) $(+)$ 111° & $(-)$ 19.2°
- (4) $(-)$ 111° & $(-)$ 19.2°

BM0140

3. Dinucleotide is obtained by joining two nucleotides together by phosphodiester linkage. Between which carbon atoms of pentose sugar of nucleotides are these linkages presents.

- (1) $5'$ and $3'$
- (2) $1'$ and $5'$
- (3) $5'$ and $5'$
- (4) $3'$ and $3'$

BM0141

4. Which statement is incorrect in following ?

- (1) Sucrose is dextrorotatory
- (2) After hydrolysis of sucrose, dextrorotatory glucose and laevorotatory fructose will obtained
- (3) Laevorotation of fructose is more than dextrorotation of glucose
- (4) Cane sugar gives nonequimolar mixture of D-(+)-glucose and D-(-)-fructose

BM0143

5. On hydrolysis of one mole of maltose two moles of D-glucose are obtained. These two glucose units are linked together through a α -glycoside linkage between –

- (1) C-2 of one unit and C-4 of another unit
- (2) C-1 of one unit and C-2 of another unit
- (3) C-1 of one unit and C-4 of another unit
- (4) C-2 of one unit and C-3 of another unit

BM0145

6. Which statement is/are incorrect ?

- (1) Natural starch has approximately 10-20% of amylose and 80-90% of amylopectin.
- (2) Amylose is water soluble and gives blue colour with iodine
- (3) Amylopectin is a branched chain polysaccharides insoluble in water and does not give blue colour with iodine
- (4) Starch is not hydrolysed by enzyme amylase present in saliva

BM0146

7. Which of the following statement is true for proteins ?

- (1) Proteins are high molecular mass complex biopolymers of amino acids present in all living cells
- (2) Protein may contains phosphorous & iodine
- (3) Proteins may contains iron, copper, zinc and manganese
- (4) All of these

BM0147

8. Which of following are essential amino acids ?

- | | |
|-------------------|-----------------|
| (a) Aspartic acid | (b) Leucine |
| (c) Valine | (d) Glycine |
| (e) Alanine | |
| (1) a, b & c | (2) a, b, d & e |
| (3) b & c | (4) a, c, d & e |

BM0148

9. At a certain hydrogen ion concentration (pH), the dipolar ion exists as a neutral ion and does not migrate to either electrode. What is the name of pH point for amino acids –

- (1) isoelectric point
- (2) isoprotonic point
- (3) isotonic point
- (4) None of these

BM0149

10. Which of the following reactions of glucose can be explained only by its cyclic structure ?

- (1) Glucose forms penta acetate
- (2) Glucose reacts with hydroxylamine to form an oxime
- (3) Penta acetate of glucose does not react with hydroxylamine
- (4) Glucose is oxidised by nitric acid to gluconic acid

BM0150

- 11.** Protein found in biological system with definite configuration and biological activity is called –
- (1) Amino acids (2) Native protein
(3) Conformer protein (4) Inactive protein

BM0151

- 12.** Which of following statement is not true for enzyme ?
- (1) Some enzymes can be non proteins also
(2) Prosthetic groups which get attached to enzyme at the time of reaction are known as cofactor.
(3) Enzymes provides lower activation pathways there by increasing the rate of reaction
(4) None of these

BM0153

- 13.** Which of following statements is incorrect ?
- (1) Proteins have a polyamide chain while nucleic acids contains a poly phosphate ester chain
(2) Nucleic acids are long chain polymers of nucleotides
(3) RNA is major source of genetic information which is copied into a DNA molecules
(4) Proteins are synthesized in a process involving translation of RNA.

BM0154

- 14.** Complete hydrolysis of DNA or RNA yields following–
- (1) Ribose in RNA & deoxyribose in DNA
(2) Hetrocyclic nitrogenous purines base
(3) Hetrocyclic nitrogenous pyrimidines
(4) All of these

BM0155

- 15.** Nucleosides are –
- (1) Base + sugar = Nucleoside
(2) N-glycosides of purine or pyrimidine bases with pentose sugar
(3) Both of these
(4) None of these

BM0157

- 16.** RNA molecules in turn directs the synthesis of specific proteins which are characteristic of each kind of organism. This process is known as –
- (1) Translation (2) Transcription
(3) Replication (4) None of these

BM0158

- 17.** A single stand of DNA can act as a template on which a molecule of RNA is synthesized in a specific manner. This process is known as –
- (1) Replication (2) Transcription
(3) Translation (4) None of these

BM0159

- 18.** Which is correct statement ?
- (1) Starch is polymer of α -glucose
(2) Amylose is a component of cellulose
(3) Protiens are composed of only one type of amino acid
(4) In cyclic structure of fructose, there are four carbons and one oxygen atom

BM0162

- 19.** Which is incorrect about histamine ?
- (1) Histamine stimulates the secretion of pepsin & HCl in the stomach
(2) Histamine is a potent vasodilator
(3) Histamine is also responsible for nasal congestion associated with cold or allergic response to pollen.
(4) Histamine doesn't affect muscles of the bronchi

BM0230

- 20.** Brompheniramine & Terfenadine drugs belongs to which category.
- (1) Antacid (2) Antihistamine
(3) Transquilizer (4) Antiseptic

CE0231

- 21.** Find incorrect statement :
- (1) Tranquilizer & analgesics are neurologically active drugs
(2) Barbiturates are sleep producing agents
(3) Tranquilizer are used to reduce stress, mental diseases
(4) Analgesis are used to reduce pain with causing impairment of consciousness

CE0232

- 22.** Find incorrect statement
- (1) Detergent involves soap and synthetic detergents
(2) Sodium soap and potassium soap are soluble in water
(3) $C_{17}H_{35}COONa$ is sodium stearate and used as a soap
(4) During saponification, soap is obtained in solid form

CE0233

23. Which of the following is/are condensation polymers ?

- (1) Dacron (2) Nylon 6
(3) Nylon 6,6 (4) All of these

PL0234

24. Free radical generating initiator (catalyst) is/are :

- (1) Benzoyl peroxide
(2) Acetyl peroxide
(3) Tert-butyl peroxide
(4) All of these

PL0235

25. Novolac on heating with formaldehyde *under goes* cross linking to form an infusible solid mass is called as _____.

- (1) Bakelite
(2) Malamine-formaldehyde
(3) Terylene
(4) Nylon-6

PL0236

26. Correct statements about vulcanisation of rubber is/are-

- (1) Rubber gets stiffened
(2) In this process, raw rubber is heated with sulphur and appropriate additive at temperature range 373 K to 415 K
(3) By this process physical properties of rubber improve
(4) All of these

PL0237

27. Arrange following polymers in increasing order of their intermolecular force-

- (i) Nylon-6
(ii) Neoprene
(iii) Poly vinyl chloride

- (1) i < ii < iii (2) ii < iii < i
(3) iii < i < ii (4) iii < ii < i

PL0238

28. Biodegradable polymer is-

- (1) PHBV (2) Nylon 2 - Nylon 6
(3) Both of these (4) None of these

PL0239

EXERCISE-III (Analytical Questions)

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	4	1	1	4	3	4	4	3	1	3	2	2	3	4	3
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28		
Ans.	1	2	1	4	2	4	4	4	4	1	4	2	3		