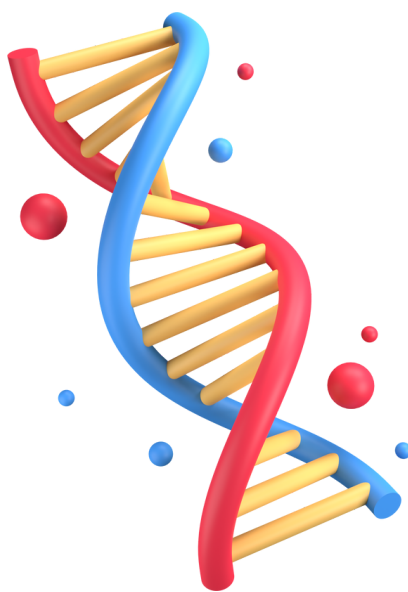


# ZOOLOGY

ENTHUSIAST | LEADER | ACHIEVER



**EXERCISE**

Biomolecules (Protoplasm)

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ENGLISH MEDIUM

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## EXERCISE-I (Conceptual Questions)

## Build Up Your Understanding

1. Decreasing order of organic compound in protoplasm is:-  
 (1) Protein, lipid, Nucleic acid, Vitamin  
 (2) Protein, Nucleic acid, carbohydrate, lipid  
 (3) Carbohydrate, Lipid, Nucleic acid and vitamin  
 (4) None of these  
**BM0001**
2. Which is odd -  
 (1) Chitin - Carbohydrate  
 (2) Pectin - Protein  
 (3) Steroid - Lipid  
 (4) Wax - Lipid  
**BM0002**
3. Glycogen is stored in -  
 (1) Liver and muscles (2) Liver only  
 (3) Muscles only (4) Pancreas  
**BM0003**
4. Which one is a disaccharide ?  
 (1) Galactose (2) Fructose  
 (3) Maltose (4) Dextrin  
**BM0004**
5. Which element is normally absent in proteins ?  
 (1) C (2) N  
 (3) S (4) P  
**BM0005**
6. Which substance is not a carbohydrate ?  
 (1) Starch (2) Glycogen  
 (3) Wax (4) Glucose  
**BM0006**
7. To get quick energy one should use -  
 (1) Carbohydrate (2) Fats  
 (3) Vitamins (4) Proteins  
**BM0007**
8. Which is not polysaccharide ?  
 (1) Sucrose  
 (2) starch  
 (3) Glycogen  
 (4) cellulose  
**BM0009**
9. Common in feather and Silk is-  
 (1) Carbohydrate (2) Fats  
 (3) Protein (4) Nucleic acid  
**BM0010**
10. Monosaccharide is -  
 (1) Pentose Sugar (2) Hexose Sugar  
 (3) Only Glucose (4) all the above  
**BM0011**
11. Sugar which is found in haemolymph of insects is -  
 (1) Maltose (2) Lactose  
 (3) Trehalose (4) Galactose  
**BM0012**
12. Which substance is most abundant in cell ?  
 (1) Carbohydrates (2) Proteins  
 (3) Water (4) Fats  
**BM0013**
13. Proteins present in cells are very important because-  
 (1) They provide definite shape to cell  
 (2) They function as biocatalyst  
 (3) They yield energy  
 (4) They are stored food  
**BM0014**
14. Dipeptide is-  
 (1) Structure of two peptide bonds  
 (2) Two amino acids linked by one peptide bond  
 (3) bond between one amino acid and one peptide  
 (4) None  
**BM0015**
15. Which amino acid is non essential for human body?  
 (1) Glycine (2) Phenylalanine  
 (3) Arginine (4) Methionine  
**BM0016**
16. Nails, horns and hooves contain -  
 (1) Chitin (2) Keratin  
 (3) Both (4) None  
**BM0017**

17. Glycogen is -  
 (1) Polymer of amino acids  
 (2) Polymer of fatty acids  
 (3) Unsaturated fats  
 (4) Polymer of glucose  
**BM0019**
18. Carbohydrate is -  
 (1) Polymers of fatty acid  
 (2) Polymer of amino acids  
 (3) Polyhydroxy aldehyde or ketone  
 (4) None  
**BM0020**
19. In which form, food is stored in animal body ?  
 (1) Glucose (2) Glycogen  
 (3) Cellulose (4) ATP  
**BM0021**
20. Which compound produces more than twice the amount of energy as compared to carbohydrates?  
 (1) Protein (2) Fats  
 (3) Vitamins (4) Glucose  
**BM0022**
21. Which protein is found in maximum amount ?  
 (1) Catalase  
 (2) Zinc carbonic anhydrase  
 (3) Transferase  
 (4) RUBISCO  
**BM0055**
22. Which one of the following is polysaccharide?  
 (1) Sucrose (2) Lactose  
 (3) Glycogen (4) Glucose  
**BM0024**
23. Starving person will first use :-  
 (1) Fats (2) Glycogen  
 (3) Blood protein (4) Muscle protein  
**BM0025**
24. Units of proteins which unite in long chains to form proteins, are called-  
 (1) Sugar (2) Purines  
 (3) Pyrimidines (4) Amino acids  
**BM0026**
25. Milk protein is-  
 (1) Lactogen (2) Myosin  
 (3) Casein (4) Pepsin  
**BM0027**
26. Chemically enzymes are :-  
 (1) Fats (2) Carbohydrates  
 (3) Hydrocarbons (4) Proteins  
**BM0028**
27. Most simple amino acid is-  
 (1) Tyrosine (2) Lysine  
 (3) Glycine (4) Aspartic acids  
**BM0029**
28. The amino acids which are not synthesized in the body are called :  
 (1) Non-essential (2) Essential  
 (3) Deaminated (4) All of them  
**BM0030**
29. Which of the following will be different in different animals :-  
 (1) Fats (2) Carbohydrates  
 (3) Proteins (4) Vitamins  
**BM0031**
30. Fats in the body are formed when :-  
 (1) Glycogen is formed from glucose  
 (2) Sugar level becomes stable in blood  
 (3) Extra glycogen storage in liver and muscles is stopped  
 (4) All of them  
**BM0032**
31. For body growth and repair one needs :-  
 (1) Carbohydrates (2) Fats  
 (3) Proteins (4) Vitamins  
**BM0033**
32. In India the best source for proteins in herbivorous persons is-  
 (1) Pulses (2) Potato  
 (3) Egg (4) Meat  
**BM0034**
33. Proteins are polymer of :  
 (1) Amino acids (2) Natural proteins  
 (3) Enzymes (4) nucleic acids  
**BM0035**

34. Which is sweet in taste, but is not sugar-  
 (1) Starch  
 (2) Saccharine  
 (3) Lactose  
 (4) Protein

BM0036

35. Translocation of sugars in flowering plants occurs in the form of -  
 (1) Glucose (2) Sucrose  
 (3) Fructose (4) Maltose

BM0038

36. Sucrose is composed of -  
 (1) Glucose & Fructose  
 (2) Glucose & Glycogen  
 (3) Two molecules of Glucose  
 (4) Glycogen & Fructose

BM0039

37. Which of the following amino acid is essential -  
 (1) Alanine (2) Glycine  
 (3) Tryptophan (4) Tyrosine

BM0040

38. Which of the following disaccharides will give two molecules of glucose on hydrolysis-  
 (1) Maltose (2) Sucrose  
 (3) Lactose (4) None

BM0041

39. Which of the following sugar is found in ATP  
 (1) Deoxyribose (2) Ribose  
 (3) Trehalose (4) Glucose

BM0043

40. Deficiency of protein leads to -  
 (1) Rickets (2) Scurvy  
 (3) Kwashiorkor (4) Carotenemia

BM0044

41. Lactose is composed of -  
 (1) Glucose + galactose  
 (2) Glucose + fructose  
 (3) Glucose + glucose  
 (4) Glucose + mannose

BM0045

42. True statement for cellulose molecule -  
 (1)  $\beta$  - 1' - 4" linkage. unbranched  
 (2)  $\beta$  - 1' - 4" linkage. branched  
 (3)  $\alpha$  - 1' - 4" linkage, branched  
 (4)  $\beta$  - 1' - 6" linkage unbranched

BM0046

43. Variations in proteins are due to -  
 (1) Sequence of amino acids  
 (2) Number of amino acids  
 (3) R - group  
 (4) None

BM0047

44. Sweetest sugar among the naturally occurring sugars is :-  
 (1) Glucose (2) Fructose  
 (3) Sucrose (4) Saccharine

BM0049

45. Histone is a basic protein due to -  
 (1) Alanine & glycine  
 (2) Methionine & serine  
 (3) Tryptophan & tyrosine  
 (4) Lysine & Arginine

BM0050

46. Sugar with five membered ring called -  
 (1) Pyranose (2) Furanose  
 (3) Dextrorotatory (4) Laevorotatory

BM0051

47. Which sugar occurs only in mammals ?  
 (1) Trehalose (2) Galactose  
 (3) Lactose (4) Mannose

BM0052

**48.** Which sugar does not give Benedict's test ?

- (1) Glucose                      (2) Maltose  
(3) Fructose                    (4) Sucrose

**BM0053**

**49.** Amylose and Amylopectin chains occur in -

- (1) Glycogen  
(2) Starch  
(3) Cellulose  
(4) Chitin

**BM0054**

**EXERCISE-I (Conceptual Questions)**

**ANSWER KEY**

<b>Que.</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Ans.</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>
<b>Que.</b>	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<b>Ans.</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>3</b>
<b>Que.</b>	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
<b>Ans.</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>4</b>
<b>Que.</b>	46	47	48	49											
<b>Ans.</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>2</b>											

## EXERCISE-II (Previous Year Questions)

## AIPMT/NEET

## AIPMT 2007

1. Which monosaccharide does not show optical isomerism :
- (1) Dihydroxy acetone
  - (2) Glyceraldehyde
  - (3) Erythrose
  - (4) Ribose

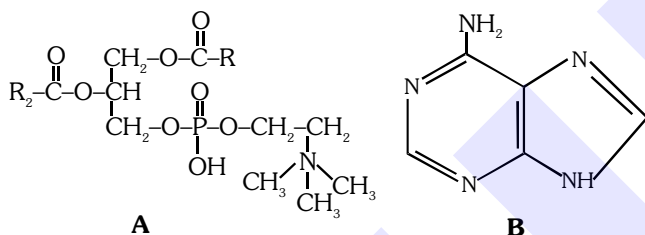
BM0056

2. Which one of the following is not a constituent of cell membrane ?
- (1) Phospholipids
  - (2) Cholesterol
  - (3) Glycolipids
  - (4) Proline

BM0057

## AIPMT (Pre.) 2011

3. Which one of the following structural formulae of two organic compounds is correctly identified along with its related function ?



- (1) B : adenine - a nucleotide that makes up nucleic acids
- (2) A : Triglyceride - major source of energy
- (3) B : Uracil - a component of DNA
- (4) A : Lecithin - a component of cell membrane

BM0060

## AIPMT (Pre.) 2012

4. Which one of the following sets of monosaccharides forms sucrose?
- (1)  $\beta$ -D-Glucopyranose and  $\alpha$ -D-fructofuranose
  - (2)  $\alpha$ -D-Glucopyranose and  $\beta$ -D-fructopyranose
  - (3)  $\alpha$ -D-Galactopyranose and  $\alpha$ -D-Glucopyranose
  - (4)  $\alpha$ -D-Glucopyranose and  $\beta$ -D-fructofuranose

BM0061

5. Which one out of A - D given below correctly represents the structural formula of the basic amino acid ?

A	B	C	D
$\begin{array}{c} \text{NH}_2 \\   \\ \text{H}-\text{C}-\text{COOH} \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{C}=\text{O} \\   \\ \text{O} \end{array}$	$\begin{array}{c} \text{NH}_2 \\   \\ \text{H}-\text{C}-\text{COOH} \\   \\ \text{CH}_2 \\   \\ \text{OH} \end{array}$	$\begin{array}{c} \text{CH}_2\text{OH} \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{NH}_2 \end{array}$	$\begin{array}{c} \text{NH}_2 \\   \\ \text{H}-\text{C}-\text{COOH} \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{CH}_2 \\   \\ \text{NH}_2 \end{array}$

## Options

- (1) A
- (2) B
- (3) C
- (4) D

BM0062

6. Which one is the most abundant protein in the animal world ?

- (1) Collagen
- (2) Insulin
- (3) Trypsin
- (4) Haemoglobin

BM0063

## NEET-UG 2013

7. The most abundant intracellular cation is :

- (1)  $\text{K}^+$
- (2)  $\text{Na}^+$
- (3)  $\text{Ca}^{++}$
- (4)  $\text{H}^+$

BM0064

8. Macro molecule chitin is :

- (1) Simple polysaccharide
- (2) Nitrogen containing polysaccharide
- (3) Phosphorus containing polysaccharide
- (4) Sulphur containing polysaccharide

BM0065

## AIPMT 2014

9. Which one of the following is a non-reducing carbohydrate ?

- (1) Maltose
- (2) Sucrose
- (3) Lactose
- (4) Ribose

BM0066

**Re-AIPMT 2015**

10. The chitinous exoskeleton of arthropods is formed by the polymerisation of :
- (1) lipoglycans
  - (2) keratin sulphate and chondroitin sulphate
  - (3) D-glucosamine
  - (4) N-acetyl glucosamine

**BM0067**

**NEET-I 2016**

11. One of the major components of cell wall of most fungi is :-
- (1) Chitin
  - (2) Peptidoglycan
  - (3) Cellulose
  - (4) Hemicellulose
12. A typical fat molecule is made up of :-
- (1) Three glycerol molecules and one fatty acid molecule
  - (2) One glycerol and three fatty acid molecules
  - (3) One glycerol and one fatty acid molecule
  - (4) Three glycerol and three fatty acid molecules

**BM0069**

**BM0070**

**NEET-II 2016**

13. Which of the following is the least likely to be involved in stabilizing the three-dimensional folding of most proteins?
- (1) Hydrophobic interaction
  - (2) Ester bonds
  - (3) Hydrogen bonds
  - (4) Electrostatic interaction

**BM0071**

**NEET (UG) 2017**

14. Which of the following are not polymeric ?
- (1) Proteins
  - (2) Polysaccharides
  - (3) Lipids
  - (4) Nucleic acids

**BM0075**

**NEET (UG) 2018**

15. The two functional groups characteristic of sugars are
- (1) hydroxyl and methyl
  - (2) carbonyl and methyl
  - (3) carbonyl and phosphate
  - (4) carbonyl and hydroxyl

**BM0076**

16. Which of the following is an amino acid derived hormone ?

- (1) Epinephrine
- (2) Ecdysone
- (3) Estradiol
- (4) Estriol

**BM0077**

**NEET (UG) 2019**

17. Which of the following glucose transporters is insulin-dependent ?

- (1) GLUT I
- (2) GLUT II
- (3) GLUT III
- (4) GLUT IV

**BM0125**

18. Concanavalin A is :

- (1) an alkaloid
- (2) an essential oil
- (3) a lectin
- (4) a pigment

**BM0126**

**NEET (UG) 2019 (Odisha)**

19. Which of the following organic compounds is the main constituent of Lecithin ?

- (1) Arachidonic acid
- (2) Phospholipid
- (3) Cholesterol
- (4) Phosphoprotein

**BM0127**

20. "Ramachandran plot" is used to confirm the structure of :-

- (1) RNA
- (2) Proteins
- (3) Triacylglycerides
- (4) DNA

**BM0128**

**NEET (UG) 2020**

21. Match the following :

- |                                     |               |
|-------------------------------------|---------------|
| (a) Inhibitor of catalytic activity | (i) Ricin     |
| (b) Possess peptide bonds           | (ii) Malonate |
| (c) Cell wall material in fungi     | (iii) Chitin  |
| (d) Secondary metabolite            | (iv) Collagen |

Choose the **correct** option from the following :

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

**BM0129**



22. Identify the basic amino acid from the following.

- (1) Valine
- (2) Tyrosine
- (3) Glutamic Acid
- (4) Lysine

BM0130

23. Which of the following is the most abundant protein in the animals ?

- (1) Insulin
- (2) Haemoglobin
- (3) Collagen
- (4) Lectin

BM0131

24. Identify the substances having glycosidic bond and peptide bond, respectively in their structure :

- (1) Inulin, insulin
- (2) Chitin, Cholesterol
- (3) Glycerol, trypsin
- (4) Cellulose, lecithin

BM0132

**NEET (UG) 2020 (COVID-19)**

25. Identify the statement which is **incorrect**.

- (1) Sulphur is an integral part of cysteine.
- (2) Glycine is an example of lipids.
- (3) Lecithin contains phosphorus atom in its structure.
- (4) Tyrosine possesses aromatic ring in its structure.

BM0133

**NEET (UG) 2021**

26. Which of the following are **not** secondary metabolites in plants ?

- (1) Morphine, codeine
- (2) Amino acids, glucose
- (3) Vinblastin, curcumin
- (4) Rubber, gums

BM0134

27. Match List - I with List - II.

List - I		List - II	
(a)	Protein	(i)	C = C double bonds
(b)	Unsaturated fatty acid	(ii)	Phosphodiester bonds
(c)	Nucleic acid	(iii)	Glycosidic bonds
(d)	Polysaccharide	(iv)	Peptide bonds

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

- |            |            |            |            |
|------------|------------|------------|------------|
| <b>(a)</b> | <b>(b)</b> | <b>(c)</b> | <b>(d)</b> |
| (1) (iv)   | (i)        | (ii)       | (iii)      |
| (2) (i)    | (iv)       | (iii)      | (ii)       |
| (3) (ii)   | (i)        | (iv)       | (iii)      |
| (4) (iv)   | (iii)      | (i)        | (ii)       |

BM0135

28. Identify the **incorrect** pair.

- (1) Alkaloids - Codeine
- (2) Toxin - Abrin
- (3) Lectins - Concanavalin A
- (4) Drugs - Ricin

BM0136

29. Following are the statements with reference to 'lipids'.

- (a) Lipids having only single bonds are called unsaturated fatty acids.
- (b) Lecithin is a phospholipid.
- (c) Trihydroxy propane is glycerol.
- (d) Palmitic acid has 20 carbon atoms including carboxyl carbon.
- (e) Arachidonic acid has 16 carbon atoms.

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

- |                      |                      |
|----------------------|----------------------|
| (1) (a) and (b) only | (2) (c) and (d) only |
| (3) (b) and (c) only | (4) (b) and (e) only |

BM0137

**NEET(UG) 2021 (Paper-2)**

30. Which of the following organic compound is correctly related with its function ?

- (1) Uridine – A nucleotide that makes up RNA
- (2) Phosphoglycerides – A component of cell membrane
- (3) Serine – A non-protein amino acid
- (4) GLUT-4 – Inhibits glucose transport into cells

BM0158



**NEET(UG) 2022**

31. Exoskeleton of arthropods is composed of:
- (1) Cellulose
  - (2) Chitin
  - (3) Glucosamine
  - (4) Cutin

**BM0159**

32. Read the following statements on lipids and find out **correct** set of statements:

- (a) Lecithin found in the plasma membrane is a glycolipid
- (b) Saturated fatty acids possess one or more  $C=C$  bonds
- (c) Gingly oil has lower melting point, hence remains as oil in winter
- (d) Lipids are generally insoluble in water but soluble in some organic solvents
- (e) When fatty acid is esterified with glycerol, monoglycerides are formed

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

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

**BM0160**

33. A dehydration reaction links two glucose molecules to produce maltose. If the formula for glucose is  $C_6H_{12}O_6$  then what is the formula for maltose ?

- (1)  $C_{12}H_{24}O_{12}$
- (2)  $C_{12}H_{22}O_{11}$
- (3)  $C_{12}H_{24}O_{11}$
- (4)  $C_{12}H_{20}O_{10}$

**BM0161**

**NEET(UG) 2022 (OVERSEAS)**

34. Given below are two statements :

**Statement – I** : Cellulose is a polymeric polysaccharide.

**Statement – II** : The building blocks of cellulose are glucose molecules.

In the light of the above statements, choose the **correct** answer from the options given below :

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

**BM0162**

35. Which of the following bond is formed as a result of reaction of carboxyl group of one amino acid with amino group of other amino acid with elimination of water?

- (1) Hydrogen Bond
- (2) Glycosidic Bond
- (3) Peptide Bond
- (4) Phosphodiester Bond

**BM0163**

**Re-NEET(UG) 2022**

36. Match **List - I** with **List - II** :

**List - I**

**List - II**

- |                 |                     |
|-----------------|---------------------|
| (a) Adenine     | (i) Pigment         |
| (b) Anthocyanin | (ii) Polysaccharide |
| (c) Chitin      | (iii) Alkaloid      |
| (d) Codeine     | (iv) Purine         |

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

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

**BM0164**

37. Primary proteins are also called as polypeptides because :

- (1) They are linear chains
- (2) They are polymers of peptide monomers
- (3) Successive amino acids are joined by peptide bonds
- (4) They can assume many conformations

BM0165

38. Given below are two statements:

**Statement I :**

Amino acids have a property of ionizable nature of  $\text{-NH}_2$  and  $\text{-COOH}$  groups, hence have different structures at different pH.

**Statement II :**

Amino acids can exist as Zwitterionic form at acidic and basic pH.

In the light of the above statements, choose the **most appropriate answer** from the options given below:

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

BM0166

## 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	4	4	4	4	1	1	2	2	4	1	2	2	3	4
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	1	4	3	2	2	2	4	3	1	2	2	1	4	3	2
Que.	31	32	33	34	35	36	37	38							
Ans.	2	2	2	2	3	1	3	1							

EXERCISE-III

Master Your Understanding

EXERCISE-III(A) (NCERT Based QUESTIONS)

- Which of the following compound is present in acid soluble pool when we analyse chemical composition?  
(1) Protein (2) Lipid  
(3) Glucose (4) Carotenoid  
**BM0138**
- Which of the following elements present most abundantly on earth crust?  
(1) Carbon (2) Hydrogen  
(3) Oxygen (4) Silicon  
**BM0139**
- If  $-NH_2$  group and  $-COOH$  group are attached on same carbon in any amino acid, then these types of amino acids are known as :  
(1)  $\alpha$ -AA (2)  $\beta$ -AA  
(3)  $\gamma$ -AA (4) All  
**BM0140**
- Variations in amino acids depend on :  
(1) Side group (2) Ester group  
(3) Complexity of cell (4) None of them  
**BM0141**
- How many carbon atoms are found in arachidonic acid?  
(1) 16 (2) 18 (3) 20 (4) 22  
**BM0142**
- Which of the following AA is basic ?  
(1) Valine (2) Lysine  
(3) Glutamic acid (4) Glycine  
**BM0143**
- How many total carbons are found in palmitic acid?  
(1) 15 (2) 16 (3) 17 (4) 18  
**BM0144**
- Lipid may be :  
(1) Monoglyceride  
(2) Diglyceride  
(3) Triglyceride  
(4) All the above  
**BM0145**

- $$\begin{array}{c} \text{COOH} \\ | \\ \text{H}-\text{C}-\text{NH}_2 \\ | \\ \text{CH}_3 \end{array}$$
 This amino acid is :  
(1) Serine (2) Alanine  
(3) Glycine (4) Arginine  
**BM0146**
- Which functional group is common in fatty acid & amino acid ?  
(1)  $-COOH$  (2)  $-NH_2$   
(3)  $-OH$  (4) All  
**BM0147**
- In proteins, amino acids are attached together by :  
(1) Peptide bond (2) Amide bond  
(3) Ester bond (4) 1 & 2 both  
**BM0148**
- Proteins can act as :  
(1) transporter of nutrients across cell membrane  
(2) Hormones  
(3) Enzymes  
(4) All  
**BM0149**
- Which of the following is homopolysaccharide?  
(1) Cellulose (2) Starch  
(3) Glycogen (4) All  
**BM0150**
- All the elements present in a sample of earth's crust are also present in a sample of living tissue, but which of the following element is higher in any living organism than in earth's crust?  
(1) Hydrogen, Oxygen, Carbon and Silicon.  
(2) Hydrogen, Oxygen, Carbon, Nitrogen and Silicon  
(3) Hydrogen, Oxygen, Carbon, Nitrogen and Sulphur.  
(4) Hydrogen, Oxygen, Carbon, Nitrogen, Sulphur and Sodium  
**BM0151**

15. Pigments are considered as the secondary metabolites, having some particular functions. Which of the following is an example of pigments?

(1) Carotenoids  
 (2) Codeine  
 (3) Concanavalin-A  
 (4) Curcumin

BM0152

16. Which of the following can not be considered as the example of polymeric substances?

(1) Rubber (2) Gums  
 (3) Cellulose (4) Vinblastin

BM0153

17. Select the correctly matched.

(1) Anthocyanins - Alkaloids  
 (2) Carotenoids - Toxins  
 (3) Ricin - Drugs  
 (4) Lemon grass oil - Essential oils.

BM0154

18. Which of the following amino acid having H(Hydrogen) as R group?

(1) Glycine (2) Alanine  
 (3) Serine (4) Leucine

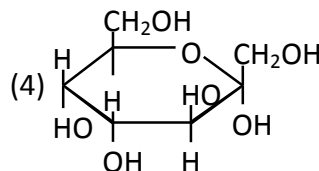
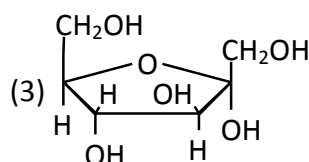
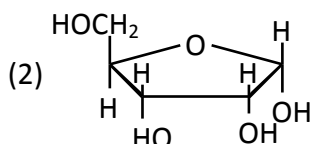
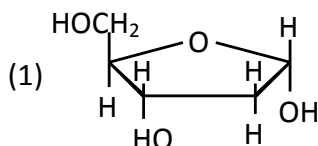
BM0155

19. Physical and chemical properties of amino acids depend on

(1) Amino group  
 (2) Carboxylic group  
 (3) R-group  
 (4) All of the above

BM0156

20. Which of the following represents the structure of Ribose ?



BM0157

**EXERCISE-III(B) (ANALYTICAL QUESTIONS)**

21. Which element is present negligible in human body?

(1) O (2) C (3) H (4) Si

BM0080

22. Which of the following compound is found in acid soluble pool during analysis of a living tissue?

(1) Protein (2) Lipid  
 (3) Polysaccharide (4) Monosaccharide

BM0081

23. Which of the following is not a macromolecule?

(1) Amino acid  
 (2) Nucleotide  
 (3) Monosaccharide  
 (4) All the above

BM0082

24.  $\alpha$ -amino acids are those, which –

(1) Participates in protein synthesis  
 (2)  $-\text{COOH}$  group and  $-\text{NH}_2$  group are attached on same carbon  
 (3) 20 types  
 (4) All the above are correct

BM0084

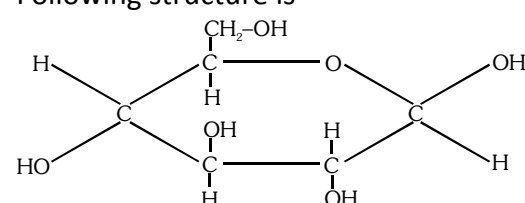
25. Which of the following is correct statement?

(1) Amino acids may be considered as substituted methane  
 (2)  $\alpha$ -AA have difference only in R group  
 (3) In serine, R-group is hydroxy methyl  
 (4) All the above

BM0085

26. What is the R group in Glycine?  
 (1)  $-\text{CH}_2-\text{OH}$  (2)  $-\text{H}$   
 (3)  $-\text{CH}_3$  (4) None of them  
**BM0086**
27. Which of the following is acidic amino acid?  
 (1) Valine (2) Glutamic acid  
 (3) Arginine (4) Lysine  
**BM0087**
28. Which of the following is aromatic AA?  
 (1) Tyrosine (2) Tryptophan  
 (3) Phenyl alanine (4) All the above  
**BM0088**
29. Which of the following is component of simple lipid?  
 (1) Glycerol (2) Glycol  
 (3) Fatty acid (4) both 1 & 3  
**BM0090**
30. The lipid which is found in cell membrane is  
 (1) Phospholipid (2) Lecithin  
 (3) 1 & 2 both (4) Palmitic acid  
**BM0092**
31. Heterocyclic ring is found in which compound?  
 (1) N-bases  
 (2) Ring structure of monosaccharides  
 (3) Protein  
 (4) 1 & 2 both  
**BM0093**
32. Following structure is related to which AA?  

$$\begin{array}{c} \text{COOH} \\ | \\ \text{H}-\text{C}-\text{NH}_2 \\ | \\ \text{CH}_3 \end{array}$$
  
 (1) Glycine (2) Alanine  
 (3) Serine (4) Tyrosine  
**BM0094**

33. Following structure is –  
  
 (1)  $\alpha$ -Glucose (2)  $\beta$ -Glucose  
 (3) Ribose (4) Deoxyribose  
**BM0095**
34. Which of the following is secondary metabolites?  
 (1) Rubber (2) Alkaloids  
 (3) Terpenoids (4) All the above  
**BM0096**
35. Which of the following statement is correct?  
 (1) Lipid is biomacromolecule  
 (2) Lipid has <1000 daltons molecular weight  
 (3) Proteins are heteropolymer  
 (4) All the above are correct except (1)  
**BM0097**
36. DNA is –  
 (1) Biomacromolecule  
 (2) Acidic in nature  
 (3) Polymer of nucleotide  
 (4) All the above  
**BM0098**
37. All the following statements about the structure of glycogen are true, except :-  
 (1) Branched chains occur, after every ten residues  
 (2) It is a copolymer of glucose and mannose  
 (3) It contains  $\alpha$ -1, 4-glycosidic linkages  
 (4) It contains  $\alpha$ -1, 6-glycosidic linkages  
**BM0101**

EXERCISE-III

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	3	3	1	1	3	2	2	4	2	1	4	4	4	3	1
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	4	4	1	4	2	4	4	4	4	4	2	2	4	4	3
Que.	31	32	33	34	35	36	37								
Ans.	4	2	2	4	4	4	2								