



BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA

BIOLOGY (GUJRATI ENGLISH)

BIOMOLECULES

**Section A Exam Oriented Questions Answers
From Darpan**

1. How the living organisms are formed based on chemical organization?



Watch Video Solution

2. How the analysis of chemical components can be done ?



Watch Video Solution

3. Briefly describe the types of groups participating in the structure of amino acids.



Watch Video Solution

4. Give the information, regarding structure of lipids.



Watch Video Solution

5. What are heterocyclic organic compounds ?

Explain with examples.



[Watch Video Solution](#)

6. What are primary and secondary metabolites ? State its importance and components with examples.



[Watch Video Solution](#)

7. What are macro and micro biomolecules ?

Explain with examples.



Watch Video Solution

8. Give information of structural organization

of proteins. Mention their general functions.



Watch Video Solution

9. Give information regarding structural organization and functions of polysaccharides ?



[Watch Video Solution](#)

10. Give information regarding nucleic acids.



[Watch Video Solution](#)

11. Describe primary, secondary and tertiary structure of proteins. OR Describe structure of proteins.



Watch Video Solution

12. Which types of linkage, formed between different monomers, to form polymer ? Explain the various types of linkage with Examples.



Watch Video Solution

13. What are metabolic processes ? State its importance.



Watch Video Solution

14. What is metabolic basis for life ? Discuss.



Watch Video Solution

15. "The living state is a non-equilibrium steady state." Explain.





[Watch Video Solution](#)

16. Give information regarding nucleic acids.



[Watch Video Solution](#)

17. How does chemical processes occur ?

Which kind of changes are observed in it ?



[Watch Video Solution](#)

18. How the chemical transformation occurs through enzymes at higher rate ?



Watch Video Solution

19. Describe the mechanism of enzyme action



Watch Video Solution

20. Discuss the factors affecting enzyme activities.



[Watch Video Solution](#)

21. How is naming of enzymes is done ?

Describe types of enzymes with examples.



[Watch Video Solution](#)

22. What are co-factors ? Describe its types.



[Watch Video Solution](#)

Section B Difference Scientific Reasons Give Differences 2 Marks

1. Purine and Pyrimidine



[Watch Video Solution](#)

2. Nucleoside and Nucleotide



[Watch Video Solution](#)

3. DNA and RNA



[Watch Video Solution](#)

Section B Difference Scientific Reasons Give Scientific Reasons 2 Marks

1. Life is not possible without protein.



[Watch Video Solution](#)

2. Though molecular weight of lipid is less, it is included in Biomacromolecules.





[Watch Video Solution](#)

Section C Definition Explanation Terms Full Name Definition Explanation 1 Mark

1. Give information regarding nucleic acids.



[Watch Video Solution](#)

2. Illustrate a glycosidic, peptide and a phospho-diester bond.



[Watch Video Solution](#)

3. Illustrate a glycosidic, peptide and a phospho-diester bond.



Watch Video Solution

4. Illustrate a glycosidic, peptide and a phospho-diester bond.



Watch Video Solution

Section C Definition Explanation Terms Full Name

Full Name 1 Mark

1. ATP :



[Watch Video Solution](#)

2. DNA and RNA



[Watch Video Solution](#)

3. DNA and RNA



[Watch Video Solution](#)

Section D Textual Exercise

1. What are macromolecules ? Give Example.



[Watch Video Solution](#)

2. Illustrate a glycosidic, peptide and a phospho-diester bond.



[Watch Video Solution](#)

3. What is meant by tertiary structure of proteins ?



[Watch Video Solution](#)

4. Find and write down structures of 10 interesting small molecular weight biomolecules. Find if there is any industry which manufactures the compounds by isolation. Find out who are the buyers.



 [Watch Video Solution](#)

5. Proteins have primary structure. If you are given a method to know which amino acid is at either of the two termini (ends) of a protein, can you connect this information to purity or homogeneity of a protein ?

 [Watch Video Solution](#)

6. Find out and make a list of proteins used as therapeutic agents. Find other applications of

proteins (e.g. Cosmetics etc.)



Watch Video Solution

7. Explain the composition of triglyceride.



Watch Video Solution

8. Can you describe what happens when milk is converted into curd or yoghurt, from your understanding of proteins ?



Watch Video Solution

9. Can you attempt building models of biomolecules using commercially available atomic models (Ball and Stick models).



[Watch Video Solution](#)

10. Attempt titrating an amino acid against a weak base and discover the number of dissociating (ionizable) functional groups in the amino acid.



[Watch Video Solution](#)

11. Draw the structure of the amino acid, alanine.



[Watch Video Solution](#)

12. What are gums made of ? Is Fevicol different ?



[Watch Video Solution](#)

13. Find out a qualitative test for proteins, fats and oils, amino acids and test any fruit juice, saliva, sweat and urine for them.



Watch Video Solution

14. Find out how much cellulose is made by all the plants in the biosphere and compare it with how much of paper is manufactured by man and hence what is the consumption of plant material by man annually. What a loss of vegetation !



[Watch Video Solution](#)

15. Describe the important properties of enzymes.



[Watch Video Solution](#)

Section E Solution Of Ncert Exemplar Multiple Choice Questions Mcqs

1. It is said that elemental composition of living organisms and that of inanimate objects

(like earth's crust) are similar in the sense that all the major elements are present in both. Then what would be the difference between these two groups ? Choose a correct answer from among the following.

(A) Living organisms have more gold in them than inanimate objects.

(B) Living organisms have more water in their body than inanimate objects.

(C) Living organisms have more carbon, oxygen and hydrogen per unit mass than inanimate objects.

(D) Living organisms have more calcium in them than inanimate objects.

A. Living organisms have more gold in them than inanimate objects.

B. Living organisms have more water in their body than inanimate objects.

C. Living organisms have more carbon, oxygen and hydrogen per unit mass than inanimate objects.

D. Living organisms have more calcium in them than inanimate objects.

Answer: C



Watch Video Solution

2. Many elements are found in living organisms either free or in the form of compounds. One of the following is not found in living organisms.

(A) Silicon

(B) Magnesium

(C) Iron

(D) Sodium

A. Silicon

B. Magnesium

C. Iron

D. Sodium

Answer: A



Watch Video Solution

3. Amino acids have both an amino group and a carboxyl group in their structure. Which amongst the following is an amino acid ?

A. Formic acid

B. Glycerol

C. Glycolic acid

D. Glycine

Answer: D



Watch Video Solution

4. An amino acid under certain conditions have both positive and negative charges simultaneously in the same molecule. Such a form of amino acid is called

- (A) Acidic form
- (B) Basic form
- (C) Aromatic form
- (D) Zwitterionic form

A. acidic form

B. basic form

C. aromatic form

D. zwitterionic form

Answer: D



Watch Video Solution

5. Which of the following sugars have the same number of carbon as present in glucose ?

(A) Fructose

(B) Erythrose

(C) Ribulose

(D) Ribose

A. Fructose

B. Erythrose

C. Ribulose

D. Ribose

Answer: A



Watch Video Solution

6. An acid soluble compound formed by phosphorylation of nucleoside is called

- (A) Nitrogen base
- (B) Adenine
- (C) Sugar phosphate
- (D) Nucleotide

A. nitrogen base

B. adenine

C. sugar phosphate

D. nucleotide

Answer: D



Watch Video Solution

7. When we homogenise any tissue in an acid, the acid soluble pool represents

- (A) Cytoplasm
- (B) Cell membrane
- (C) Nucleus
- (D) Mitochondria

A. cytoplasm

B. cell membrane

C. nucleus

D. mitochondria

Answer: A



Watch Video Solution

8. The most abundant chemical in living organisms could be

(A) Protein

(B) Water

(C) Sugar

(D) Nucleic acid

A. protein

B. water

C. sugar

D. nucleic acid

Answer: B



Watch Video Solution

9. A homopolymer has only one type of building block called monomer repeated 'n' number of times. A heteropolymer has more than one type of monomer. Proteins are heteropolymers usually made of

- A. 20 types of monomers
- B. 40 types of monomers
- C. 30 types of monomers
- D. only one type of monomer

Answer: A



Watch Video Solution

10. Proteins perform many physiological functions. For example, some functions as enzymes. One of the following represents an additional function that some proteins discharge

A. Antibiotics

B. Pigment conferring colour to skin

C. Pigments making colours of flowers

D. Hormones

Answer: D



Watch Video Solution

11. Glycogen is a homopolymer made of

A. glucose units

B. galactose units

C. ribose units

D. amino acids

Answer: A



Watch Video Solution

12. The number of 'ends' in a glycogen molecule would be

A. Equal to the number of branches plus

one

B. Equal to the number of branch points

C. One

D. Two, one on the left side and another on the right side

Answer: A



Watch Video Solution

13. The primary structure of a protein molecule has

A. two ends

B. one end

C. three ends

D. no ends

Answer: A



Watch Video Solution

14. Which of the following reactions is not enzyme mediated in biological system?

A. Dissolving CO_2 in water

B. Unwinding the two strands of DNA

C. Hydrolysis of sucrose

D. Formation of peptide bond

Answer:



Watch Video Solution

Section E Solution Of Ncert Exemplar Very Short Answer Type Questions Vsq

1. Medicines are either man made (i.e., synthetic) or obtained from living organisms

like plants, bacteria, animals, etc. and hence, the latter are called natural products. Sometimes, natural products are chemically altered by man to reduce toxicity or side effects. Write against each of the following whether they were initially obtained as a natural product or as a synthetic chemical.

- (a) Penicillin (b) Sulphonamide (c) Vitamin-C
(d) Growth hormone



Watch Video Solution

2. Select an appropriate chemical bond among ester bond, glycosidic bond, peptide bond and hydrogen bond and write against each of the following.

(a) Polysaccharide

(b) Protein

(c) Fat

(d) Water



Watch Video Solution

3. Write the name of any one amino acid, sugar, nucleotide and fatty acid.



[Watch Video Solution](#)

4. Reaction given below is catalysed by oxidoreductase between two substrates A and A' complete the reaction

A reduced + A' oxidised \rightarrow



[Watch Video Solution](#)

5. How are prosthetic groups different from co-factors ?



[Watch Video Solution](#)

6. Glycine and alanine are different with respect to one substituent on the α -carbon. What are the other common substituent groups ?



[Watch Video Solution](#)

7. Starch, cellulose, glycogen, chitin are polysaccharides found among the following. Choose the one appropriate and write against each.

(a) Cotton fibre

(b) Exoskeleton of cockroach

(c) Liver

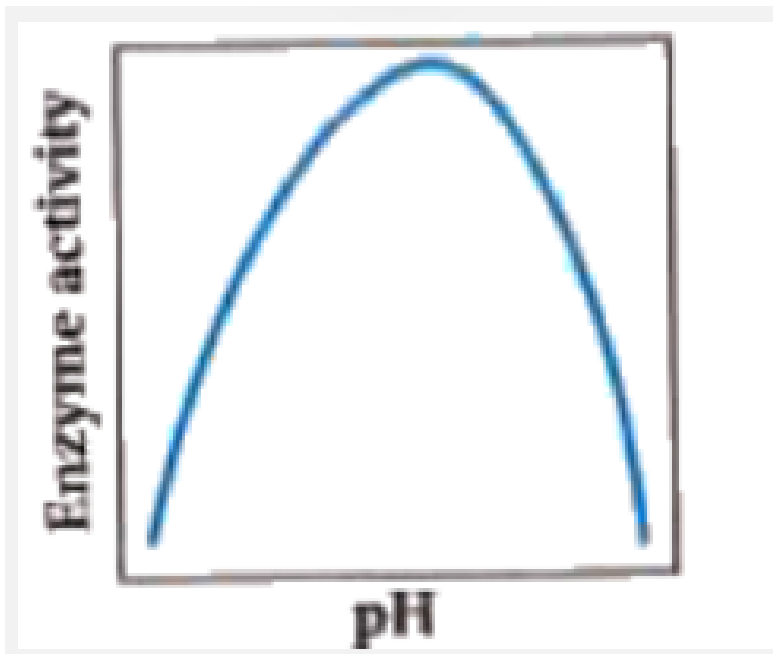
(d) Peeled potato



[Watch Video Solution](#)

Section E Solution Of Ncert Exemplar Short Answer Type Questions

1. Enzymes are proteins. Proteins are long chains of amino acids linked to each other by peptide bonds. Amino acids have many functional groups in their structure.



These functional groups are many of them at least, ionisable. As they are weak acids and

bases in chemical nature, this ionisation is influenced by pH of the solution. For many enzymes activity is influenced by surrounding pH. This is depicted in the curve below, explain briefly.



[Watch Video Solution](#)

2. Is rubber a primary metabolite or a secondary metabolite ? Write four sentences about rubber.



[Watch Video Solution](#)

3. Describe primary, secondary and tertiary structure of proteins. OR Describe structure of proteins.



[Watch Video Solution](#)

4. Nucleic acids exhibit secondary structure, justify with example.



[Watch Video Solution](#)

5. Comment on the statement 'living state is a non-equilibrium steady state to be able to perform work'.



[Watch Video Solution](#)

Section E Solution Of Ncert Exemplar Long Answer Type Questions

1. Formation of Enzyme substrate complex (ES) is the first step in the catalysed reactions.

Describe the other steps till the formation of product.



Watch Video Solution

2. What are different classes of enzymes ?

Explain any two with the type of reactions they catalyse.



Watch Video Solution

3. Nucleic acids exhibit secondary structure.

Describe through Watson-Crick model.



Watch Video Solution

4. What is the difference between a nucleotide and nucleoside ? Give two examples of each with their structure.



Watch Video Solution

5. Describe various forms of lipid with a few examples.



[Watch Video Solution](#)

Questions From Module Important Mcq For Neet

1. In which of the following part, organic substances present ?

A. Acid soluble

B. Retenant

C. Filterate

D. Both (A) and (C)

Answer: D



Watch Video Solution

2. Separate, appropriate for analysis of Ca and

Mg.

Statement X : Water is evaporated from living organs.

Statement Y : O_2 is removed from dry parts.

Statement Z : Various inorganic elements are present in the ash.

A. X, Y true, Z wrong

B. X, Z true, Y wrong

C. X, Z wrong, Y true

D. X, Y wrong, Z true

Answer: B



View Text Solution

3. Phospholipid named lecithin is found in component of.....

(A) Plasmalemma

(B) Cell wall

(C) Middle lamella

(D) Nuclear membrane

A. Plasmalemma

B. Cell wall

C. Middle lamella

D. Nuclear membrane

Answer: A



Watch Video Solution

4. Isolate in appropriate manner for secondary metabolites. a.Plant b.Fungi c.Bacteria d.Above all

A. Plant

B. Fungi

C. Bacteria

D. Above all

Answer: D



Watch Video Solution

5. State the name of polymer of fructose.

(A) Starch

(B) Glycogen

(C) Inulin

(D) Chitin

A. Starch

B. Glycogen

C. Inulin

D. Chitin

Answer: C



Watch Video Solution

6. Each step of DNA is.....angle from next step.

(A) 20°

(B) 34°

(C) 10°

(D) 36°

A. 20°

B. 34°

C. 10°

D. 36°

Answer: D



Watch Video Solution

7. Science involved in source of energy development, form and time.....

A. Energy science

B. Exchange science

C. Redox science

D. Bio energy science

Answer: D



View Text Solution

8. What is transition stage ?

- A. Formation of new structure of product
- B. Formation of new structure of substrate
- C. Formation of new structure of enzyme
- D. Formation of new intermediate molecule

Answer: B



Watch Video Solution

9. Give the name of cofactor for carboxy peptidase.

(A) Zn

(B) Cu

(C) Mn

(D) Mg

A. Zn

B. Cu

C. Mn

D. Mg

Answer:



Watch Video Solution

**Question Paper Answer The Following Questions
Briefly Each Of 1 Mark**

1. What are macro and micro biomolecules ?

Explain with examples.



Watch Video Solution

2. What is the structure of starch ?



[Watch Video Solution](#)

3. State the location of phosphodiester in polynucleotide.



[Watch Video Solution](#)

4. How many molecules of organic acids formed in the presence of carbonic anhydrase

?



Watch Video Solution

5. What is competitive inhibitor ?



Watch Video Solution

**Question Paper Give Answer As Per In Structures
Each Of 2 Marks**

1. Write short note : Lecithin



[Watch Video Solution](#)

2. Write the steps of inducer molecule.



[Watch Video Solution](#)

**Question Paper Give Answer As Per In Structions
Each Of 3 Marks**

1. Describe concentration of substrate.



[Watch Video Solution](#)

2. Give information of structural organization of proteins. Mention their general functions.



[Watch Video Solution](#)

Question Paper Describe In Detail

1. Explain chemical analysis.



[Watch Video Solution](#)