

APOLLO

Molecular biology

FBISE Biology Class 9 (SSC-I)

Domain C: Molecular Biology

37 questions | questions

Original FBISE question crops. National Curriculum 2022-23 topic.

FBISE model paper | Section A Q29 | 0.5 marks

29.	The cells that are carriers for transfer of genetic information to next generation are:	Gametes	Stem cells	Zygote	Brain cells
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FBISE model paper | Section A Q30 | 0.5 marks

30.	Identify which is NOT a primary function of lipids?	Act as enzymes	Long-term energy storage	Insulation and protection	Formation of cell membranes
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FBISE model paper | Section A Q32 | 0.5 marks

32.	What do the Carbohydrates do in our body?	Gaseous transport	Immunity	Instant source of energy	Speed up chemical reactions
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FBISE model paper | Section A Q33 | 0.5 marks

33.	A person is suffering from a deficiency of proteins. Which food group will help him to overcome the issue?	Milk, eggs, fish	Oranges, spinach, mangoes	Butter, cheese, oil	Fruits, cereal grains, potatoes
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FBISE model paper | Section A Q34 | 0.5 marks

34.	Excess carbohydrates in humans are mainly stored as:	Protein	Glycogen	Cellulose	Vitamins
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FBISE model paper | Section A Q35 | 0.5 marks

35.	Which is the correct complementary base pairing in DNA double helix?	Guanine ≡ Adenine	Guanine ≡ Cytosine	Adenine = Cytosine	Thymine = Guanine
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FBISE model paper | Section B Q2 | 3 marks

2.	Define the primary structure of proteins. Sketch general formula of an amino acid. Mention the role of proteins in defense of body.	1+1 +1
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FBISE model paper | Section B Q4 | 3 marks

4.	Give THREE differences by comparing the structure of DNA and RNA.	1+1 +1
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First Annual 2025 | Section A Q6 | 1 mark

6.	Which one cannot be the part of pyrimidine?	Adenine	Cytosine	Thymine	Uracil
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7.	During translation sequence of amino acids in the protein molecule is decided on the basis of sequence of nucleotides in:	tRNA	mRNA	rRNA	DNA
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(iii)	Draw a structural formula of an amino acid and label its four groups.	1+2
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OR	Write one role each of hormones, fibrinogen and keratin as proteins in the cells of human body.	03
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OR	Elaborate classification of carbohydrates on the basis of saccharide unit in the molecule.	2+2 +1
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6.	DNA contains all other nitrogenous bases, EXCEPT:	Adenine	Uracil	Thymine	Guanine
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7.	In DNA, the "rungs" of ladder are formed between pair of:	Phosphate groups	Sugar molecules	Nitrogenous bases	Nucleotides
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(iii)	Lipids contain double amount of energy than carbohydrates and proteins. Why?	03
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OR	Briefly explain types of RNA	03
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OR	Explain double helix structure of DNA proposed by Watson & Crick.	05
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(iii)	Draw structure of a nucleotide and label its parts.	1.5+ 1.5
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Draw the structure of an amino acid and label its groups.	1+2
ایک امینو ایسڈ کی ساخت بنائیں اور اس کے گروپس لیبل کریں۔	

6 Explain Watson and Crick's model of DNA. Diagram is not required.	05
واٹسن اور کرک کے DNA کے ماڈل کی وضاحت کریں۔ ڈائیگرام درکار نہیں۔	

(i) How are different types of RNA involved in converting Hereditary information into functional proteins?	1x3
Briefly explain association	

Write two differences between saturated and unsaturated fatty acids. Also describe the basic structure of a lipid molecule briefly.	2+1
Briefly explain Distacholene and Distacholene C18	

Why are starch and cellulose classified as polysaccharides? Write any two characteristics of polysaccharides.	1+2
How does temperature affect rate of transpiration?	

A DNA strand having nucleotide sequence					
3. A-T-G-C-T will have complementary strand:	A-T-G-C-A	T-A-C-G-A	A-U-G-C-T	G-C-A-T-A	☐ ☐ ☐ ☐

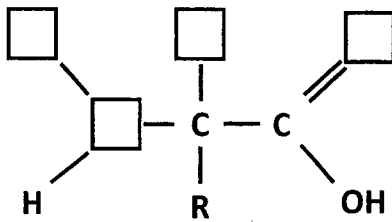
Differentiate between monosaccharides and disaccharides (any three difference).	1x3
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What are lipids? Write about the basic structure of a lipid molecule.	2+1
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If a DNA strand is having A-T-C-G-T				
8. nucleotide sequence, the mRNA formed from it will be:	U-A-G-C-A	T-A-G-C-A	T-U-G-C-U	T-U-C-G-U

OR State two dietary sources of lipids. Why are lipids important? Explain briefly.	2+1
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Complete given structure of an amino acid with correct element / group. Also write name of functional groups found in an amino acid.



2+1

Briefly explain theory of natural selection by Darwin

(vii) Differentiate between sucrose and maltose. (Any three differences)

1x3

(viii) Which combination of molecules is related to lipids?

Amino acid and glycerol

Glucose and glycerol

Fatty acids and glycerol

Glucose and fatty acids

(xii) The nitrogenous bases between two DNA strands are held together by:

Ionic Bonds

Hydrogen Bonds

Covalent Bonds

Peptide Bonds

Draw the chemical structure of a typical amino acid labelling its components.

3

(iii) Compare DNA and RNA in a tabular manner for any six features

0.5x
6

In a cell, a nucleic acid contains uracil instead of thymine. Name the molecule and explain one structural difference from DNA.

03

ایک سیل میں ایسا نوکلک ایسڈ ماما حاتا ہے جس میں تھائیمین کا بجائے یوراسل موجود ہو۔ اس

Attempt the following questions.

Q.3 Explain any five functions of carbohydrates in living organisms.

جانداروں میں کاربوہائیڈریٹس کے کوئی سے پانچ افعال تفصیلاً بیان کریں۔

05