

APOLLO

Cell cycle

FBISE Biology Class 9 (SSC-I)

Domain D: Cells and Subcellular Organelles

38 questions | questions

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

FBISE model paper | Section A Q17 | 0.5 marks

17.	All of the following are correct about importance of Meiosis, EXCEPT :	Genetic stability	Genetic variation.	Sexual reproduction.	Maintenance of number chromosomes in a species.
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FBISE model paper | Section A Q18 | 0.5 marks

18.	A student observes a cell where chromosomes are condensed and nuclear membrane is disappearing. This stage is:	Prophase	Metaphase	Anaphase	Telophase
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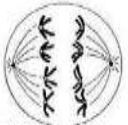
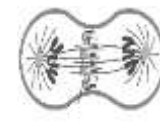
FBISE model paper | Section A Q19 | 0.5 marks

19.	Interphase is important because it:	Divides the cell	Ensures DNA replication	Disintegrates the nuclear membrane	Forms spindle apparatus
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FBISE model paper | Section A Q20 | 0.5 marks

20.	In which of the following stage the cells may exit the cell cycle and stop to divide?	G1	G2	S	G0
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FBISE model paper | Section A Q22 | 0.5 marks

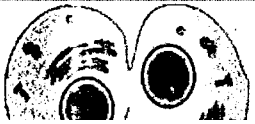
22.	Which one of the following diagrams correctly represents anaphase-I?				
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FBISE model paper | Section B Q5 OR | 3 marks

Enlist any two main events that occur during Prophase-I of meiosis and draw diagram.	2+1
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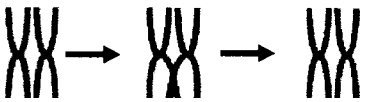
FBISE model paper | Section B Q6 | 3 marks

6.	Compare anaphase-I of meiosis with anaphase of mitosis and draw labeled diagrams.	1.5 + 1.5
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	ذیل فریلاٹریشن سے کیا مراد ہے؟	03
(iii)	Draw a structural formula of an amino acid and label its four groups. امینو ایسڈ کا ساختی فارمولا بنائیں اور اس کے چار گروپس کو لیبل کریں۔	1+2
(iv)	Differentiate between activator and co-enzyme with examples. مثالوں کے ساتھ ایکٹیویٹر اور کو انزائم کے درمیان فرق کریں۔	03
(v)	Why are viruses considered to be at borderline between living and non-living organisms? وائرس کو جانداروں اور غیر جانداروں کے درمیان بارڈر لائن کیوں سمجھا جاتا ہے؟	03
(vi)	Identify the event of mitosis shown in figure and briefly explain it. 	1+2

(vii)	How does meiosis contribute in maintaining the number of chromosomes?	03
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Q.6	Draw and explain phases of karyokinesis of mitosis. مائیٹوسز کے کیرویوٹائسیس کے مراحل کا خاکہ بنائیں اور وضاحت کریں۔	1+4	OR	Elaborate classification of carbohydrates on the basis of saccharide unit in the molecule. کاربوہائیڈریٹس کی تفصیلی درجہ بندی کاربوہائیڈریٹ یونٹ کے لحاظ سے۔	2+2 +1
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(iii)	Lipids contain double amount of energy than carbohydrates and proteins. Why? لیپڈز میں کاربوہائیڈریٹس اور پروٹین سے دو گنا توانائی ہوتی ہے۔ کیوں؟	03
(iv)	What is meant by metabolism? Differentiate between catabolism and anabolism by examples. میٹابولزم سے کیا مراد ہے؟ کیا بولزم اور اینابولزم کے درمیان مثالوں سے فرق واضح کریں۔	1+2
(v)	Compare domain archaea and eubacteria. (Any two points) ڈومین آرکیا اور یوبیکٹیریا کا موازنہ کریں۔ (کوئی سے تین نکات)	03
(vi)	Identify the event of meiosis shown in figure and briefly explain it. 	1+2

Q.6	Draw cell cycle and explain its three major stages. سیل سائیکل بنائیں اور اس کے تین بڑے مراحل کی وضاحت کریں۔	2+3
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(iv)	Outline the significance of mitosis in regeneration. ریجنریشن میں مائیٹوسس کی اہمیت مختصر بیان کریں۔	03
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Compare mitosis and meiosis. (any five points)	
مائیٹوسس اور میائوسس کا موازنہ کریں۔ (کوئی سے پانچ نکات)	05

Write any three differences between meiosis and mitosis.	1x3
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propagation? Explain briefly.	
How does mitosis play a role in asexual reproduction and cell replacement?	1.5 +1.5

2+2 +2	OR	How does Meiosis I reduce the number of chromosomes to half? (Explain the stages of Meiosis I) Also draw the diagrams of Meiosis I.	4+2
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5. In G ₁ phase of cell cycle:	Nucleotides are formed	DNA replicates	Cell exits cell cycle	Cell divides	☐	☐	☐	☐
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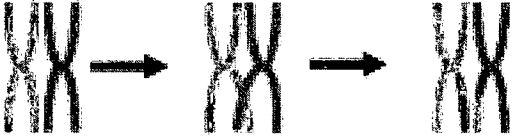
Briefly explain the role of meiosis in maintaining chromosome number in animals and plants.	1.5 +1.5
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2.3	Draw and label Endoplasmic reticulum, Golgi apparatus and Mitochondria. Also outline one role of each in a cell.	2+2 +2	OR	How does Karyokinesis occur in mitosis in a cell? Explain in detail. Also draw labelled diagram of the process.	4+2
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10. The longest phase of the cell cycle is usually:	M phase	G ₂ phase	Interphase	S-phase
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OR	Why is meiosis important for producing variation in organisms? Explain briefly.	03
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OR	Write any three differences between prophase of mitosis and prophase I of meiosis.	1x3
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OR	Identify the event of meiosis shown in figure and briefly explain it.	03
		

OR	How does cytokinesis differ in plants and animal cell? Explain. Also draw the diagrams of both.	3+3
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(iii)	Identify the correctly matched pair in a cell cycle.	G ₁ - Preparation for cell division	G ₂ - Increase in cell size	S-DNA replication	G ₀ – Cell divides into two	○ ○ ○ ○
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OR	How cytokinesis takes place in plant cell?	03
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Describe different steps of karyokinesis in mitosis with the help of diagrams.	6
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5.	Division of cytoplasm takes place in: کیراؤ کا کینسز: سائٹوپلازم کی تقسیم کا عمل کس مرحلے میں ہوتا ہے؟	Karyokinesis	Prophase	Cytokinesis	Anaphase
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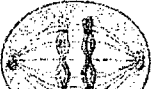
OR	Draw a neat labelled diagram of anaphase of mitosis. Mitosis کے anaphase کا خاکہ بنائیں اور اسے لیبل کریں۔	03
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OR	What is interphase of cell cycle? Explain its phases. Also draw diagram. سائیکل کے انٹرفیز کیا ہے؟ اس کے مراحل اور ان کی اہمیت کو بیان کریں۔	1+3 +1
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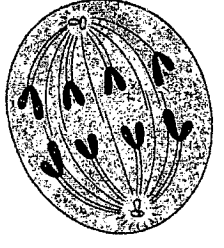
(vi)	A scientist observes a cell with chromosomes aligned at the equator. Identify the phase and write its importance. ایک سائنس دان نے ایک خلیہ دیکھا جس کے کروموسوم خط استوا (ایکویٹر) پر ترتیب میں ہیں۔	1+2
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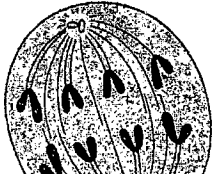
Describe the process of crossing over during meiosis. Make its diagram. Explains its significance in genetic variation.	2+1+2
تبادلہ کے دوران کراسنگ اوور کا عمل بیان کریں۔ اس کا خاکہ بنائیں۔ اس کے اہمیت کو بیان کریں۔	

What is Mitosis? Enlist the phases of Mitosis (karyokinesis) in correct order.	1.5
مائیٹوس کیا ہے؟ مائیٹوس کے مراحل (Karyokinesis) کے مراحل درست ترتیب میں لکھیں۔	1.5

Identify phase of Meiosis-I and briefly describe it.		
می اوٹس-1 کے فیز کی پہچان کریں۔ اس کی مختصر		1+2

Explain the biological significance of mitosis and meiosis in organisms.	2.5
جائیدادوں میں مائیٹوس اور می اوٹس کی بائیولوجیکل اہمیت بیان کریں۔	2.5

1.5	OR	Identify Phase of Mitosis and briefly describe.		1.5
1.5		مائیٹوس کے فیز کی شناخت اور وضاحت کریں۔		1.5

Briefly describe 'synapsis' and 'crossing over' as the major events of Prophase-I.		Identify Phase of Mitosis and briefly describe.		1.5
پروفیز-1 کے اہم مراحل سائنیسیس اور کراسنگ اوور کی وضاحت کریں۔	1.5	مائیٹوس کے فیز کی شناخت اور وضاحت کریں۔		1.5
	1.5	OR		1.5