



Federal Board SSC-I Examination

Biology Model Question Paper

(Curriculum 2022-2023)

Section - A (Marks 12)

Time Allowed: 20 minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

ROLL NUMBER					

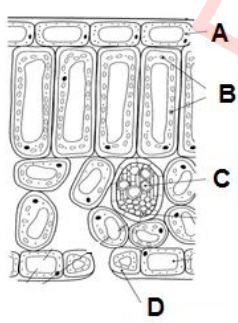
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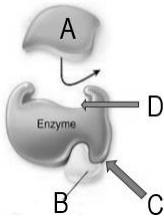
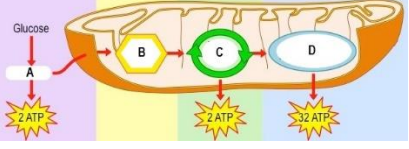
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9	9	9	9	9	9	9	9	9	9

Candidate Sign. _____

Invigilator Sign. _____

Q1. Fill the relevant bubble against each question. Each part carries one mark.

S #	Question	(A)	(B)	(C)	(D)	(A)	(B)	(C)	(D)
(i)	Which of the following organelle is NOT present in plant cell?	Centriole	Golgi body	Mitochondria	Ribosomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(ii)	The statement on the basis of observations is called:	Hypothesis	Deduction	Theory	Law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(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	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(iv)	The scientific study of organisms and their evolutionary relationship is called:	Classification	Taxonomy	Systematics	Binomial nomenclature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(v)	The diagram shows cells in part of the leaf of a green plant. Which region contains cells which are responsible for the transport of water? <div style="text-align: center;">  </div>	A	B	C	D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(vi)	<p>Non-competitive inhibitors inactivate the enzyme. Identify non-competitive inhibitor in this figure.</p> 	A	B	C	D	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									
(vii)	<p>If tissue level is not developed in the level of organization, which next level will not form?</p>	Molecular level	Atomic level	Organ level	Organelle level	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									
(viii)	<p>Identify the column given in table that contains correct substances related to lipids?</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Substances</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Amino acid</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Glucose</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fatty acid</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Glycerol</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Substances					Amino acid					Glucose					Fatty acid					Glycerol					<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
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Amino acid																															
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Glycerol																															
(ix)	<p>Which one of the following is NOT the part of embryo in a seed?</p>	Radicle	Plumule	Endosperm	Cotyledon	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									
(x)	<p>The diagram shows an overview of aerobic respiration.</p>  <p>Which labelled process produces carbon dioxide?</p>	A	B	C	D	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									
(xi)	<p>The example of vestigial organ is:</p>	Wing of a bird	Flipper of a whale	Arm of man	Appendix in human	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									
(xii)	<p>The nitrogenous bases between two DNA strands are held together by:</p>	Ionic Bonds	Hydrogen Bonds	Covalent Bonds	Peptide Bonds	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>																									



Federal Board SSC-I Examination Model Question Paper Biology (Curriculum 2022-23)

Time allowed: 2.40 hours

Total Marks: 53

Note: Answer all parts from Section ‘B’ and all questions from Section ‘C’ on the **E-sheet**.
Write your answers on the allotted /given spaces.

SECTION–B (Marks 33)

Q. 2	Attempt the following questions			(11x3 = 33)															
(i)	Complete the following table by matching the branch of biology with the aspect of living things it describes. <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Branch of biology</th> <th style="width: 80%;">Aspect of living things described</th> </tr> </thead> <tbody> <tr> <td>Pharmacology</td> <td></td> </tr> <tr> <td></td> <td>Defense against pathogens</td> </tr> <tr> <td>Physiology</td> <td></td> </tr> <tr> <td></td> <td>Classification and naming</td> </tr> <tr> <td></td> <td>Relations between organisms and environment</td> </tr> <tr> <td>Pathology</td> <td></td> </tr> </tbody> </table>	Branch of biology	Aspect of living things described	Pharmacology			Defense against pathogens	Physiology			Classification and naming		Relations between organisms and environment	Pathology		0.5x6	OR	Show the complete taxonomic classification of human beings.	3
Branch of biology	Aspect of living things described																		
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(ii)	List the key points of Darwin’s theory of natural selection.	3	OR	A method of vegetative propagation in plants is shown here. <div style="text-align: center; margin: 10px 0;"> </div> a. Name the parts labelled as I and II. b. Name the type of vegetative propagation shown and its benefits. c. Give any two examples of plants in which this method is applied.	0.5+0.5 0.5+0.5 0.5+0.5														
(iii)	Compare DNA and RNA in a tabular manner for at least six features	0.5x6	OR	Draw the chemical structure of a typical amino acid labelling its components	3														
(iv)	Describe the role of ATP as energy currency for living systems.	3	OR	The given flow chart illustrates the cellular respiration. Answer the questions related to it:	0.5x6														

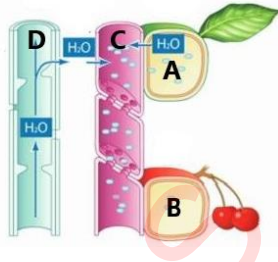
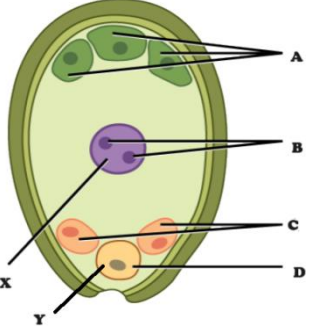
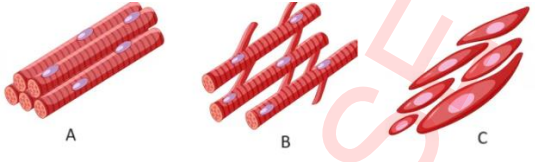
				<table border="1"> <tr> <td>(a) Name the phases of aerobic respiration</td> <td>(b) Label the products</td> </tr> <tr> <td>A.</td> <td>I</td> </tr> <tr> <td>B.</td> <td>II</td> </tr> <tr> <td>C.</td> <td>III</td> </tr> </table>	(a) Name the phases of aerobic respiration	(b) Label the products	A.	I	B.	II	C.	III
(a) Name the phases of aerobic respiration	(b) Label the products											
A.	I											
B.	II											
C.	III											

(v)	Name three distinct domains of living organisms with one distinguishing feature of each?	3	OR	Carefully observe the following diagram. a. Correctly name the organelles A and B. b. Name and define the processes labelled as C and D.	0.5+0.5 1+1
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(vi)	How kidneys are involved in homeostasis. Give two functions	1.5 + 1.5	OR	What is the difference between cytokinesis of an animal cell and a plant cell?	3
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(vii)	Give two reasons how meiosis is useful.	3	OR	The diagram shows an overview of photosynthesis. Write the names of molecules shown as I, II, III and IV and mention which one is organic?	2+1
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(viii)	Why multiple organs are needed to develop an organ system?	3	OR	The figure given below shows part of the mechanism for the movement of water through xylem. 	
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				<p>a. Identify forces A and B.</p> <p>b. Despite the gravitational force, how the upward movement of water takes place through xylem.</p>	0.5+0.5 2														
(ix)	List the osmotic adaptations found in hydrophytes.	3	OR	<p>The diagram shows pressure flow mechanism through phloem.</p>  <p>a. Name the parts labelled as A, B, C and D.</p> <p>b. Name the carbohydrates that is mainly transported through C.</p>	(02) (01)														
(x)	<p>Following is the diagram of female gametophyte of flowering plant.</p>  <p>a. Correctly name the parts labelled as A, B, C and D.</p> <p>b. What is the fate of X and Y after fertilization?</p>	(02) (01)	OR	<p>Give any three sources of variation that can lead to evolution.</p>	(3)														
(xi)	<p>Three types of muscle cells are depicted in the following figure.</p>  <p>a. Correctly name the types of cells labeled as A, B and C.</p> <p>b. Mention the location of these cell types in the body.</p>	1.5 + 1.5	OR	<p>Complete the following table for union of biology with other sciences.</p> <table border="1" data-bbox="933 1639 1437 2231"> <thead> <tr> <th>Interdisciplinary science</th> <th>Aspect of living organisms</th> </tr> </thead> <tbody> <tr> <td></td> <td>Analysis of data related to organisms</td> </tr> <tr> <td>Biochemistry</td> <td></td> </tr> <tr> <td></td> <td>Cost and benefit analysis of organisms</td> </tr> <tr> <td>Computational biology</td> <td></td> </tr> <tr> <td></td> <td>Distribution of organisms in geographic regions</td> </tr> <tr> <td>Biophysics</td> <td></td> </tr> </tbody> </table>	Interdisciplinary science	Aspect of living organisms		Analysis of data related to organisms	Biochemistry			Cost and benefit analysis of organisms	Computational biology			Distribution of organisms in geographic regions	Biophysics		0.5x6
Interdisciplinary science	Aspect of living organisms																		
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SECTION– C(Marks20) $(4 \times 5 = 20)$ **Note:** Attempt all questions. Marks of each question are given along with each question.

Q.3	How biological method may help to find the cause of any infectious disease?	5	OR	Describe different ways of excretion in plants.	5
Q.4	What are enzymes? List their characteristics.	1+4	OR	Describe the internal structure of a typical leaf focusing on all tissue types found in it. Also draw its diagram.	4+1
Q.5	Describe structural advantages of animal cells.	5	OR	Compare vegetative propagation and artificial propagation. Which one is better for rapid propagation?	4+1
Q.6	Differentiate between mitosis and meiosis.	5	OR	Explain the properties and chemical composition of disaccharides.	2+3