

SSLC EXAMINATION, MARCH-2024

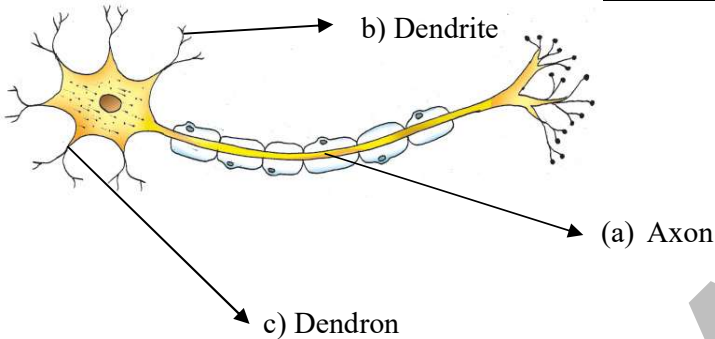
Time: 1½ Hours

BIOLOGY

Total Score: 40

QN	SCORING INDICATORS	Split	Total	
Answer any 5 questions from 1 to 6. Each carry 1 score. (5x1=5)				
1	Photopsin or iodopsin	1	1	5x1=5
2	(c)Protien	1	1	
3	Eosinophil- Synthesises chemicals required for inflammatory responses.	1	1	
4	Ethylene	1	1	
5	(b)Gene mapping.	1	1	
6	(b) Charles Robert Darwin	1	1	
Answer any 6 questions from 7 to 13. Each carry 2 score. (6x2=12)				
7	a) Alzheimer's b) Accumulation of an insoluble protein in the neural tissues of the brain. Neurons get destroyed.	1 1	2	6x2 =12
8	(i) The decrease in production of thyroxine during the foetal stage or infancy (ii) Thyroid Gland (iii) Hypothalamus (iv) Diabetes insipidus	½ ½ ½ ½	2	
9	a) Crossing over in chromosomes b) Parts of a DNA crosses over and becomes part of another DNA. This causes a difference in the distribution of genes.	1 1	2	
10	a) The toxins produce by the bacteria (Corynebacterium diphtheria) distroyes the mucus membrarane of throat. b) it is a genetic disease	1 1	2	
11	Production of saliva decreases. Glycogen is converted to glucose.	1 1	2	
12	a) Theory of Chemical Evolution / Oparin haldane hypothesis b) life originated as a result of the changes that occurred in the chemical substances in water, under specific conditions of the primitive earth.	1 1	2	
13	a) Lung cancer, Bronchitis, Emphysema (Any two) b) Hypertension, Loss of elasticity of arteries, Decreases in functional efficiency (Any two)	1 1	2	
Answer any 5 questions from 14 to 20. Each carry 3 score. (5x3=15)				
14	a) X: synaptic knob b) Neuro transmitter (Acetyl coline / dopamine / GABA) c) Synptic knob (X) secreat neuro trnsmitter Dendrite(Y) Receives impulse from adjuscent neuron (Synapse helps to regulate the direction of impulses)	1 1 1	3	
15	<ul style="list-style-type: none">Aromatic particles enter the nostrilsAromatic particles dissolve in the mucusStimulates the olfactory receptores.Generate impulses	½ ½ ½ ½	3	

	<ul style="list-style-type: none">• Impulses reach the brain• Experiences smell	$\frac{1}{2}$ $\frac{1}{2}$																	
16	<table><tr><th>A- Disease</th><th>B-Symptoms</th><th>C-Transmission</th></tr><tr><td>Tuberculosis</td><td>Loss of body weight, Fatigue and persistent cough</td><td>When the patient speaks, coughs or sneezes, the pathogens spread into the air</td></tr><tr><td>Hepatitis</td><td>Dark yellow colour to the mucus membrane, white portion of the eyes and the nails</td><td>contaminated food and water, blood components and excreta of the patient</td></tr><tr><td>Malaria</td><td>High fever with shivering and profuse sweating, headache, vomiting, Diarrhea and anemia</td><td>Spread through female anopheles' mosquito.</td></tr></table>	A- Disease	B-Symptoms	C-Transmission	Tuberculosis	Loss of body weight, Fatigue and persistent cough	When the patient speaks, coughs or sneezes, the pathogens spread into the air	Hepatitis	Dark yellow colour to the mucus membrane, white portion of the eyes and the nails	contaminated food and water, blood components and excreta of the patient	Malaria	High fever with shivering and profuse sweating, headache, vomiting, Diarrhea and anemia	Spread through female anopheles' mosquito.	$\frac{1}{2} \times 6$	3	5x 3= 15			
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17	Four types <table><tr><th>Blood group</th><th>Antigen</th><th>Antibodies</th></tr><tr><td>A</td><td>A</td><td>b</td></tr><tr><td>B</td><td>B</td><td>a</td></tr><tr><td>AB</td><td>A and B</td><td>Nil</td></tr><tr><td>O</td><td>Nil</td><td>a and b</td></tr></table>	Blood group	Antigen	Antibodies	A	A	b	B	B	a	AB	A and B	Nil	O	Nil	a and b	3	3	
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18	<table><tr><th>DNA</th><th>RNA</th></tr><tr><td><ul style="list-style-type: none">• Deoxy ribose sugar• Double helical model• Thymine</td><td><ul style="list-style-type: none">• Ribose sugar• Uracil• Single strand</td></tr></table>	DNA	RNA	<ul style="list-style-type: none">• Deoxy ribose sugar• Double helical model• Thymine	<ul style="list-style-type: none">• Ribose sugar• Uracil• Single strand	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	3												
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19	a) X: Plasmid /Circular DNA of bacteria b) <ul style="list-style-type: none">• Plasmid used to transfer gene from one cell to another as vectors• Vectors which contain ligated genes enter target cells and the new genes become a part of the genetic constitution of target cells.	1 2	3																
20	<ul style="list-style-type: none">• Enzymes control chemical reactions• Energy is stored in ATP molecules.• Genes determine the hereditary traits.• Carbohydrates, proteins and fats are the basic substances <p>(Any three)</p>	1 1 1	3																
Answer any 2 questions from 21 to 23. Each carry 4 score. (4x2= 8)																			
21	a) Thyroid Gland	1	4																

	b) Parathormone c) <ul style="list-style-type: none"> • Calcitonin - Preventing the mixing of calcium from bone to blood • Parathormone- reabsorb calcium from kidneys to blood 	1 2		4x2= 8
22	a) Engulfing and destroying germs. b) The rise in body temperature reduces the multiplication of pathogens. and increases the effect of phagocytosis. c) Reduces the chance of infection d) Helps to prevent bleeding and checks the entry of pathogens through wounds.	1 1 1 1		
23		1 ½ ½ ½ ½ ½ ½	4	



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