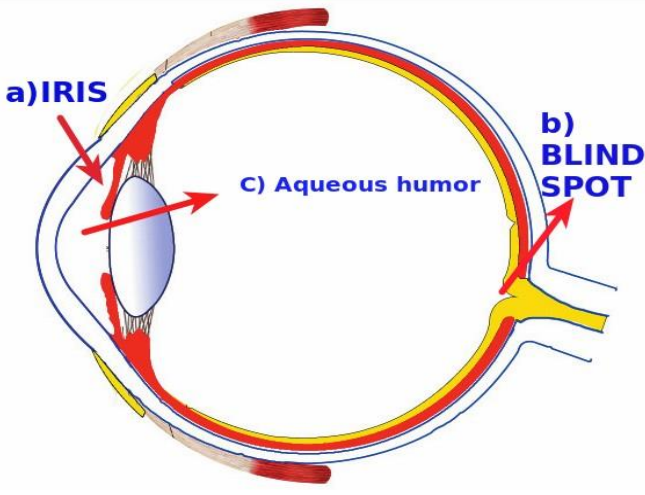


SSLC MODEL EXAMINATION, FEBRUARY-2020
BIOLOGY
(ENGLISH MEDIUM)

QN	ANSWER	SCORE										
1	b	1										
2	(i) Jacobson's organ (ii) Olfactory receptors	$\frac{1}{2} + \frac{1}{2} = 1$										
3	Chemical evolution theory	1										
4	c) (i),(iii) True	1										
5	Viral diseases	1										
6	(i) Thromboplastin, (ii) Calcium	$\frac{1}{2} + \frac{1}{2} = 1$										
7	a) Synapse is the junction between two neurons or a neuron and a muscle cell or a neuron and a glandular cell b) Impulses from different parts of the body are transmitted to and from the brain through the spinal cord	1 1										
8	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">A</th> <th style="width: 75%;">B</th> </tr> </thead> <tbody> <tr> <td>Heart attack</td> <td>block of blood flow due to deposition of fat in coronary artery</td> </tr> <tr> <td>Fatty Liver</td> <td>deposition of excess fat in the liver</td> </tr> <tr> <td>Stroke</td> <td>Rupture of blood vessels in the brain,</td> </tr> <tr> <td>Hypertension</td> <td>decrease in the diameter of arteries due to deposition of fat</td> </tr> </tbody> </table>	A	B	Heart attack	block of blood flow due to deposition of fat in coronary artery	Fatty Liver	deposition of excess fat in the liver	Stroke	Rupture of blood vessels in the brain,	Hypertension	decrease in the diameter of arteries due to deposition of fat	$\frac{1}{2} \times 4 = 2$
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9	(i) Enzymes control chemical reactions. (ii) Energy is stored in ATP molecules. (iii) Genes determine hereditary traits. (iv) Carbohydrates, proteins and fats are the basic substances (Write any two)	2										
10	(i) Basophil (ii) Synthesizes chemicals that destroy foreign bodies. OR Synthesizes chemicals required for the inflammatory responses. (iii) Engulfs and destroys germs. (iv) Lymphocyte	$\frac{1}{2} \times 4 = 2$										
11	a) Alzheimer's b) Accumulation of an insoluble protein in the neural tissues of the brain. Neurons get destroyed.	1 1										
12	a) Crossing over in Chromosomes b) As a result of this, part of a DNA crosses over to become the part of another DNA. This causes a difference in the distribution of genes	1 1										
13	a) Corynebacterium diphtheriae b) Toxins produced by the bacteria cause fever, throat pain and inflammation in the lymph glands of the throat. Cells in the mucus membrane which are destroyed by the toxins produce an	1										

	ash coloured thick coating in the throat within two or three days. Gradually brain, heart and kidneys are affected	1
14	a) Central canal b) (i) Sensory impulses reach the spinal cord through the dorsal root . (ii) Motor impulses go out of the spinal cord through the ventral root.	1 2
15	a) (iii) smoking (iv) radiations/virus b) The normal cells get transformed into cancerous cells when the control system of cell division fails c) The disease may become complicated with the spread of cancer cells to other parts of the body through blood and lymph. As recovery from the disease is difficult if the disease becomes severe.	$\frac{1}{2} + \frac{1}{2} = 1$ 1 1
16	Cutting of insulin gene, Isolation of plasmid from bacterium, Joining insulin gene with plasmid Plasmid with ligated insulin gene is inserted in to bacterial cell Produce inactive insulin Active insulin is produced	$\frac{1}{2} \times 6 = 3$
17	a) (i) Vestibular nerve (ii) Auditory nerve b) Body balance is maintained in accordance with the movement of the head. Movements of the head bring about the movement of the endolymph present inside the vestibule(iii) and the semicircular canals(iv). This causes movement of the sensory hair cells and generates impulses. These impulses are transmitted by the vestibular nerves to the cerebellum, and the equilibrium of the body is maintained.	$\frac{1}{2} \times 2 = 1$ 2
18	a) T- Tallness b) (i) Tall plant, Round Seed (ii) Tall plant, Wrinkled seed (iii) Dwarf Plant Round seed (iv) Dwarf plant, Wrinkled Seed c) Appearance of variations in offsprings (characters not present in previous generation) is due to the independent assortment of each character	1 1 1
19	a) Adrenal gland b) Epinephrine (Adrenaline), Norepinephrine (Noradrenaline) c) Acts along with the sympathetic nervous system during emergency. Thus, we can resist or withdraw ourselves from such situations	1 1 1
20	a) Cercopithecoidea b) Cercopithecoidea: Small brain, long tailed Hominoidea: Developed brain, freely movable hands c) Molecular Biology (Difference from the amino acids in the chain of haemoglobin in man)	1 1 1
21	a) 37°C (98.6° F) b) The chemical substances produced by the white blood cells raises the body temperature.	1 1

	c) The rise in body temperature reduces the rate of multiplication of pathogens. Increases the effect of phagocytosis.	2
22	a) (i)-Alpha cells (ii) Beta cells b) Alpha cells produce the hormone glucagon, converts the glycogen stored in the liver to glucose. OR synthesizes glucose from amino acids. c) Hormones reach every cell in the body as they are transported by blood. But each hormone acts only upon those cells which have specific receptors. The cells which are acted upon by hormones are their target cells.	1 1 2
23		4

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