SSLC Examination March 2025 - BIOLOGY Hints to Answers

1 (b). Thyroid gland. 2. (c). 3. (d). Hugo de Vries.
4 (c). (i) and (iv) are correct. 5.(c) Thromboplastin. 6. (b) Interferons-Viral diseases. **5x1**

7 (a). A- Sickle cell anaemia. B- Haemophilia.
(b). By identifying and injecting the deficient protein.

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8 (a). Their forelimbs are made up of blood vessels, nerves, muscles.
(b) All these organisms are evolved from a common ancestor.

9 (a). Transmision of impulses.
(b) Sensory nerves carry impulses from various parts of the body to the brain and the spinal cord. Motor nerves carry impulses from brain and spinal cord to various parts of the body.

10 (a). By sharing needle and syringe from an infected person.
(b). Due to decreased immunity of the body, various pathogenswhich enter the body make the condition more fatal.

11 (a). The pathogens are degenerated and destroyed by the enzymes in lysosome.
(b). The rise in body temperature reduces the rate of multiplication of pathogens. Increases the effect of phagocytosis. **6x2**

12 (a). As a result of this /crossing over, part of a DNA crosses over to become the part of another DNA. This causes a difference in the distribution of genes.
(b). When gametes undergo fusion, the combination of allele changes which causes variations in the offsprings.

13 Thalamus – Acts as relay station of impulses. Cerebellum – Maintains equilibrium of the body.
Hypothalamus – Maintains homeostasis. Cerebrum - Controls voluntary movements.

14 (a) Restriction endonuclease / Genetic scissor and Ligase / Genetic glue.
(b) Plasmid is used as a vector.
(c) (iv)- Bacterial multiplication in the culture medium, (v)- Production of active insulin.

15 (a). Decreased production of insulin due to the destruction of beta cells, The inability of cells to utilize the insulin produced
(b). Insulin: Cellular uptake of glucose molecules, Converts glucose into glycogen.. (any 1)
Glucagon: Converts glycogen to glucose, Synthesizes glucose from amino acids. (any 1)

16 (a). Tall, Tt. (b). Parent plants: **Tt** x **Tt**

Gametes: T t T t

F2 generation: **TT**, **Tt**, **Tt**, **tt**

OR

	T	t
T	**TT**	**Tt**
t	**Tt**	**tt**

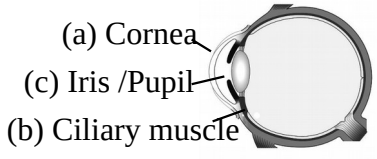
17 (a). (i)- Prolonged deficiency of Vitamin A. (ii)- Colour blindness.
(iii)- Glaucoma. (iv)- Deficiency of Vitamin A. (b). Laser surgery.

18 (a). (i), (ii)- Muscle cell / Glandular cell.
(b). Neurotransmitters stimulate the adjacent dendrite or cell and new electric impulses are generated. (c). Synapse helps to regulate the speed and direction of impulses.

19 (a). Diseases which are caused by unhealthy living styles and bad habits.
(b). Avoid fast food habits, fatty food, consumption of alcohol, drug abuse, smoking, etc. Practice regular physical exercise... **5x3**

20 (a).Methane, Ammonia, Hydrogen and water vapour. (b). Amino acids like organic molecules.
(c). Later many scientists designed similar experiments and more organic compounds were synthesized. This finally gave more acceptance to the Oparin – Haldane Hypothesis.

21 Pituitary – Prolactin – Production of milk.
Adrenal gland – Cortisol – Slows down the action of defense cells.
Ovary – Progesterone – Implantation of embryo in the uterus.
Hypothalamus - Releasing hormone – Controls the production of tropic hormones. **2x4**

22 

23. (a). EEG: to record electric waves in the brain.
ECG: to record electric waves in the heart muscle.
(b). Antibiotics are used to destroy bacteria.
- Regular use develops immunity in pathogens against antibiotics, Destroy useful bacteria in the body, Reduces the quantity of certain vitamins in the body. (any 2)

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