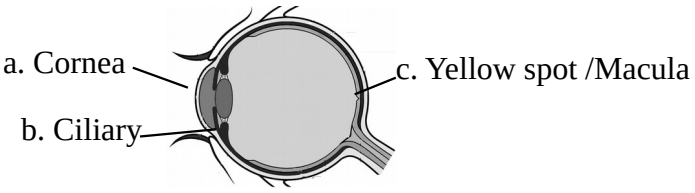
SSLC Examination March 2026 BIOLOGY

Qn	Hints to Answers By Rasheed Odakkal, 9846626323 Kondotty	Score
1 3	(b). Deoxyribose sugar, a nitrogen base and a phosphate. 2. (d). Abscisic acid. (c). (i), (iv), (iii),(ii). 4. (a). Help in inserting the active gene into stem cells.	4x1
5	a). Bioremediation helps to remove and converts the pollutants into harmless compounds. b). Cryopreservation is used for long-term preservation in medicine, agriculture and research fields.	
6	**A.** a). X= Nuerotransmitter. b). They bind with the receptors of post synaptic membrane and stimulates that neuron. **OR** **B**. a). Sympathetic nervous system. b). Trachea/lungs expands, Pupil dilates, Increases adrenal hormones, slows down peristalsis.. (any 2).	
7	a). Bacteria. b). A major concern is the antibiotic resistance developed in bacteria, that makes treatment more complicated.	
8	**A.** a). Plasmid /Bacterial DNA. b). As the inserted genes become active in the cell, the desired products are formed. **OR** **B**. a). Guide RNA precisely identifies the DNA segment that needs to be cut. b). Cas9 enzyme cuts the DNA segment identified by the guide RNA.	
9	a). C. b). Radial muscle contracts.	7x2
10	a). Thromboplastin. b). This converts a protein in the blood plasma called prothrombin into thrombin.	
11	a). mRNA (messenger RNA). b). mRNA, which contains messages for protein synthesis, reaches the ribosome.	
12	**A.** a). Genotype: TtRr. Phenotype: Tall round seeded. b). Tall round seeded, Tall wrinkled seeded, Dwarf round seeded, Dwarf wrinkled seeded. **OR** **B**. a). Incomplete Dominance: A dominant allele cannot fully hide the allele of the recessive trait. b). Co-dominance: Both alleles exhibit their traits at the same time. c). Polygenic inheritance: More than one gene controls a trait.	
13	Cerebrospinal fluid provides oxygen and nutrients to the tissues, eliminates wastes, regulates the pressure protects from external injuries. (Any 2)	
14	a). X= Phytochrome. b). Synthesized in the fully developed leaves at the shoot apex. c). The leaves, perceive the length of day and night through phytochrome and transmit a signal to the shoot apical meristem to induce flowering. As a result of this, genes that control flowering is stimulated.	
15	**A.** a). Sickle cell anaemia occur due to the defect of the gene that controls the production of haemoglobin. b). The oxygen-carrying capacity of RBCs decreases. The deformed RBCs get stuck in capillaries and block blood flow. **B**. a). Cancer. b). When the control mechanisms of the cell division process fail due to genetic changes, environmental factors, viral infections or lifestyle. c). Surgery, Chemotherapy, Radiation therapy, Immunotherapy, Targeted therapy, Hormone therapy (Any 2).	
16	a). Yes. FBS normal range is 70 to 100 mg/ dL. b). No. HbA1c should be below 5.7 %. c). Avoid unhealthy dietary habits, reduce body weight, regular exercise etc (Any 2 suitable habits)	6x3
17	a). Finches in A survive there, while the finches in B destroy eventually. b). The survived finches reproduce more effectively and create new generations. c). They persist through generations through natural selection and more variations accumulate over time leading to evolve as new species.	
18	**A.** (a).  **OR** **B**. (a). X= Semicircular canals, Y= Cochlea. (b). The endolymph present in the canals moves with the rotational movement of the head. As a result the hair cells present here get stimulated and impulses are formed. When the impulses reach the brain through the vestibular nerve, the brain maintains body balance. (c). The vibrations that reach the hair cells (auditory receptors) present in the Organ of Corti generate impulses, which reach the brain through auditory nerve resulting in the sense of hearing.	1x4 (40)