Second Term Summative Assessment 2025-'26 Biology Class 10

Qn	Hints to Answers By Rasheed Odakkal, 9846626323 Kondotty	Score
1 3	a). Ribose sugar **2**. b). Both A and R are correct, but R does not explain A (May be option a). right) b) Promotes elongation of cells in shoots **4**. c) Xerophthalmia	**4x1**
5	a). Insulin, Pancreas / Islets of Langerhans b). If ignored, it can lead to heart disease, stroke, renal diseases, and vision problems.	
6	By studying how bacteria or viruses resist drugs, existing treatments are modified or new methods are created. Personalized medicine is designed by looking at his genes and his familygenetic history.	
7	a). Epinephrine b). Together with the sympathetic nervous system, epinephrine increases heart rate and blood pressure, blood glucose levels and blood flow to the heart and muscles.	
8	Mixed nerves contain both sensory and motor nerve fibers. Damage to both hinder the transmission of sensory and motor impulses, to and fro brain.	
9	**A.** a). A- Neurosecretory cells. B- Hypothalamus. b). Releasing hormones from hypothalamus influence the pituitary in its hormone production. **OR** **B**. a). Synthesized in the fully developed leaves at the shoot apex. b). Through phytochrome, leaves perceive the length of day and night and transmit signal to the shoot apex to induce flowering. As a result of this, genes that control flowering is stimulated.	**7x2**
10	a). Compassion for them by understanding hormonal disorders (*names*) and their causes …. b). Visiting treatment centers, palliative centers, etc. ….(*any 2 suitable activities*)	
11	**A.** a). Tuberculosis b). BCG vaccination, Long-term treatment by using multiple antibiotics (DOTS) **OR B**. a). Phagocytosis (engulfing and destroying pathogens) b). The phagosome (B) is destroyed using enzymes in the lysosome (A).	
12	**A.** a). Defects of A, B (semicircular canals, vestibule) b). Movement of head stimulates the hair cells in the vestibular apparatus and the impulse thus formed reaches the cerebellum through the vestibular nerve. Balance is restored. **OR B**.a). Endolymph, Perilymph. b). Movements of these fluids stimulate the hair cells present in the Organ of Corti to form impulses. Cochlear nerve (auditory nerve) transmits these to the cerebrum, to hear sound.	
13	a). Transcription, Translation. b). It (mRNA) carry the message for protein synthesis. c). mRNA reaches the ribosome. tRNA transfer specific amino acids to ribosome. rRNA helps in the bonding of amino acids with in ribosome. Thus protein is formed.	
14	**A**. a). Olfactory nerve. b). Olfactory molecules are dissolved in mucus produced by the mucus membrane and stimulate the olfactory receptors there. c). When impulses reach the brain through the olfactory nerve, sense of smell is recognized. **OR** **B**. Substances that give rise to taste are dissolved in saliva and stimulate the chemoreceptors, seen inside the taste buds. When impulses reach the brain through the nerve and make the sense of taste.	
15	 A- Iris B- Ciliary muscle a), b). (Redrawing the picture and label A-iris and B-ciliary muscle.) c). The size of the pupil cannot be adjusted and the amount of light entering the eye cannot be controlled.	**6x3**
16	a). Thyroid b). Follicular and parafollicular cells. c). Development of brain in newborn babies and children, body growth and development, maintain the health of the heart, skin, reproductive system etc. (Any 2)	
17	i) A- Eosinophil ii) B- Neutrophil iii) C- Monocyte iv) D- Basophil v). Engulfs and destroys foreign substances, Stimulates the other immune cells. vi). It produces heparin,which prevents blood clotting, and histamine, which causes inflammation	
18	**A**. a). In the dark, photoreceptors continuously produce glutamate. b). The off bipolar cells form impulses, that reach the brain via optic nerve. Hence a sense of darkness is created. c). The ganglion cells transmits impulses from bipolar cells to the optic nerve. **B**. a). S,M,Lcone cells, Pigment: Photopsin. b). Colour vision is made possible when the three types of cones (S-blue, M-green, L-red) get stimulated in varying proportions when exposed to coloured light, depending upon the intensity and wavelength of light	**1x4** **(40)**