KSTA MALAPPURAM
SSLC SAMPLE QUESTION PAPER 2020-21
SCORING INDICATORS

Time: $1^1/_2$ Hours **BIOLOGY** Maximum Score: 40

Qn No	Scoring indicators	Split up Score	Total Score
1	Sensory nerve	**1**	**1**
2	Photopsin/Iodopsin	**1**	**1**
3	Pituitary gland	**1**	**1**
4	Glucagon	**1**	**1**
5	Protozoa	**1**	**1**
6	c) Uracil	**1**	**1**
7	b) Haemophilia Others are contagious diseases	$^1/_2 + ^1/_2$	**1**
8	The protein called ***Keratin*** prevents the entry of germs through the skin.	**1**	**1**
9	b) Plasmid	**1**	**1**
10	b) Oparin - Haldane	**1**	**1**
11	a) Dormancy of embryon – i). Abscisic acid b) Ripening of leaves and fruits –ii). Ethylene c) Sprouting of leaves – iii). Gibberellin d) Fruit formation. – iv). Auxin	$^1/_2$ $^1/_2$ $^1/_2$ $^1/_2$	**2**
12	a)Aromatic particles dissolve in the mucus inside the nostrils b)Stimulate the olfactory receptors c)Generate impulses d) Olfactory nerve carries impulses to the brain	$^1/_2$ $^1/_2$ $^1/_2$ $^1/_2$	**2**

Qn No	Scoring indicators	Split up Score	Total Score
13	i. Dendrite. ii. Carries impulses from dendrites to the cell body. Iii. Axon. iv. Synaptic knob.	**1/2 + 1/2** **1/2 + 1/2**	**2**
14	a). Phagocytosis / Engulfing and destroying of germs. b). Monocytes and Neutrophils	1 **1/2 + 1/2**	**2**
15	a). Just like the difference in the fingerprint of each person, the arrangement of nucleotides in each person also differs. b).Find out hereditary characteristics, To identify real parents in cases of parental dispute, To identify persons found after long periods of missing due to natural calamities or wars. (Any two points)	1 **1/2 + 1/2**	**2**
16	• Phagocyte reach near pathogen. • Engulfs pathogen in the membrane sac. • Lysosome combines with membrane sac. • The pathogens are degenerated and destroyed by the enzymes in lysosome.	**1/2 + 1/2** **1/2 + 1/2**	**2**
17	• M.M.R- Mumps • T.T-Tetanus, • B.C.G-Tuberculosis, • O.P.V-Polio	**1/2 + 1/2** **1/2 + 1/2**	**2**
18	When a foreign antigen reaches one's blood, it stimulates the defensemechanism. On receiving unmatching blood, the antigen present in the donor's blood and the antibody present in the recipient's blood will react with each other and form a blood clot.	**2**	**2**
19	A – 44+XY B – 22+X C – 22 + Y D – 44+XY E + 44+ XC	**2**	**2**
20	a). Parkinsons b). Destruction of specialised ganglions in the brain / Production of dopamine, a neurotransmitter in the brain gets reduced.	**1** **1**	**2**
21	a). Pheromones. b). attracting mates, informing the availability of food, determining the path of travel, signalling dangers	**1** **1**	**2**

Qn No	Scoring indicators	Split up Score	Total Score
22	a). mRNA (Messenger RNA)c - arries information from DNA b). tRNA (Transfer RNA)	1/2 + 1/2 1	2
23	• f). Over production. • c). Struggle for existence. • Survival of favourable variations and the others destroyed. • b). Favourable variations are transferred to the next generation. • a). Accumulation of variations inherited through generations. • e). Origin of new species.	1/2 1/2 1/2 1/2 1/2 1/2	3
24	a). The deficiency of Vitamin A results in he low production of retinal /Prevents the re synthesis of rhodopsin b). Food materials rich in Vitamin A c). Xerophthalmia d). Food materials rich in Vitamin A e). Colour Blindness f). Defect of cone cells	1/2 1/2 1/2 1/2 1/2 1/2	3
25	a). X- Normal Level of calcium in blood Y-Normal Level of glucose in blood b). When the level of glucose increases beeta cells of pancreatic gland produce Insulin. Insulin control glucose level by cellular uptake of glucose molecules. converts glucose into glycogen in the liver and muscles.	1/2 1/2 2	3
26	a).Only when the aromatic particles responsible for smell dissolve in the mucus, it can stimulate the olfactory receptors to generate impulse. b).Persons cannot distinguish green and red colours due to the defect of cone cells c). photoreceptors are absent.	1 1 1	3
27	Causes-Environmental factors, smoking, radiations, virus, hereditary factors etc Treatment-Surgery, chemotherapy, radiation therapy Recovery from the disease is difficult if the disease becomes severe, spread of cancer cells to other parts of the body.	3	3

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<tr><th>Qn No</th><th>Scoring indicators</th><th>Split up Score</th><th>Total Score</th></tr>
<tr><td>28</td><td>a). Excess blood is lost even through minor wound.
b) Genetic disease
c) By identifying and injecting the deficient protein.</td><td>1
1
1</td><td>3</td></tr>
<tr><td>29</td><td>a). 37 0 C (98.6 0 F).
b). The presence of toxins produced by the pathogens stimulates the white blood cells.
The chemical substances produced by the white blood cells raises the body temperature.
c). The rise in body temperature reduces the rate of multiplication of pathogens. Increases the effect of phagocytosis</td><td>1
1
1</td><td>3</td></tr>
<tr><td>30</td><td>a). A+ve
b). O-ve
c). O-ve</td><td>1
1
1</td><td>3</td></tr>
<tr><td>31</td><td><table><tr><th>DNA</th><th>RNA</th></tr><tr><td>Deoxyribose sugar</td><td>Ribose sugar</td></tr><tr><td>Double stranded</td><td>single strand</td></tr><tr><td>Thymine</td><td>Uracil</td></tr></table></td><td>\
3</td><td>3</td></tr>
<tr><td>32</td><td>Light .... Cornea .... Aqueous humor.... Pupil ....
Lens .... Vitreous humor ..... Retina .....
Impulse .....optic nerve..... Cerebrum</td><td>3</td><td>3</td></tr>
<tr><td>33</td><td>a). Calcitonin
b). Parathyroid gland
c) Calcitonin- Prevents the process of mixing of calcium from bones to blood.
Parathormone-Reabsorbs calcium from kidneys to blood.</td><td>1
1
1
1</td><td>4</td></tr>
<tr><td>34</td><td>a). Medicines that are extracted from microorganisms like bacteria, fungi, etc. and used to destroy bacteria .
b). No. Effective for Bacterial diseases only
c). • regular use develops immunity in pathogens against antibiotics.
• destroys useful bacteria in the body.
• reduces the quantity of some vitamins in the body.
(Any two)</td><td>1
1
2</td><td>4</td></tr>
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<tr><th>Qn No</th><th>Scoring indicators</th><th>Split up Score</th><th>Total Score</th></tr>
<tr><td>35</td><td>
<table>
<tr><th>A- Parts</th><th>B- Peculiarity</th><th>C- Function</th></tr>
<tr><td>Pupil</td><td>The aperture seen at the centre of the iris.</td><td>Increases and decreases the size depending on the intensity of light.</td></tr>
<tr><td>Yellow spot</td><td>Plenty of photoreceptors are present.</td><td>The point of maximum visual clarity.</td></tr>
<tr><td>Cornea</td><td>The projected transparent anterior part of the sclera.</td><td>Refracts light rays to focus on the retina.</td></tr>
<tr><td>Sclera</td><td>Made up of connective tissues.</td><td>Gives firmness to the eye.</td></tr>
</table>
</td><td>1/2 score each</td><td>4</td></tr>
<tr><td>36</td><td>Drawing
a). Cerebellum
b). Cerebrum
c). Medulla oblongata</td><td>1 identification 1/2
1 labelling 1/2</td><td>4</td></tr>
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