

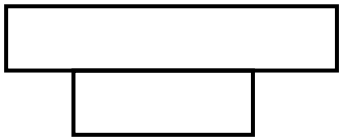
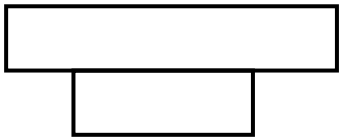
# Higher Secondary Second Terminal Examination, December 2018


## Answer Key


SSE 26  **HSSLIVE.IN**


**BIOLOGY**  
( Second Year )


Prepared By : Anoop Chandran S

Qn No.	Sub. Qn	Value Points	Split score	Total Score
		<b><u>PART A BOTANY</u></b>		
1		Mycorrhiza		1
2		(c) or offset		1
3		Dead organic matters / Decomposers.		1
4		RNA interference or RNAi		1
5		<ul style="list-style-type: none"> <li>Produced to DNA strands corresponds to Chain A and Chain B of insulin</li> <li>Introduced them to the plasmid of <i>Ecoli</i></li> <li>Bacteria produced A and B chains separately.</li> <li>Both chains are linked together by disulphide linkage To produce Human Insulin.</li> </ul>	$\frac{1}{2}$  $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
6		Superior males of one breed is mated with superior females another breed so as to combine desirable charecters. Hisardale.	1 1	2
7		Pyramid of numbers in grass land ecosystem.  PC  21 PP  4	1  1	2
8		Blubber. It act as an insulator and reduces loss of body heat.	1 1	2
9		Polymerase Chain Reaction. ( 1 score) ( It is also Known as People's Choice Reaction) Denaturation / Primer annealing / Primer Extension.	1 1	2
10		Filiform Apparatus. Guide pollen tube toward egg cell.	2	2

11		Restriction Endo nucleases. ECOR1, HIND II, etc.. 	1 1	2										
12		Rosie Human alpha lactalbumin	1 1	2										
13		Phytoplankton → Submerged plant stage → submerged Free floating → Reed swamp stage → Marsh meadow Stage → Scrub stage → Forest	2	2										
14		<table><tr><td><b>A</b></td><td><b>B</b></td></tr><tr><td>a) Desert Lizard</td><td>iii) Bask in sun</td></tr><tr><td>b) Kangaroo rat</td><td>i) Concentrated Urine</td></tr><tr><td>c) Snail</td><td>iv) Aestivation</td></tr><tr><td>d) Zooplankton</td><td>ii) Diapause</td></tr></table>	<b>A</b>	<b>B</b>	a) Desert Lizard	iii) Bask in sun	b) Kangaroo rat	i) Concentrated Urine	c) Snail	iv) Aestivation	d) Zooplankton	ii) Diapause	1/2 1/2 1/2 1/2	2
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a) Desert Lizard	iii) Bask in sun													
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d) Zooplankton	ii) Diapause													
15		<i>Bacillus thuringiensis</i> - Cry IAc, CryIAb, CryII Ab	2	2										
16		(a) One species is benefited and the other is harmed. (b) Commensalism (c) One organism is benefited and the other may or may not Be harmed. (d) Parasitism	1/2 1/2 1/2 1/2	2										
17	(a)	Selectable markers are genes which help us to identify the Recombinants and non recombinants and there by selecting The recombinants. amp <sup>R</sup> , tet <sup>R</sup>	1	3										
	(b)	i) They posses an Origin of Replication ( Ori) ii) They has a cloning site.	2											
18		Natality and Immigration Natality : It simply refer to the birth rate in a population Immigration : It refers to the number of individuals of a Spieces that comes to a habit at a time period.	1 2	3										

19	(a) (b)	Gel Electrophoresis <ul style="list-style-type: none"> <li>Fragmented DNA is loaded at the wells</li> <li>Electricity is applied and DNA moves towards anode Since It is negatively charged.</li> <li>Depending on the size of fragments the separation is Possible due to sieving property of agarose gel.</li> <li>Smaller fragments will move at a faster rate.</li> </ul>	1  2	3
1		<p align="center"><b><u>PART – B – ZOOLOGY</u></b></p> <p align="center">(b) or Co – dominance  <b>HSSLiVE.IN</b></p>		1
2		Pyrimidines : Cytosine, Uracil , Thymine		1
3	(a) (b)	ZIFT – Zygote Intra Fallopian Transfer ICSI – Intra Cytoplasmic Sperm Injection		1
4	(a) (b)	Sustained fever, Head ache, stomach pain, weakness, Constipation etc. <i>Salmonella typhi</i> - Widal Test.		2
5	(a) (b)	Hardy – Weinberg Principle. Gene flow / Genetic drift / mutation / recombination / Natural selection		2
6		(a) – (iii) (b) – (i) (c) – (iv) (d) – (ii)	1/2 1/2 1/2 1/2	2
7	(a) (b)	George Gamow Universal / unambiguous or specific / degenerate / There are no punctuations.		2
8	(a) (b)	Francis Crick It states that genetic information flows from DNA → RNA → protiens	1 1	2

9		Benign Tumors – Normally remain confined to a region Donot spread and cause little damage. Malignant Tumors – Grow very rapidly, invading, Damaging the surrounding tissues.		2															
10		<table border="1"> <tr> <td></td><td>TY</td><td>Ty</td><td>tY</td><td>ty</td></tr> <tr> <td>Ty</td><td>TTYy</td><td>TTyy</td><td>TtYy</td><td>Ttyy</td></tr> <tr> <td>ty</td><td>TtYy</td><td>Ttyy</td><td>ttYy</td><td>ttyy</td></tr> </table> <p>Tall and green : 3 Dwarf and Green ; 1    Ratio = 3:1</p> 		TY	Ty	tY	ty	Ty	TTYy	TTyy	TtYy	Ttyy	ty	TtYy	Ttyy	ttYy	ttyy		2
	TY	Ty	tY	ty															
Ty	TTYy	TTyy	TtYy	Ttyy															
ty	TtYy	Ttyy	ttYy	ttyy															
11	(a) (b)	Down syndrome 45A + XX or XY	1 1	2															
12		(c) → (e) → (f) → (a) → (d) → (b)		2															
13		<b>Homologous organs</b> Organs similar in structure and origin but differ in functions Eg: Forelimbs of humans and cheetah. Thorn and tendrils Of Bougainvillea and cucurbita. <b>Analogous Organs</b> Organs which are dissimilar anatomically but perform same Functions. Eg: Wings of Butterfly and birds/ Eye of octopus and Mammals etc.	1  1	2															
14		Physical Barriers / Physiological Barriers / Cellular Barriers / Cytokine Barriers	$\frac{1}{2} \times 4$	2															
15	(a)    (b)	i) Capping – An unusual nucleotide Methyl guanosine tri phosphate is added to 5' end of hnRNA ii) Exons – Exons are coding sequence of hnRNA iii) Introns – Non coding sequences of hnRNA iv) Splicing – Process of removing introns and joining exons hnRNA is the precursor of mRNA and contain both coding and non coding sequences ( Exons and Introns)	2   1	3															

16	(a) (b) (c)	chorionic villi and uterine tissue integrated with each other forming a functional and structural unit between maternal body and developing foetus called placenta hCG, hPL , estrogen , Progesterone Provide oxygen and nutrients to the foetus and removal of Waste from the embryo.	1 1 1	3
17		(a)Barrier Methods. (b)Intra Uterine Devices( IUDs) (c)Vasectomy (d) Lactational amenorrhea / Periodic abstinence (e) Cervical caps / vaults / Diaphragm (f)Hormone releasing IUDs / copper releasing IUDs.	 1½ X 6	3
18	(a) (b) (c)	Female posses two types of gametes in terms of sex Chromosomes. ZZ – ZW type XX – XY type – Humans , Drosophilla.. XX – XO type – Grasshopper.	1 1 1	3
		<p>*****</p> <p>Prepared By: Anoop Chandran S <a href="mailto:anoopchandrac17@gmail.com">anoopchandrac17@gmail.com</a></p>		