

**CCE RF**  
**CCE RR**

ಕರ್ನಾಟಕ ಪ್ರೌಢ ಶಿಕ್ಷಣ ಪರೀಕ್ಷಾ ಮಂಡಳಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560 003

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, MALLESWARAM,  
BANGALORE – 560 003**

ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಪರೀಕ್ಷೆ, ಮಾರ್ಚ್ / ಏಪ್ರಿಲ್ — 2017

**S. S. L. C. EXAMINATION, MARCH/APRIL, 2017**

ಮಾದರಿ ಉತ್ತರಗಳು

**MODEL ANSWERS**

ದಿನಾಂಕ : 07. 04. 2017 ]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 07. 04. 2017 ]

CODE NO. : **83-E (Bio)**

ವಿಷಯ : ವಿಜ್ಞಾನ

**Subject : SCIENCE**

( ಜೀವಶಾಸ್ತ್ರ / Biology )

( ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus )

( ಶಾಲಾ ಅಭ್ಯರ್ಥಿ + ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh + Regular Repeater )

( ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version )

[ ಗರಿಷ್ಠ ಅಂಕಗಳು : **80**

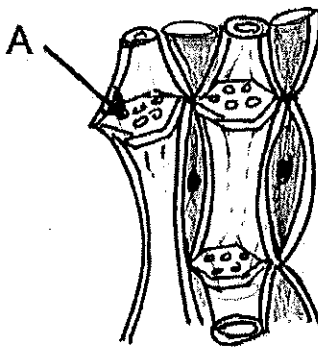
[ **Max. Marks : 80**

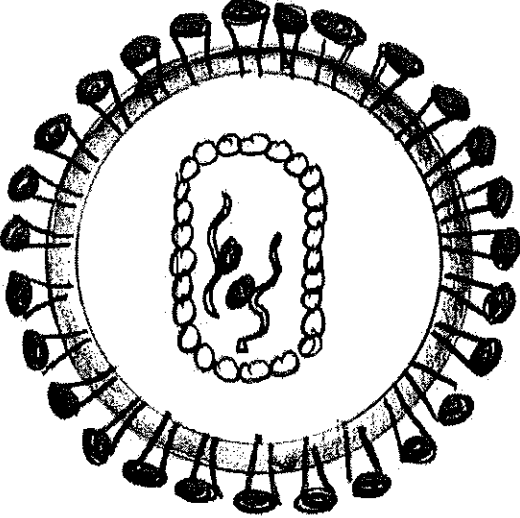
Qn. Nos.	Value Points	Total
3.	Use of detergents is hazardous to the aquatic life because, they Ans. : (A) — reduce the amount of dissolved oxygen content in water.	1
6.	A student finds a flower in his school campus and decides that it is the flower of a monocot plant. The reason for his conclusion is Ans. : (C) — petals are in multiples of three.	1
8.	These diseases can be controlled by eradicating mosquitoes. Ans. : (D) — Chikungunya, Dengue fever.	1
10.	A special property of DNA that ensures the equal distribution of similar genetic material to the offsprings is Ans. : (C) — replication	1

**RF+RR-0J1027 (BIO)**

[ Turn over

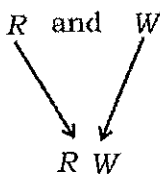
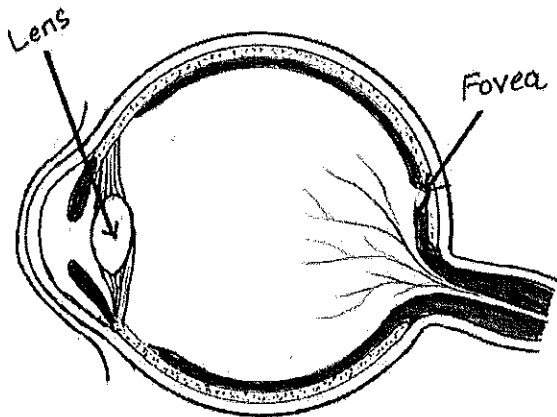
Qn. Nos.	Value Points	Total														
14.	<p>A palaeontologist observes the jaw of an animal and concludes that it belongs to mammals. Give reason for his conclusion.</p> <p>Ans. :</p> <p>Teeth are of different types ( heterodont ) embedded in sockets in jaw bones ( thecodont )</p>	1														
17.	<p>Mention the function of sympathetic and parasympathetic nervous system with respect to the pupil of eye.</p> <p>Ans. :</p> <p>Sympathetic nervous system stimulates the dilation of pupil of the eye and parasympathetic nervous system constricts the pupil of the eye.</p> <p style="text-align: right;"><math>\frac{1}{2} + \frac{1}{2}</math></p>	1														
21.	<p>The percentage of air pollution from different sources are given in the table. With the help of this, answer the following questions :</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Sources of air pollution</th> <th>Industry</th> <th>Transportation</th> <th>Consumer &amp; Commercial products</th> <th>Commercial &amp; Residential heating</th> <th>Agriculture</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>Percentage</td> <td>52%</td> <td>27%</td> <td>8%</td> <td>1%</td> <td>10%</td> <td>2%</td> </tr> </tbody> </table> <p>(a) Which are the two sources to be monitored more to control air pollution ?</p> <p>(b) Mention the preventive measure for each one of these two sources to control air pollution.</p> <p>Ans. :</p> <p>a) i) Industry <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p style="padding-left: 20px;">ii) Transportation. <span style="float: right;"><math>\frac{1}{2}</math></span></p> <p>b) <i>Industry</i> :</p> <p style="padding-left: 20px;">i) Emission from industries to be checked and controlled.</p> <p style="padding-left: 20px;">ii) Industries to be established away from towns and cities.</p> <p style="padding-left: 20px;">iii) Regulatory rules related to air pollution must be strictly enforced. <span style="float: right;">( any one ) <math>\frac{1}{2}</math></span></p> <p><i>Transportation</i> :</p> <p style="padding-left: 20px;">i) Automobiles to be checked periodically.</p> <p style="padding-left: 20px;">ii) Improving the efficiency of engines.</p> <p style="padding-left: 20px;">iii) Use of unleaded petrol and biofuels.</p> <p style="padding-left: 20px;">iv) Public transport system has to be used. <span style="float: right;">( any one ) <math>\frac{1}{2}</math></span></p> <p>( Any other suitable answer )</p>	Sources of air pollution	Industry	Transportation	Consumer & Commercial products	Commercial & Residential heating	Agriculture	Other	Percentage	52%	27%	8%	1%	10%	2%	2
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Qn. Nos.	Value Points	Total						
24.	<p>Write the differences between tendons and ligaments.</p> <p>Ans. :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;"><i>Tendons</i></th> <th style="text-align: center; padding: 5px;"><i>Ligaments</i></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">i) Attach the muscles to the bones or cartilage</td> <td style="padding: 5px;">i) Connect one bone to another</td> </tr> <tr> <td style="padding: 5px;">ii) They contain more white fibres ( collagen fibres )</td> <td style="padding: 5px;">ii) They contain more elastic fibres</td> </tr> </tbody> </table>	<i>Tendons</i>	<i>Ligaments</i>	i) Attach the muscles to the bones or cartilage	i) Connect one bone to another	ii) They contain more white fibres ( collagen fibres )	ii) They contain more elastic fibres	2
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27.	<p>The figure of longitudinal section of a plant tissue is given below. Name the part labelled as 'A' and mention its function. Name the other components of this tissue.</p> <div style="text-align: center; margin: 10px 0;">  </div> <p>Ans. :</p> <ul style="list-style-type: none"> <li>★ A → Sieve plate / Pores of sieve plate. <span style="float: right; text-align: right;"><math>\frac{1}{2}</math></span></li> <li>★ Function : Conduction of food. <span style="float: right; text-align: right;"><math>\frac{1}{2}</math></span></li> <li>★ Other components : <ul style="list-style-type: none"> <li>i) Companion cells</li> <li>ii) Phloem fibre</li> <li>iii) Phloem parenchyma</li> <li>iv) Sieve tube. <span style="float: right; text-align: right;">( Any two ) <math>2 \times \frac{1}{2}</math></span></li> </ul> </li> </ul>	2						

Qn. Nos.	Value Points	Total
30.	<p>Draw the diagram showing the structure of HIV.</p> <p>Ans. :</p> 	2
32.	<p>What are polyploids ? Write their limitations.</p> <p style="text-align: center;"><b>OR</b></p> <p>Mention the advantages of using antioxidants and colourants in food processing.</p> <p>Ans. :</p> <p>Plants with multiple sets of chromosomes are called polyploids. 1</p> <p>Limitations : Fertility is lower and growth is very slow. <math>\frac{1}{2} + \frac{1}{2}</math></p> <p style="text-align: center;"><b>OR</b></p> <p>i) Antioxidants are substances which prevent food containing fat or oil from developing a foul smell.</p> <p>ii) Colourants are substances which restore colour lost during processing of food. 1 + 1</p>	2

Qn. Nos.	Value Points	Total
34.	<p>What are the physical changes that resulted in the upright posture in the course of evolution of human ?</p> <p style="text-align: center;"><b>OR</b></p> <p>Write any four physical features of Australopithecus man.</p> <p>Ans. :</p> <p>i) Developed stronger and straighter legs with feet suited more for walking.</p> <p>ii) They started using their hands for grasping and for various purposes.</p> <p>iii) Changes in the pelvic girdle and associated muscles.</p> <p>iv) The pelvic girdle changed into a broad basin-like structure to support the trunk.</p> <p>v) The hole in the skull through which brain comes out, got shifted to the lower surface.</p> <p style="text-align: right;">( Any four )                      <math>4 \times \frac{1}{2}</math></p> <p style="text-align: center;"><b>OR</b></p> <p>i) They are relatively short, about four and half feet in height.</p> <p>ii) Forehead was low.</p> <p>iii) Walked erect.</p> <p>iv) The brain capacity was equal to the much taller modern gorilla.</p> <p>v) The cranial capacity was only about one-third of modern man.</p> <p style="text-align: right;">( Any four )                      <math>4 \times \frac{1}{2}</math></p>	<p style="text-align: center;">2</p> <p style="text-align: center;">2</p>
37.	<p>(a) Mention any four flight adaptations in birds.</p> <p>(b) Name the two major groups of fishes based on the composition of endoskeleton.</p> <p>Ans. :</p> <p>a) i) Streamlined boat shaped body</p> <p>ii) Forelimbs modified into wings for flying</p> <p>iii) Special arrangements of feathers on wings to provide the lift</p> <p>iv) Presence of flight muscles</p> <p>v) Reduced body weight</p> <p>vi) Long bones are pneumatic, filled with air</p>	



Qn. Nos.	Value Points	Total
	<p>Factor for the red colour of the flower = <math>R</math>                      Factor for the white colour of the flower = <math>W</math>                      Parental generation : Pure red flower plant ( <math>RR</math> ) and pure white flower plant ( <math>WW</math> ) :                      Gametes :</p> <div style="text-align: center;"> <math>R</math> and <math>W</math>    <math>R</math> <math>W</math> </div> <p>Cross pollination</p> <p><math>F_1</math> generation → ( all plants with pink flowers )</p> <p>Self pollination</p> <p><math>F_2</math> generation</p> <div style="text-align: center;"> <math>RR</math> <math>RW</math> <math>RW</math> <math>WW</math>                      ( 1 red, 2 pink, 1 white flowered plants )                 </div> <p style="text-align: center;">OR</p> <p>( 1 mark can be awarded if checker board is written for <math>F_2</math> generation )</p> <p>Phenotype ratio = <math>1 : 2 : 1</math></p> <p>Genotype ratio = <math>1 : 2 : 1</math></p>	<p style="text-align: right;">1</p> <p style="text-align: right;">1</p> <p style="text-align: right;"><math>\frac{1}{2}</math></p> <p style="text-align: right;"><math>\frac{1}{2}</math></p> <p style="text-align: right;">3</p>
<p>42.</p> <p>(a) Lens (b) Fovea.</p> <p>Ans. :</p>	<div style="text-align: center;">  </div> <p style="text-align: right;">For diagram — 3</p> <p style="text-align: right;">For each correct part — <math>2 \times \frac{1}{2}</math></p>	<p style="text-align: right;">4</p>

