

**CCE RF**

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 — 2015

**S. S. L. C. EXAMINATION, MARCH/APRIL, 2015**

ಮಾದರಿ ಉತ್ತರಗಳು

**MODEL ANSWERS**

ದಿನಾಂಕ : 01. 04. 2015 ]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 01. 04. 2015 ]

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

ವಿಷಯ : ವಿಜ್ಞಾನ

**Subject : SCIENCE**

( ಜೀವಶಾಸ್ತ್ರ / Biology )

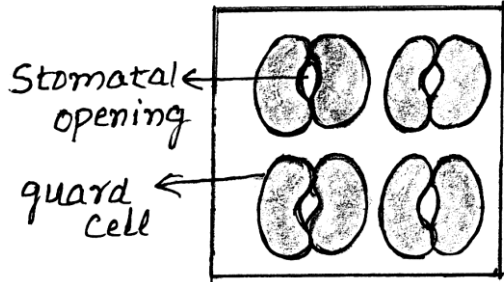
( ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus )

( ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh )

( ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version )

[ ಪರಮಾವಧಿ ಅಂಕಗಳು : 80

[ Max. Marks : 80

Qn. Nos.	Value Points	Total
7.	Which one of the following is biodegradable pollutants ?  Ans. : (A) — Cowdung	1
8.	In which one of the following water conservation is high, as rate of transpiration is low ?  Ans. : (B) — 	1

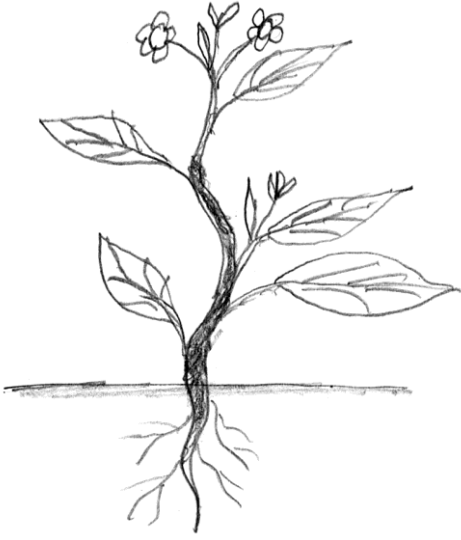
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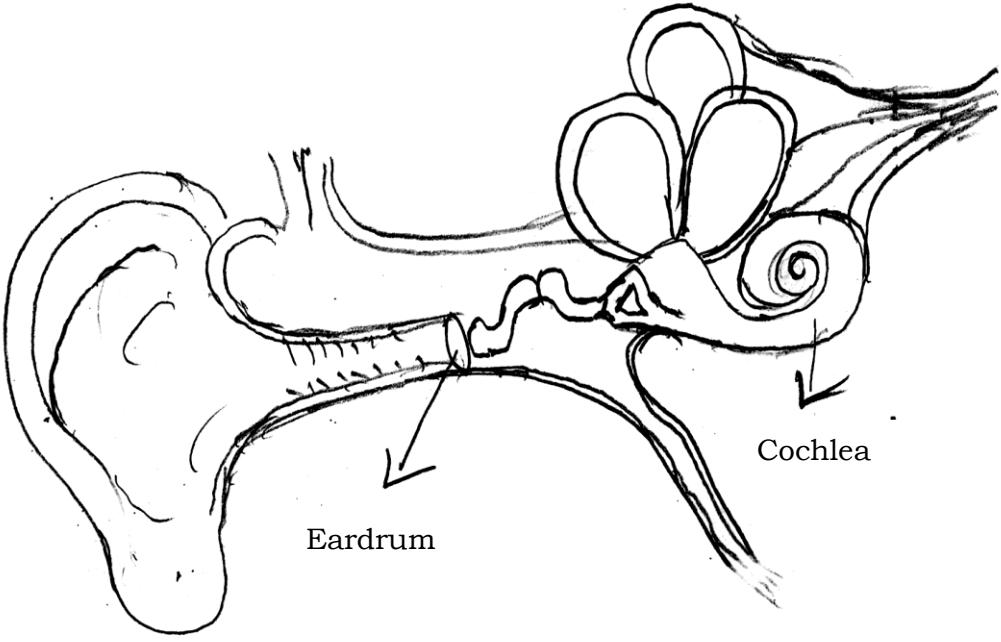
Qn. Nos.	Value Points	Total
9.	The correct group among the following is <i>Diseases Pathogen Symptoms</i> Ans. : (C) — Herpes HSV Blisters on and around genitals	1
10.	A tall plant with red flowers is crossed with a dwarf plant with white flowers. Which one of the following represents dwarf plant with white flowers ? Ans. : (C) — ttrr	1
17.	How are feathers useful to birds ? Ans. : Feathers provide protection, maintain body temperature, help in flight and attract the opposite sex. ( any two )	1
18.	The normal thyroxine level in an adult is around 0.8 ng/dl to 1.8 ng/dl. In a patient it was 0.6 ng/dl. After a prolonged hormonal treatment the thyroxine level was about 3.4 ng/dl. Mention the present symptoms of the patient. Ans. : Symptoms : High metabolic rate, protrusion of the eyeballs, high B.P., nervous tension, fatigue, weight loss. ( any two )	1
29.	Explain the process of industrial effluent treatment. OR Write the effects of acid rain on aquatic organisms and human beings. Ans. : Effluent treatment : ★ Acids and alkalis must be neutralized. $\frac{1}{2}$ ★ Metallic compounds must be precipitated. $\frac{1}{2}$ ★ Effluents coming from furnaces must be cooled to room temperature and treated before releasing. 1	2
	OR	

Qn. Nos.	Value Points	Total
	<ul style="list-style-type: none"> <li>★ Acid rain affects egg production in aquatic animals hence alters the population ratio. 1</li> <li>★ Acid rain causes skin allergies and respiratory problems in humans. 1</li> </ul>	2
30.	<p>Draw the diagram of a dicot plant.</p> <p>Ans. :</p> <div style="text-align: center;">  <p>Dicot plant</p> </div>	2
31.	<p>Explain the structure of HIV.</p> <p>Ans. :</p> <ul style="list-style-type: none"> <li>★ HIV is spherical in shape containing RNA as its genetic material. <math>\frac{1}{2}</math></li> <li>★ It is covered by membrane made up of two layers of fatty materials. <math>\frac{1}{2}</math></li> <li>★ The core is made up of protein. <math>\frac{1}{2}</math></li> <li>★ At the centre of core viral RNA is present along with the enzyme reverse transcriptase. <math>\frac{1}{2}</math></li> </ul>	2
32.	<p>'Roof top gardening may be a solution for both energy crisis and management of kitchen wastes.' Justify the statement.</p> <p>Ans. :</p> <ul style="list-style-type: none"> <li>★ By roof top gardening the house will be cool. So usage of fans will be minimized, so energy can be conserved. 1</li> <li>★ Kitchen wastes can be collected and converted to manure, which can be used for growing plants in roof top garden. 1</li> </ul>	2

Qn. Nos.	Value Points	Total
33.	<p>Mention any four characteristic features that are shared by humans with other primates.</p> <p style="text-align: center;">OR</p> <p>Mention any four features of Neanderthal Man.</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"><li>★ Primates have distinct face in place of snout.</li><li>★ Most of the skull is posterior to the eyes.</li><li>★ Eyes are directed forward enabling binocular vision.</li><li>★ Free movement of digits, opposable thumb to other digits.</li><li>★ Claws modified into nails.</li><li>★ Enlarged brain cerebral hemisphere.</li><li>★ Only two mammary glands to nourish young ones.</li><li>★ Typically and generally only one offspring in each pregnancy.</li></ul> <p>( any four )</p>	<p style="text-align: right;"><math>4 \times \frac{1}{2}</math></p> <p style="text-align: right;">2</p> <p style="text-align: center;">OR</p> <p><i>Characteristics :</i></p> <ul style="list-style-type: none"><li>★ Neanderthal man was heavily built and exceedingly strong.</li><li>★ Brow ridges were heavy.</li><li>★ Forehead was slopy with small chin and protruding jaws.</li><li>★ He was good in making tools.</li><li>★ He was presumed to have developed speech. ( any four )</li></ul> <p style="text-align: right;"><math>4 \times \frac{1}{2}</math></p> <p style="text-align: right;">2</p>

Qn. Nos.	Value Points	Total
34.	<p>‘Mammals are more evolved than amphibians.’ Justify this statement with respect to circulation of blood and reproduction.</p> <p><i>Ans. :</i></p> <p><i>Blood circulation :</i></p> <ul style="list-style-type: none"> <li>★ With respect to circulation mammals have four chambered heart.</li> <li>★ Oxygenated and de-oxygenated blood will not mix together.</li> <li>★ Mammals are warm blooded. ( any one )</li> </ul> <p><i>Reproduction :</i></p> <ul style="list-style-type: none"> <li>★ In mammals internal fertilization takes place.</li> <li>★ Mammals give birth to young ones. ( any one )</li> </ul>	<p>1</p> <p>1</p> <p>2</p>
38.	<p>Explain the structure and function of a neuron.</p> <p><i>Ans. :</i></p> <p><i>Structure :</i></p> <ul style="list-style-type: none"> <li>★ Neuron has a prominent nucleus in the cell body or cyton.</li> <li>★ The short projections arising from the cell body are called dendrites.</li> <li>★ The long extension of the cell body is the axon.</li> <li>★ The axon ends in a bunch of branches called telodendrons.</li> <li>★ Axon is covered by a fatty sheath called myelin sheath.</li> </ul> <p>( Any four )</p> <p><i>Functions :</i></p> <ul style="list-style-type: none"> <li>★ Neuron transmits information in the form of nerve impulses from different parts of the body to the nerve centre.</li> <li>★ It also brings back the responses.</li> </ul>	<p><math>4 \times \frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p><math>\frac{1}{2}</math></p> <p>2</p> <p>1</p> <hr/> <p>3</p>

Qn. Nos.	Value Points	Total									
39.	<p>What is a monohybrid cross ? What is the ratio of tall and dwarf plants obtained in <math>F_2</math> generation ? Represent the same with the help of a checker board.</p> <p style="text-align: center;">OR</p> <p>What is Biotechnology ? Mention any two advantages of biotechnology.</p> <p><i>Ans. :</i> A cross between two pea plants which differ in one specific character is called monohybrid cross.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><i>Gametes</i></td> <td style="text-align: center;"><i>T</i></td> <td style="text-align: center;"><i>t</i></td> </tr> <tr> <td style="text-align: center;"><i>T</i></td> <td style="text-align: center;"><i>TT</i></td> <td style="text-align: center;"><i>Tt</i></td> </tr> <tr> <td style="text-align: center;"><i>t</i></td> <td style="text-align: center;"><i>Tt</i></td> <td style="text-align: center;"><i>tt</i></td> </tr> </table> <p style="text-align: center;">Ratio — Tall : Dwarf 3 : 1</p> <p style="text-align: center;">OR</p> <p><i>Biotechnology :</i> The applications of technological procedures on organisms or their processess or their products to obtain new substances for human welfare is called biotechnology.</p> <p><i>Advantages :</i></p> <ul style="list-style-type: none"> <li>★ Improvement of plants and animal breeds</li> <li>★ Pests and pathogen control in agriculture</li> <li>★ Synthesis of bio-catalyst and bio-polymers</li> <li>★ Pollution control — sewage treatment or water recycling</li> <li>★ Large scale synthesis of life saving drugs like antibiotics, vaccines, artificial hormones. ( any two )</li> </ul>	<i>Gametes</i>	<i>T</i>	<i>t</i>	<i>T</i>	<i>TT</i>	<i>Tt</i>	<i>t</i>	<i>Tt</i>	<i>tt</i>	<p style="text-align: right;">1</p> <p style="text-align: right;">1</p> <p style="text-align: right;">1</p> <p style="text-align: right;">1 + 1</p> <p style="text-align: right;">3</p>
<i>Gametes</i>	<i>T</i>	<i>t</i>									
<i>T</i>	<i>TT</i>	<i>Tt</i>									
<i>t</i>	<i>Tt</i>	<i>tt</i>									

Qn. Nos.	Value Points	Total
42.	<p>Draw the diagram showing the internal structure of human ear and label the following :</p> <p>(a) Ear drum</p> <p>(b) Cochlea.</p> <p>Ans. :</p>  <p style="text-align: right;">For diagram — 3</p> <p style="text-align: right;">For labelling parts correctly — <math>2 \times \frac{1}{2}</math> 1</p>	<p style="text-align: center;">3</p> <hr/> <p style="text-align: center;">1</p> <hr/> <p style="text-align: center;">4</p>