

CCE PF

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)

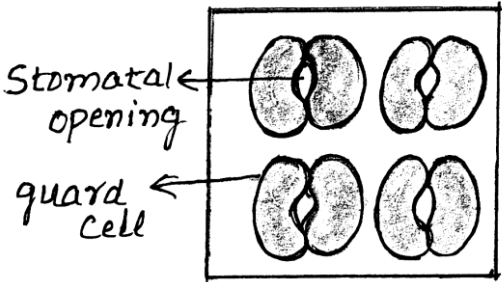
(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)

(ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / Private Fresh)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

[ಪರಮಾವಧಿ ಅಂಕಗಳು : 100

[Max. Marks : 100

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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[Turn over

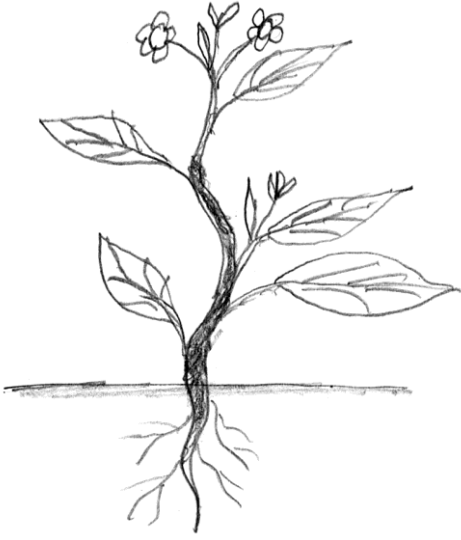
Qn. Nos.	Value Points	Total						
9.	<p>The correct group among the following is</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><i>Diseases</i></td> <td style="text-align: center;"><i>Pathogen</i></td> <td style="text-align: center;"><i>Symptoms</i></td> </tr> <tr> <td>Ans. : (C) — Herpes</td> <td>HSV</td> <td>Blisters on and around genitals</td> </tr> </table>	<i>Diseases</i>	<i>Pathogen</i>	<i>Symptoms</i>	Ans. : (C) — Herpes	HSV	Blisters on and around genitals	1
<i>Diseases</i>	<i>Pathogen</i>	<i>Symptoms</i>						
Ans. : (C) — Herpes	HSV	Blisters on and around genitals						
10.	<p>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 ?</p> <p>Ans. : (C) — ttrr</p>	1						
17.	<p>How are feathers useful to birds ?</p> <p>Ans. : Feathers provide protection, maintain body temperature, help in flight and attract the opposite sex. (any two)</p>	1						
18.	<p>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.</p> <p>Ans. :</p> <p>Symptoms :</p> <p>High metabolic rate, protrusion of the eyeballs, high B.P., nervous tension, fatigue, weight loss. (any two)</p>	1						
29.	<p>Explain the process of industrial effluent treatment.</p> <p style="text-align: center;">OR</p> <p>Write the effects of acid rain on aquatic organisms and human beings.</p> <p>Ans. :</p> <p>Effluent treatment :</p> <ul style="list-style-type: none"> ★ 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



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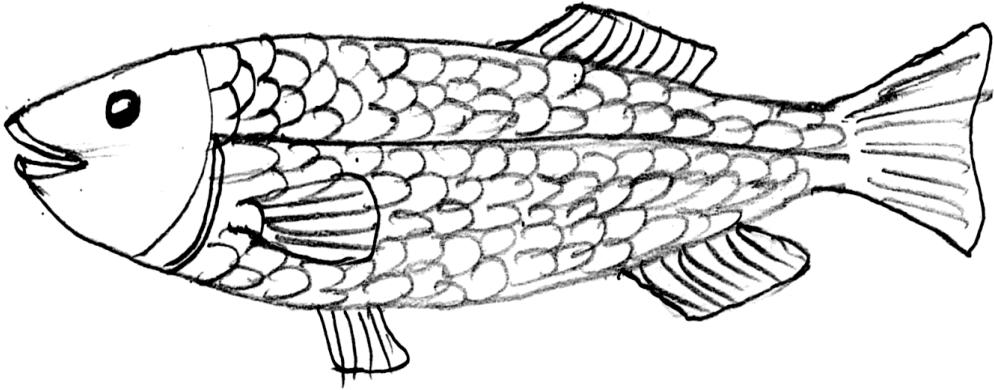


Qn. Nos.	Value Points	Total
	<ul style="list-style-type: none"> ★ Acid rain affects egg production in aquatic animals hence alters the population ratio. 1 ★ Acid rain causes skin allergies and respiratory problems in humans. 1 	2
30.	<p>Draw the diagram of a dicot plant.</p> <p>Ans. :</p> <div style="text-align: center;">  <p>Dicot plant</p> </div>	2
31.	<p>Explain the structure of HIV.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ HIV is spherical in shape containing RNA as its genetic material. $\frac{1}{2}$ ★ It is covered by membrane made up of two layers of fatty materials. $\frac{1}{2}$ ★ The core is made up of protein. $\frac{1}{2}$ ★ At the centre of core viral RNA is present along with the enzyme reverse transcriptase. $\frac{1}{2}$ 	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"> ★ By roof top gardening the house will be cool. So usage of fans will be minimized, so energy can be conserved. 1 ★ Kitchen wastes can be collected and converted to manure, which can be used for growing plants in roof top garden. 1 	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"> ★ Primates have distinct face in place of snout. ★ Most of the skull is posterior to the eyes. ★ Eyes are directed forward enabling binocular vision. ★ Free movement of digits, opposable thumb to other digits. ★ Claws modified into nails. ★ Enlarged brain cerebral hemisphere. ★ Only two mammary glands to nourish young ones. ★ Typically and generally only one offspring in each pregnancy. <p>(any four)</p> <p style="text-align: center;">OR</p> <p><i>Characteristics :</i></p> <ul style="list-style-type: none"> ★ Neanderthal man was heavily built and exceedingly strong. ★ Brow ridges were heavy. ★ Forehead was slopy with small chin and protruding jaws. ★ He was good in making tools. ★ He was presumed to have developed speech. (any four) 	<p style="text-align: right;">$4 \times \frac{1}{2}$</p> <p style="text-align: right;">2</p> <p style="text-align: right;">$4 \times \frac{1}{2}$</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"> ★ With respect to circulation mammals have four chambered heart. ★ Oxygenated and de-oxygenated blood will not mix together. ★ Mammals are warm blooded. (any one) <p><i>Reproduction :</i></p> <ul style="list-style-type: none"> ★ In mammals internal fertilization takes place. ★ Mammals give birth to young ones. (any one) 	<p>1</p> <p>2</p>
41.	<p>Draw the diagram showing the external features of fish.</p> <p><i>Ans. :</i></p>  <p style="text-align: center;">External features of fish</p>	<p>2</p>

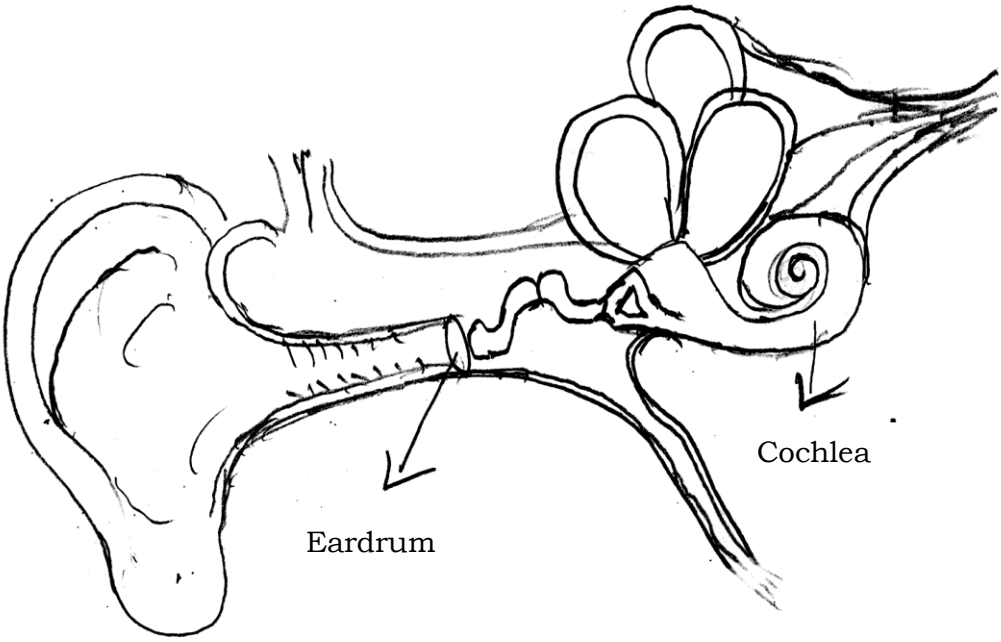


Qn. Nos.	Value Points	Total									
42.	<p>What is reflex action ? Give an example.</p> <p><i>Ans. :</i></p> <p>The sudden and involuntary response to the external stimulus is called reflex action. 1</p> <p><i>Example :</i> When you touch a hot object, withdraw your hands immediately. (any other suitable example) 1</p>	2									
43.	<p>Distinguish between monocot plant and dicot plant with regard to roots and leaves.</p> <p><i>Ans. :</i></p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><i>Monocot plant</i></td> <td style="text-align: center;"><i>Dicot plant</i></td> <td></td> </tr> <tr> <td>Root : a) Monocot plants have fibrous root system</td> <td>i) Dicot plants have tap root system</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Leaf : b) Have parallel venation</td> <td>ii) have reticulate venation.</td> <td style="text-align: right;">1</td> </tr> </table>	<i>Monocot plant</i>	<i>Dicot plant</i>		Root : a) Monocot plants have fibrous root system	i) Dicot plants have tap root system	1	Leaf : b) Have parallel venation	ii) have reticulate venation.	1	2
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Root : a) Monocot plants have fibrous root system	i) Dicot plants have tap root system	1									
Leaf : b) Have parallel venation	ii) have reticulate venation.	1									
44.	<p>Name the components of blood.</p> <p><i>Ans. :</i></p> <p>RBC, WBC, platelets and plasma are the components of blood. $4 \times \frac{1}{2}$</p>	2									
48.	<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"> ★ Neuron has a prominent nucleus in the cell body or cyton. ★ The short projections arising from the cell body are called dendrites. ★ The long extension of the cell body is the axon. ★ The axon ends in a bunch of branches called telodendrons. ★ Axon is covered by a fatty sheath called myelin sheath. <p>(Any four) $4 \times \frac{1}{2}$</p> <p><i>Functions :</i></p> <ul style="list-style-type: none"> ★ Neuron transmits information in the form of nerve impulses from different parts of the body to the nerve centre. $\frac{1}{2}$ ★ It also brings back the responses. $\frac{1}{2}$ 	<p style="text-align: right;">1</p> <hr/> <p style="text-align: right;">3</p>									



Qn. Nos.	Value Points	Total									
49.	<p>What is a monohybrid cross ? What is the ratio of tall and dwarf plants obtained in F₂ 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></p> <p>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="padding: 5px;"><i>Gametes</i></td> <td style="padding: 5px;"><i>T</i></td> <td style="padding: 5px;"><i>t</i></td> </tr> <tr> <td style="padding: 5px;"><i>T</i></td> <td style="padding: 5px;"><i>TT</i></td> <td style="padding: 5px;"><i>Tt</i></td> </tr> <tr> <td style="padding: 5px;"><i>t</i></td> <td style="padding: 5px;"><i>Tt</i></td> <td style="padding: 5px;"><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></p> <p>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"> ★ Improvement of plants and animal breeds ★ Pests and pathogen control in agriculture ★ Synthesis of bio-catalyst and bio-polymers ★ Pollution control — sewage treatment or water recycling ★ Large scale synthesis of life saving drugs like antibiotics, vaccines, artificial hormones. (any two) 	<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
52.	<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 For labelling parts correctly — $2 \times \frac{1}{2}$</p>	<p style="text-align: center;">3</p> <hr/> <p style="text-align: center;">1</p> <hr/> <p style="text-align: center;">4</p>

