

**CCE PF
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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 — 2020

S. S. L. C. EXAMINATION, MARCH/APRIL, 2020

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 30. 03. 2020]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 30. 03. 2020]

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

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಜೀವಶಾಸ್ತ್ರ / Biology)

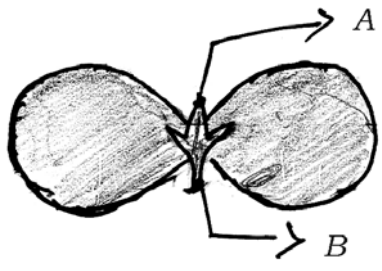
(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)

(ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ & ಪುನರಾವರ್ತಿತ ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / Private Fresh & Private Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

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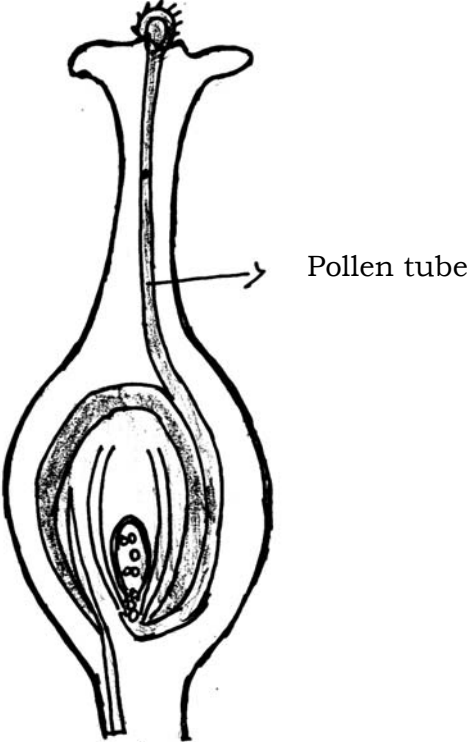
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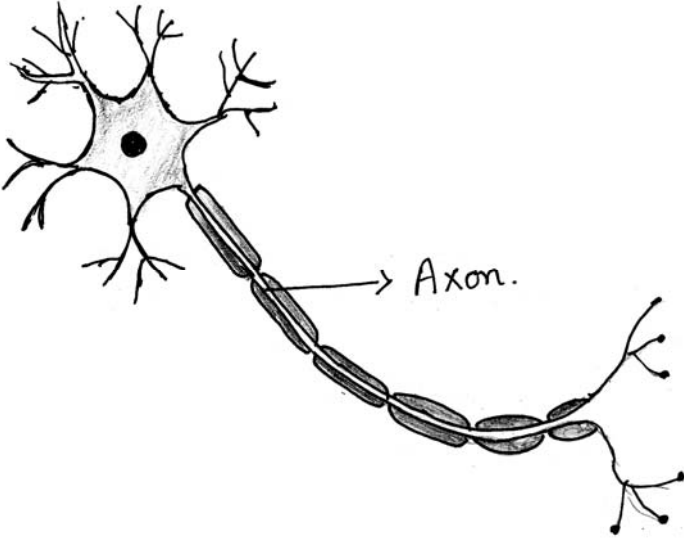
Qn. Nos.	Value Points	Total
3.	<p>In the given figure of Cotyledon the parts labelled as A and B respectively are</p>  <p>(A) fruit, shoot (B) primary shoot, primary root (C) secondary root, primary shoot (D) bud, leaf.</p> <p>Ans. : (B) primary shoot, primary root</p>	1

PF & PR(C)-2006 (BIO)

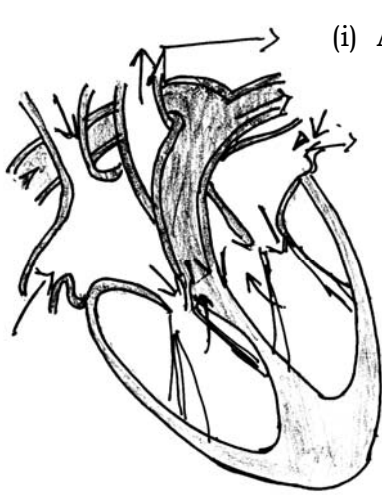
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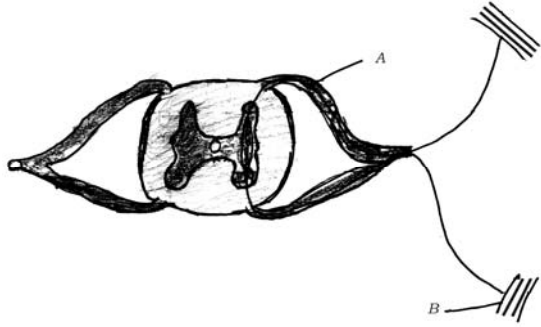
Qn. Nos.	Value Points	Total
7.	<p>The incorrect statement related to thyroxine hormone among the following is</p> <p>(A) it regulates fat metabolism (B) its deficiency leads to goitre (C) it is secreted by parathyroid gland (D) iodine in the food is essential for its production.</p> <p>Ans. :</p> <p>(C) it is secreted by parathyroid gland</p>	1
11.	<p>“The rate of breathing in aquatic organisms is much faster than that seen in terrestrial organisms.” Why ?</p> <p>Ans. :</p> <p>Because, the amount of dissolved oxygen is fairly low compared to the amount of oxygen in the air.</p>	1
14.	<p>The gene for brown coloured hair is recessive that of gene for black coloured hair. What is the hair colour of a person who has inherited a gene for brown coloured hair from mother and black coloured hair from father ?</p> <p>Ans. :</p> <p>Black coloured hair</p>	1
18.	<p>“The body temperature of frogs and lizards depend on temperature in the environment.” Justify.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Both frogs and lizards have three chambered heart $\frac{1}{2}$ ★ Oxygenated and deoxygenated blood mix in the heart. $\frac{1}{2}$ ★ Production of energy became slightly less. This energy cannot be used for maintaining constant temperature. 1 	2

Qn. Nos.	Value Points	Total
21.	<p>“As energy moves progressively through various trophic levels of food chain it is no longer available to the previous level.” Give reasons.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ The flow of energy in the food chain is unidirectional. $\frac{1}{2}$ ★ The energy that is captured by autotrophs does not revert back to the solar input. $\frac{1}{2}$ ★ The energy which passes to the herbivores does not come back to autotrophs. $\frac{1}{2}$ ★ The energy available at each trophic level gets diminished progressively due to loss of energy at each level. $\frac{1}{2}$ 	2
23.	<p>Draw the diagram showing the germination of pollen on stigma and label the pollen tube.</p> <p>Ans. :</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Germination of pollen on stigma. ($1\frac{1}{2}$ for diagram)</p>	$1\frac{1}{2} + \frac{1}{2}$ 2

Qn. Nos.	Value Points	Total
27.	<p>What is photosynthesis ? Which is the organic product released during this process ? Write the function of this product.</p> <p><i>Ans. :</i></p> <p>The process in which green plants prepare food by using carbon dioxide and water in the presence of sunlight and chlorophyll is called photosynthesis.</p> <p>★ Carbohydrates / Glucose $\frac{1}{2}$</p> <p>★ Carbohydrates are utilized for providing energy to the plants. $\frac{1}{2}$</p>	2
29.	<p>“The consistency in DNA replication during reproduction is very important.” Justify.</p> <p><i>Ans. :</i></p> <p>The consistency of DNA copying during reproduction is important for maintenance of body design features that allow the organism to use that particular niche [area where organisms live]. 1</p> <p>Reproduction is linked to the stability of population of species. 1</p>	2
32.	<p>Draw the diagram showing the structure of neuron and label axon.</p> <p><i>Ans. :</i></p> <div style="text-align: center;">  <p style="text-align: center;">Structure of neuron.</p> <p style="text-align: center;">($1\frac{1}{2}$ for diagram)</p> </div>	$1\frac{1}{2} + \frac{1}{2}$ 2

Qn. Nos.	Value Points	Total
33.	Briefly explain the formation of ozone in the atmosphere. Ans. : ★ The higher energy UV radiations split apart some molecular oxygen [O ₂] into free oxygen [O] atoms. 1/2 ★ These atoms then combine with molecular oxygen to form ozone. 1/2 $\text{O}_2 \xrightarrow{\text{UV}} \text{O} + \text{O} \quad \text{1/2}$ $\text{O} + \text{O}_2 \rightarrow \text{O}_3 \text{ [ozone]}. \quad \text{1/2}$	2
37.	Explain the significant function of each structure in human male reproductive system. OR Explain the structure and important role of placenta during gestation period of woman. Ans. : i) <i>Testis</i> : They produce sperms and testosterone hormone which is responsible for male characters. 1/2 ii) <i>Scrotum</i> : They regulate temperature necessary for production of sperms. 1/2 iii) <i>Urethra and vas deferens</i> : Transport sperm from testis. 1/2 iv) <i>Prostate gland and seminal vesicle</i> : They add their secretion to make the sperm transport easier and provide nutrition. 1 v) <i>Penis</i> : Delivers the sperms to the site of fertilization. 1/2 OR ★ During pregnancy period the embryo gets nutrition from the mother's blood with help of disc shaped special tissue embeded in the uterine wall is called placenta. 1 1/2 ★ It contains villi on the developing side of the tissue. 1/2 ★ Villi provide glucose and oxygen to pass from mother to embryo. ★ Removes the wastes generated from the embryo. 1	2

Qn. Nos.	Value Points	Total
39.	<p>“Building crescent shaped earthen embankment in level terrain is better than the construction of large dams across the river to store water.” Analyse this statement with their effects.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Social problems : Effects of the construction of large dams across the rivers. $\frac{1}{2}$ ★ Economic problems : Swallow up huge amount of public money. $\frac{1}{2}$ ★ Environmental problems : They contribute enormously to deforestation and loss of biological diversity. $\frac{1}{2}$ <p><i>Advantages of building crescent shaped earthen embankment in level terrain :</i></p> <ul style="list-style-type: none"> ★ They recharge the ground water beneath. $\frac{1}{2}$ ★ Water does not evaporate, but spreads out recharge wells and provide moisture for vegetation. $\frac{1}{2}$ ★ It does not provide breeding grounds for mosquitoes like stagnant water collected in ponds (OR) lakes. $\frac{1}{2}$ 	3
41.	<p>Draw the diagram showing the schematic sectional view of the human heart. Label the following parts :</p> <p>i) Aorta ii) Pulmonary veins.</p> <p>Ans. :</p> <div style="text-align: center;">  <p style="text-align: center;">Human heart</p> </div>	$2 + 1 \left(\frac{1}{2} + \frac{1}{2} \right)$ 3

Qn. Nos.	Value Points	Total																														
44.	<p>Name the given structure. What is its general function ? Mention the function of the parts labelled as A and B. These structures in animals are said to be efficient ways to give quick responses. Why ?</p>  <p><i>Ans. :</i></p> <ul style="list-style-type: none"> ★ Reflex arc $\frac{1}{2}$ ★ It gives sudden action in response to the event happening in the environment. 1 A) <i>Sensory neuron</i> : It conducts the impulse of stimulus from receptor to the spinal cord. $\frac{1}{2}$ B) <i>Effectors</i> : Which shows the sudden visible response. $\frac{1}{2}$ <p>Reflex arcs have evolved in animals because the thinking process of brain is not fast enough in many animals. Mean while many animals have very little of the complex neuron network needed for thinking. So it can function in the absence of true thought process and increase the chance of survival. $1\frac{1}{2}$</p>	4																														
47.	<p>The plant bearing round yellow coloured ($RrYy$) seed are self pollinated with the same plant. Represent the result obtained in the F_2 generation of dihybrid cross with the help of a checker board. Mention the varieties of plants obtained in F_2 generation.</p> <p style="text-align: center;">OR</p> <p>What is evolution ? Explain the three evidences for evolution.</p> <p><i>Ans. :</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;"><i>Gametes</i></th> <th style="padding: 5px;">RY</th> <th style="padding: 5px;">Ry</th> <th style="padding: 5px;">rY</th> <th style="padding: 5px;">ry</th> <th style="padding: 5px;"></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">RY</td> <td style="padding: 5px;">$RRYY$</td> <td style="padding: 5px;">$RRYy$</td> <td style="padding: 5px;">$RrYY$</td> <td style="padding: 5px;">$RrYy$</td> <td style="padding: 5px;">$\frac{1}{2}$</td> </tr> <tr> <td style="padding: 5px;">Ry</td> <td style="padding: 5px;">$RRYy$</td> <td style="padding: 5px;">$RRyy$</td> <td style="padding: 5px;">$RrYy$</td> <td style="padding: 5px;">$Rryy$</td> <td style="padding: 5px;">$\frac{1}{2}$</td> </tr> <tr> <td style="padding: 5px;">rY</td> <td style="padding: 5px;">$RrYY$</td> <td style="padding: 5px;">$RrYy$</td> <td style="padding: 5px;">$rrYY$</td> <td style="padding: 5px;">$rrYy$</td> <td style="padding: 5px;">$\frac{1}{2}$</td> </tr> <tr> <td style="padding: 5px;">ry</td> <td style="padding: 5px;">$RrYy$</td> <td style="padding: 5px;">$Rryy$</td> <td style="padding: 5px;">$rrYy$</td> <td style="padding: 5px;">$rryy$</td> <td style="padding: 5px;">$\frac{1}{2}$</td> </tr> </tbody> </table>	<i>Gametes</i>	RY	Ry	rY	ry		RY	$RRYY$	$RRYy$	$RrYY$	$RrYy$	$\frac{1}{2}$	Ry	$RRYy$	$RRyy$	$RrYy$	$Rryy$	$\frac{1}{2}$	rY	$RrYY$	$RrYy$	$rrYY$	$rrYy$	$\frac{1}{2}$	ry	$RrYy$	$Rryy$	$rrYy$	$rryy$	$\frac{1}{2}$	
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Qn. Nos.	Value Points	Total
	<p>The plants obtained are</p> <p>Round yellow — 9</p> <p>Round green — 3</p> <p>Wrinkled yellow — 3</p> <p>Wrinkled green — 1</p> <p style="text-align: center;">OR</p> <p>Phenomenon of gradual change of organisms from simple form into complex form in a long period is called evolution.</p> <p><i>Three evidences are :</i></p> <p>i) <i>Homologous organs :</i></p> <p>The organs which have same basic structures but modified to perform different functions are called homologous organs.</p> <p>Provide the information that organisms of different species might be evolved from common ancestor.</p> <p>ii) <i>Analogous organs :</i></p> <p>The organs which have different basic structures but they perform similar function are called analogous organs.</p> <p>Provide the information that though the organs of different organisms perform same function they may not have same function but they may not be evolved from common ancestor.</p> <p>iii) <i>Fossils :</i></p> <p>The dead remains of past organisms under the rocks/deep earthen layers are called fossils.</p> <p>★ They help to study evidence and missing link between different species.</p> <p>★ They help to understand the sequence of evolution and help in classification of organisms. (Any one point)</p>	<p style="text-align: right;">2</p> <p style="text-align: right;">1</p> <p style="text-align: right;">$\frac{1}{2}$</p> <p style="text-align: right;">$\frac{1}{2}$</p> <p style="text-align: right;">$\frac{1}{2}$</p> <p style="text-align: right;">$\frac{1}{2}$</p> <p style="text-align: right;">1</p> <p style="text-align: right;">4</p>