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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, ಜೂನ್ — 2019

S. S. L. C. EXAMINATION, JUNE, 2019

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 24. 06. 2019]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 24. 06. 2019]

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

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಜೀವಶಾಸ್ತ್ರ / Biology)

(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)


(ಪುನರಾವರ್ತಿತ ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / Private Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 100

[Max. Marks : 100

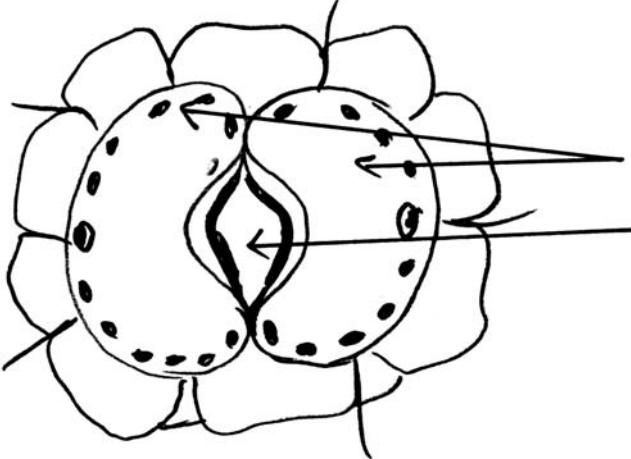
Qn. Nos.	Value Points	Total
2.	The group of organisms that reproduce through fission only is (A) Amoeba, Hydra, Spyrogyra (B) Leishmania, Amoeba, Yeast (C) Amoeba, Plasmodium, Planaria (D) Plasmodium, Amoeba, Leishmania. Ans. : (D) — Plasmodium, Amoeba, Leishmania	1




 (24)1209-PR(C) (BIO)

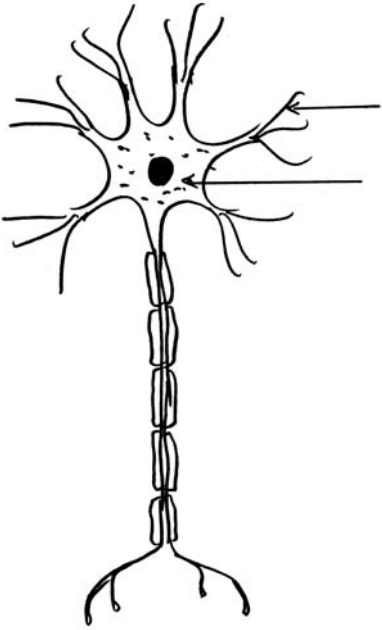
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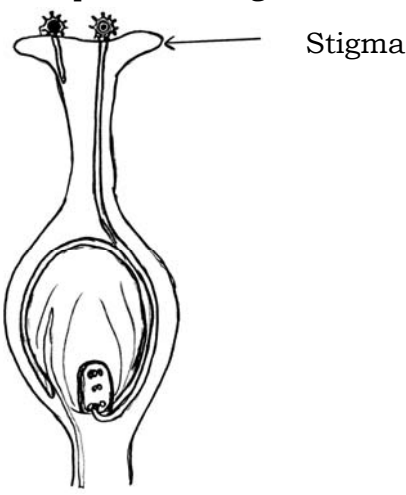
Qn. Nos.	Value Points	Total						
3.	<p>The correct statement related to digestion in small intestine is</p> <p>(A) acidic food is made alkaline by bile juice</p> <p>(B) food is made acidic by hydrochloric acid</p> <p>(C) starch is digested due to the action of amylase</p> <p>(D) protein is digested due to the action of pepsin.</p> <p>Ans. :</p> <p>(A) — Acidic food made alkaline by bile juice</p>	1						
5.	<p>Observe the food chain given below :</p> <p>Grass → Grass hopper → Frog → Snake → Eagle.</p> <p>If the energy available at first trophic level is 5000 J, then the amount of energy available for snake is</p> <p>(A) 500 J (B) 5 J</p> <p>(C) 0.5 J (D) 50 J.</p> <p>Ans. :</p> <p>(B) — 5 J</p>	1						
10.	<p>Observe the table which shows contrast forms of pea plants :</p> <table border="1"> <thead> <tr> <th><i>Colour of the seed</i></th> <th><i>Position of the flower</i></th> </tr> </thead> <tbody> <tr> <td>Green (G)</td> <td>Axial (A)</td> </tr> <tr> <td>Yellow (Y)</td> <td>Terminal (a)</td> </tr> </tbody> </table> <p>The genetic makeup with green seed and terminal flowers is indicated as</p> <p>(A) gGAa (B) GgAa</p> <p>(C) GgAA (D) Ggaa.</p> <p>Ans. :</p> <p>(D) — Ggaa</p>	<i>Colour of the seed</i>	<i>Position of the flower</i>	Green (G)	Axial (A)	Yellow (Y)	Terminal (a)	1
<i>Colour of the seed</i>	<i>Position of the flower</i>							
Green (G)	Axial (A)							
Yellow (Y)	Terminal (a)							

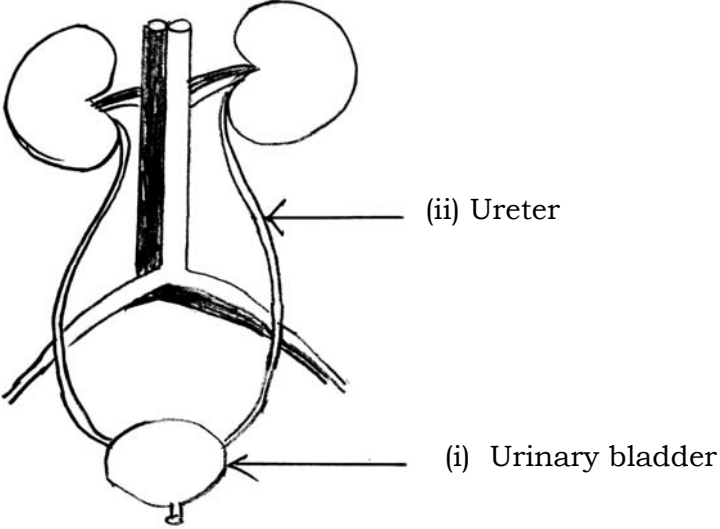


Qn. Nos.	Value Points	Total
13.	Name the products of anaerobic respiration. Ans. : Ethanol. $\frac{1}{2}$ Carbon dioxide. $\frac{1}{2}$	1
16.	Micro-organisms like bacteria are called decomposers. Why ? Ans. : ★ Break down the complex organic substances into simple inorganic substances. ★ Break down dead remains and wastes of organisms. <div style="text-align: right;">(Any one)</div>	1
18.	Name the factors responsible for speciation. Ans. : Variations $\frac{1}{2}$ Geographical isolation. $\frac{1}{2}$	1
21.	Draw the diagram showing opened stomata. Label the following parts : (i) Guard cells (ii) Stomatal pore. Ans. : Diagram showing opened stomata : <div style="text-align: center;">  </div> <div style="text-align: right; margin-top: 20px;"> $1 + \frac{1}{2} + \frac{1}{2}$ </div>	2

Qn. Nos.	Value Points	Total						
23.	<p>Diagrams given below represent hearts of three different animals. Observe it and answer the question.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>1</p> </div> <div style="text-align: center;">  <p>2</p> </div> <div style="text-align: center;">  <p>3</p> </div> </div> <p>Among these, which heart is helpful to the animals that require more energy ? Why ?</p> <p style="text-align: center;">OR</p> <p>The approximate lengths of small intestine of animals x and y are given in the table. Observe it and answer the question.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><i>Animals</i></th> <th><i>Approximate length of small intestine</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">x</td> <td style="text-align: center;">20 to 40 feet</td> </tr> <tr> <td style="text-align: center;">y</td> <td style="text-align: center;">5 to 8 feet</td> </tr> </tbody> </table> <p>Identify the herbivorous and carnivorous animals in the table and support your decision with scientific reasons.</p> <p><i>Ans. :</i></p> <div style="display: flex; justify-content: space-between;"> <div> <p>(i) Heart - 2</p> <p>(ii) Oxygenated and deoxygenated blood will not mix together</p> <p>Efficient supply of oxygen to the body.</p> <p>Helpful to maintain body temperature.</p> </div> <div style="text-align: center;"> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> </div> </div> <p style="text-align: center;">OR</p>	<i>Animals</i>	<i>Approximate length of small intestine</i>	x	20 to 40 feet	y	5 to 8 feet	2
<i>Animals</i>	<i>Approximate length of small intestine</i>							
x	20 to 40 feet							
y	5 to 8 feet							

Qn. Nos.	Value Points	Total
	<p>$x \rightarrow$ Herbivore $\frac{1}{2}$</p> <p>$y \rightarrow$ Carnivore. $\frac{1}{2}$</p> <p>★ Herbivores require a longer small intestine to digest cellulose. $\frac{1}{2}$</p> <p>★ Small intestine of carnivores is short as the meat is easier to digest. $\frac{1}{2}$</p>	2
27.	<p>Draw the diagram showing the structure of neuron. Label the following parts :</p> <p>(i) The part which has prominent nucleus</p> <p>(ii) Dendrite.</p> <p>Ans. :</p> <p>Diagram showing structure of neuron.</p> <div style="text-align: center;">  </div> <p style="margin-left: 400px;">(ii) Dendrites</p> <p style="margin-left: 400px;">(i) Cell body</p>	$1 + \frac{1}{2} + \frac{1}{2}$ 2

Qn. Nos.	Value Points	Total
29.	<p>In sustaining reproductive fertility of a person,</p> <p>(a) position of the testis in the body</p> <p>(b) secretion of the testosterone</p> <p>(c) secretion of the prostrate gland</p> <p>are supplementary to each other. Explain scientifically.</p> <p><i>Ans. :</i></p> <p>(a) Sperm formation requires a lower temperature than body temperature. 1</p> <p>(b) Testosterone regulates / stimulates the formation of sperm. $\frac{1}{2}$</p> <p>(c) Secretion of Prostrate gland makes the transportation of sperm easier. $\frac{1}{2}$</p> <p>Thus reproductive fertility is sustained by the formation, stimulation to the formation and proper transportation of sperms.</p>	2
33.	<p>Draw the diagram showing the germination of pollen on stigma and label the part on which pollination takes place.</p> <p><i>Ans. :</i></p> <p>Diagram showing germination of pollen on stigma :</p> <div style="text-align: center;">  </div>	$1\frac{1}{2} + \frac{1}{2}$ 2

Qn. Nos.	Value Points	Total
37.	<p>Draw the diagram showing human excretory system. Label the following parts :</p> <p>(i) Urinary bladder</p> <p>(ii) Ureter.</p> <p>Ans. :</p> <p>Diagram showing human excretory system.</p>  <p style="text-align: right;">$1 + \frac{1}{2} + \frac{1}{2}$</p>	2
40.	<p>Differentiate between self pollination and cross pollination.</p> <p>Ans. :</p> <p>Transfer of pollen on the stigma of same flower is self pollination. 1</p> <p>Pollen from one flower if transferred on the stigma of another flower in the same plant or between the flowers of two different plants of same species is cross pollination. 1</p>	2

Qn. Nos.	Value Points	Total
43.	<p>“Secretion of the adrenaline in the body is essential to face sensitive conditions.” Justify.</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"> ★ Heartbeat fastens. $\frac{1}{2}$ ★ Breathing rate increases. $\frac{1}{2}$ ★ Blood circulation from digestive system diverts towards skeletal muscles. Thus, the body obtains more energy and prepare to face sensitive conditions. 1 	2
46.	<p>Imagine the following situations :</p> <ul style="list-style-type: none"> (i) Clapping at the end of a programme (ii) Fluctuating blood pressure in the body. <p>How these situations are functionally different ? Give reason.</p> <p style="text-align: center;">OR</p> <p>“We withdraw our leg when stepped on thorn unknowingly.”</p> <ul style="list-style-type: none"> (i) Trace the sequences of events which occur in this action. (ii) Which part of human nervous system controls this action ? 	

Qn. Nos.	Value Points	Total
	<p>Ans. :</p> <p>(i) Voluntary action :</p> <p>★ Based on deciding what to do next (Action performed based on thinking)</p> <p>★ Controlled by forebrain.</p> <p>(ii) Involuntary action :</p> <p>★ Action without thinking control</p> <p>★ Controlled by hind brain.</p> <p style="text-align: center;">OR</p> <p>(i) (a) Receptors receive the stimulus of pain</p> <p>(b) Messages reach spinal cord through sensory neuron.</p> <p>(c) Responses reach motor neuron through association neuron.</p> <p>(d) Responses reach effector through motor neuron.</p> <p>(e) Muscles withdraw the leg.</p> <p>(ii) Spinal cord / reflex arc.</p>	<p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>$\frac{1}{2}$</p> <p>3</p>
49.	<p>(i) How does combustion of fossil fuels cause greenhouse effect ?</p> <p>(ii) List the reasons for failure in sustaining ground water.</p> <p style="text-align: center;">OR</p> <p>(i) Reuse of plastic products is better than recycle method. Why ?</p> <p>(ii) "Local people are stakeholders of forest resources." Explain.</p>	<p>3</p>

Qn. Nos.	Value Points	Total
	<p>Ans. :</p> <p>(i) Releases carbon dioxide $\frac{1}{2}$</p> <p style="padding-left: 40px;">Increases global warming $\frac{1}{2}$</p> <p>(ii) ★ Deforestation $\frac{1}{2}$</p> <p style="padding-left: 40px;">★ Growing crops which demand high water $\frac{1}{2}$</p> <p style="padding-left: 40px;">★ Pollution due to industrial effluents $\frac{1}{2}$</p> <p style="padding-left: 40px;">★ Pollution due to urban wastes. $\frac{1}{2}$</p> <p style="text-align: center;">OR</p> <p>(i) Recycling method uses energy.</p> <p style="padding-left: 40px;">(Energy is not used in reuse method). 1</p> <p>(ii) ★ For fire wood : Timber and Thatch.</p> <p style="padding-left: 40px;">★ For bamboo used in huts & baskets</p> <p style="padding-left: 40px;">★ For implements of agriculture, fishing and hunting.</p> <p style="padding-left: 40px;">★ To gather fruits, nuts and medicines.</p> <p style="padding-left: 40px;">★ To fodder for their cattles. (any four) $4 \times \frac{1}{2}$</p>	3
52.	<p>(i) How does relative method help to determine the age of fossils ?</p> <p>(ii) “Experiences of an individual during its life time cannot direct evolution.” Why ?</p> <p>(iii) “Chromosomes inherited from the father determines the sex of a child.” Explain.</p>	

Qn. Nos.	Value Points	Total
	<p><i>Ans. :</i></p> <p>(i) Gives the information that, fossils which are closer to the surface are most recent than those in deeper layers. 1</p> <p>(ii) ★ Change in non-reproductive tissues cannot be passed on to the DNA of germ cells.</p> <p>★ Experiences gained by the organism is not transferred to the DNA and cannot be transferred to the next generation.</p> <p style="text-align: right;">(Any one) 1</p> <p>(iii) All children will inherit an X chromosome from mother. 1</p> <p>★ Child who inherit an X chromosome from father will be a girl. $\frac{1}{2}$</p> <p>★ Child who inherit an Y chromosome from father will be a boy. $\frac{1}{2}$</p>	4