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

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

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**S.S.L.C. EXAMINATION, SEPTEMBER, 2020**

ಮಾದರಿ ಉತ್ತರಗಳು

**MODEL ANSWERS**

ದಿನಾಂಕ : 28. 09. 2020 ]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 28. 09. 2020 ]

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

ವಿಷಯ : ವಿಜ್ಞಾನ

**Subject : SCIENCE**

( ಜೀವಶಾಸ್ತ್ರ / Biology )

( ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus )

( ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Repeater )

( ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version )

[ ಗರಿಷ್ಠ ಅಂಕಗಳು : 80

[ Max. Marks : 80

Qn. Nos.	Value Points	Total
1.	The type of reproduction found in Spirogyra is (A) Budding (B) Fragmentation (C) Vegetative reproduction (D) Spore formation. Ans. : (B) Fragmentation	1
6.	The site of complete digestion of carbohydrates, proteins and fats is (A) stomach (B) large intestine (C) small intestine (D) liver. Ans. : (C) small intestine	1

**RR (A)-1124 ★ (MA) (BIO)**

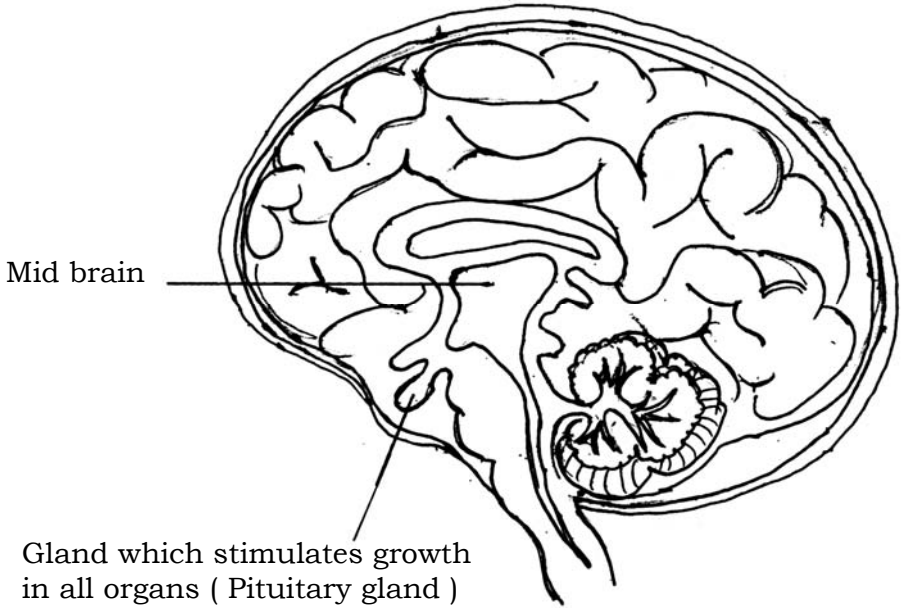
[ Turn over

Qn. Nos.	Value Points	Total
9.	<p>In the alpine meadows of the great Himalayan National Park, the practice of regular grazing by sheep was put to an end. What are the effects on the meadows due to this measure ?</p> <p><i>Ans. :</i></p> <p>Without the regular grazing by the sheep, the grass first grows very tall and then falls over preventing fresh growth.</p>	1
13.	<p>Name the poisonous gas produced due to incomplete combustion of fossil fuels.</p> <p><i>Ans. :</i></p> <p>Carbon monoxide</p>	1
17.	<p>Explain the two methods to estimate the age of fossils.</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"> <li>★ Relative method — If we dig into the earth, the fossils we find closer to the earth's surface are more recent than the fossils we find in deeper layers. 1</li> <li>★ By detecting the ratios of different isotopes of the same element in the fossil material. 1</li> </ul>	2
19.	<p>Eating chapati by chewing it very slowly tastes sweeter. Why ?</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"> <li>★ While chewing chapathi saliva is secreted. <math>\frac{1}{2}</math></li> <li>★ Chapathi contains starch. <math>\frac{1}{2}</math></li> <li>★ The salivary amylase breaks down starch into simple sugars. 1</li> </ul>	2
21.	<p>A person's face has become pale and his breathing rate has increased due to fear. Analyse the process which enables the person to deal with this situation.</p>	

Qn. Nos.	Value Points	Total
	<p>Ans. :</p> <ul style="list-style-type: none"> <li>★ Adrenaline is directly secreted into the blood. The blood to the skin is reduced due to contraction of muscles around small arteries. 1</li> <li>★ The breathing rate increases because of the contractions of the diaphragm and the rib muscles. The heart beats faster, resulting in supply of more oxygen to the muscles. 1</li> </ul>	2
27.	<p>Mendel crossed plants bearing red flowers ( <math>RR</math> ) with the plants bearing white flowers ( <math>rr</math> ) and produced progeny from them. The plants with red flowers obtained in <math>F_1</math> generation were different from the plants with red flowers of parental generation. Why ? Explain with reasons.</p> <p>Ans. :</p> <ul style="list-style-type: none"> <li>★ In parent generation, plant bearing red flowers has both the dominant traits <math>RR</math>. In parent generation, plant bearing white flowers has both the recessive traits <math>rr</math>. 1</li> <li>★ <math>F_1</math> generation plant inherits one copy of dominant trait ( red ) and one copy of recessive trait ( white ) from the parental plants <math>Rr</math>. But only the dominant trait ( red ) is expressed. 2</li> </ul> <p style="text-align: center;">OR</p> <div style="text-align: center;"> <p>Red    ×    White</p> <p><math>RR</math>                      <math>rr</math></p> <p>↓                              ↓</p> <p>( <math>R</math> )                      ( <math>r</math> )</p> <p>↘                              ↙</p> <p>( <math>Rr</math> ) <math>F_1</math></p> </div> <p>( 1 mark can be awarded for this answer )</p>	3

Qn. Nos.	Value Points	Total
30.	<p>How are the functions of arteries, veins and capillaries are interrelated in the circulation of blood ?</p> <p style="text-align: center;">OR</p> <p>How does transportation of water take place over the heights in a plant ?</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"> <li>★ Arteries carry blood away from the heart to various organs of the body. On reaching an organ or tissue, the artery divides into smaller and smaller vessels to bring the blood in contact with all the individual cells. <span style="float: right;">1</span></li> <li>★ Exchange of material between the blood and surrounding takes place across the thin wall of smallest vessels, the capillaries. The capillaries then join together to form veins. <span style="float: right;">1</span></li> <li>★ Veins convey the blood away from the organ or tissue. Veins collect the blood from different organs and bring it back to the heart. <span style="float: right;">1</span></li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>★ At the roots, cells in contact with the soil actively take up ions. This creates a difference in the concentration of these ions between the root and the soil. <span style="float: right;">1</span></li> <li>★ Water moves into the root from the soil to eliminate this difference. There is a steady movement of water into root xylem, creating a column of water that is steadily pushed upwards. <span style="float: right;">1</span></li> <li>★ Evaporation of water molecules from the stomata of leaves due to transpiration creates a suction which pulls water from xylem cells of root. <span style="float: right;">1</span></li> </ul>	3

Qn. Nos.	Value Points	Total
33.	<p>Give reason :</p> <p>a) Food chains generally consist of only three or four steps.</p> <p>b) Decomposers play an important role in an ecosystem.</p> <p>c) Protecting of ozone layer is necessary.</p> <p><i>Ans. :</i></p> <p>a) Very little energy is available ( 10% ) for the next level of consumers.</p> <p style="text-align: center;">OR</p> <p>The loss of energy at each step is so great that very little usable energy remains after four trophic levels. <span style="float: right;">1</span></p> <p>b) ★ Decomposers breakdown the dead remains and waste products of organisms / Decomposers breakdown the complex organic substances into simple inorganic substances.</p> <p>★ These substances are used up once more by the plants / Decomposers help in the natural replenishment of the soil. <span style="float: right;">1</span></p> <p>c) Ozone layer shields the surface of the earth from ultraviolet radiation from the sun. This radiation is highly damaging to organisms. <span style="float: right;">1</span></p>	3
35.	<p>Draw the diagram showing longitudinal section of human brain. Label the following parts :</p> <p>a) Mid brain</p> <p>b) Gland which stimulates growth in all organs.</p> <p><i>Ans. :</i></p>	

Qn. Nos.	Value Points	Total
	 <p data-bbox="268 577 414 611">Mid brain</p> <p data-bbox="284 857 742 929">Gland which stimulates growth in all organs ( Pituitary gland )</p> <p data-bbox="917 965 1324 999">Diagram — 3</p> <p data-bbox="917 1010 1324 1066">Two pars — <math>\frac{1}{2} + \frac{1}{2}</math></p>	4
37.	<p data-bbox="260 1099 794 1133">a) How does menstruation occur ?</p> <p data-bbox="260 1155 1337 1245">b) How the process of budding in hydra is different from Bryophyllum ?</p> <p data-bbox="774 1267 821 1301" style="text-align: center;">OR</p> <p data-bbox="260 1323 1294 1357">a) Explain the development of fertilized egg into a foetus in a woman.</p> <p data-bbox="260 1379 1337 1469">b) In humans, how the surgical contraceptive methods can be used to prevent pregnancy ?</p>	
	<p data-bbox="260 1491 347 1525"><i>Ans. :</i></p>	
	<p data-bbox="260 1547 1337 1637">a) ★ The uterus prepares itself every month to receive a fertilized egg and thus its lining becomes thick and spongy. 1</p>	
	<p data-bbox="336 1659 1337 1749">★ If the egg is not fertilized, the lining slowly breaks and comes out through the vagina as blood and mucous. 1</p>	
	<p data-bbox="260 1771 1337 1973">b) ★ In hydra, a bud develops as an outgrowth due to repeated cell division at one specific site. These buds develop into tiny individuals and when fully mature, detach from the parent body and become new independent individuals. 1</p>	

Qn. Nos.	Value Points	Total
	★ In Bryophyllum, buds are produced in the notches along the leaf margin. These buds fall on the soil and develop into new plants. 1	4
	OR	
a)	★ The fertilized egg starts dividing and forms a ball of cells or embryo. 1	
	★ The embryo is implanted in the lining of the uterus where they continue to grow and develop organs to become foetus. 1	
b)	★ If the vas deferens in the man is blocked, sperm transfer will be prevented. Fertilisation will not take place. 1	
	★ If the fallopian tube in the woman is blocked, the egg will not be able to reach the uterus. Fertilisation will not take place. 1	4