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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)

(ಹಳೆ ಪಠ್ಯಕ್ರಮ / Old Syllabus)

(ಪುನರಾವರ್ತಿತ ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / Private Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 100

[Max. Marks : 100

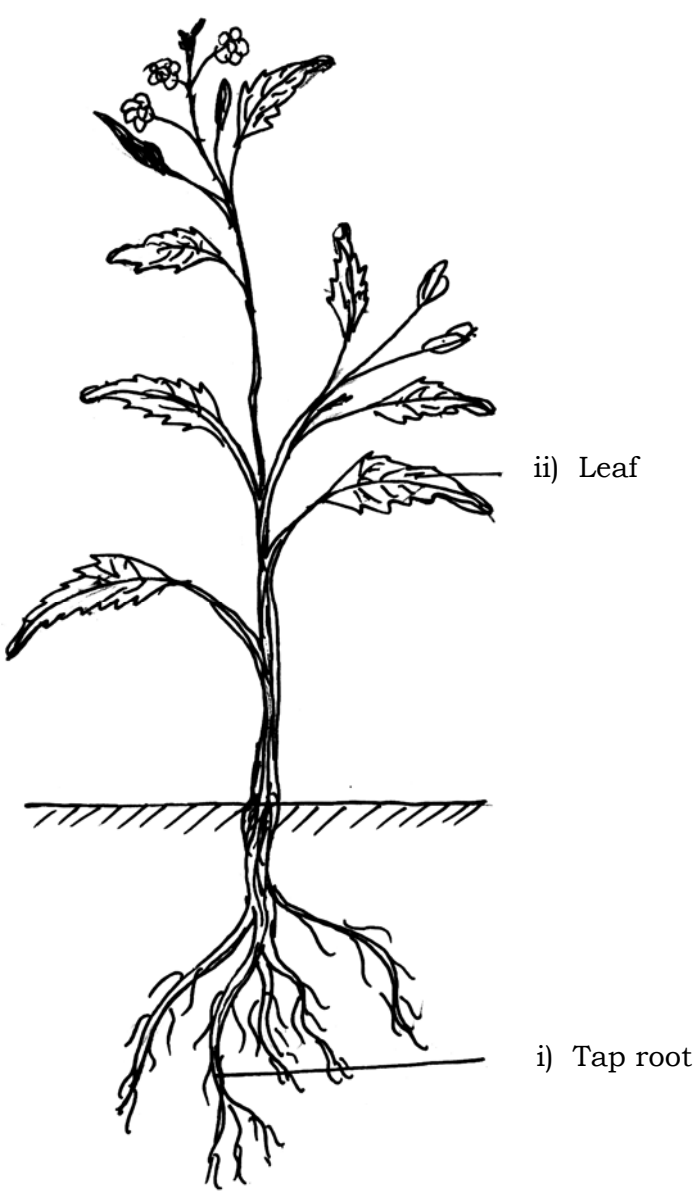
Qn. Nos.	Value Points	Total
3.	The disease caused by Treponema pallidum is (A) Gonorrhoea (B) Genital herpes (C) Syphilis (D) Hepatitis-B. Ans. : (C) — Syphilis	1

 (24)1309-PR(D) (BIO)

[Turn over

Qn. Nos.	Value Points	Total
6.	<p>The hormone that inhibits the growth of plant is</p> <p>(A) auxin (B) gibberellin</p> <p>(C) cytokinin (D) abscisic acid.</p> <p><i>Ans. :</i></p> <p>(D) — abscisic acid</p>	1
8.	<p>Parenchyma tissue filled with air in its intercellular spaces is</p> <p>(A) Chlorenchyma (B) Aerenchyma</p> <p>(C) Sclerenchyma (D) Collenchyma.</p> <p><i>Ans. :</i></p> <p>(B) — Aerenchyma.</p>	1
10.	<p>The types of plants in genotypic ratio of Mendel's monohybrid cross experiment are</p> <p>(A) 3 hybrid tall, 1 dwarf</p> <p>(B) 1 pure tall, 2 hybrid tall, 1 pure dwarf</p> <p>(C) 1 hybrid tall, 2 pure tall, 1 pure dwarf</p> <p>(D) 1 hybrid tall, 3 pure dwarf.</p> <p><i>Ans. :</i></p> <p>(B) — 1 pure tall, 2 hybrid tall, 1 pure dwarf</p>	1

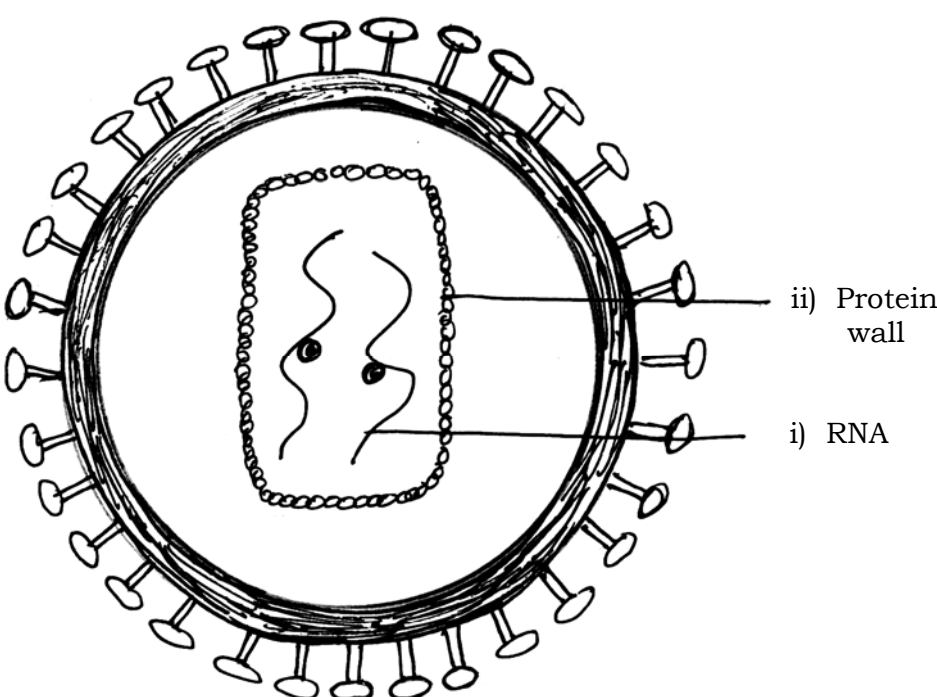
Qn. Nos.	Value Points	Total
12.	What is the function of bone marrow ? Ans. : Bone marrow produces blood cells.	1
16.	What is the effect of radioactive materials, when they react with biological molecules ? Ans. : (i) Mutation occurs. $\frac{1}{2}$ (ii) Damage DNA leading to cancer and birth defects. $\frac{1}{2}$	1
21.	List the harmful effects of 'Use and throw' practice on soil. OR The industries using high temperature furnaces should not be planted on the river banks. Why ? Ans. : ★ Bottles, cans and other plastic materials thrown cause soil pollution ★ The polluted land become the reproduction destiny for harmful insects, rodents and other pests. ★ Polythene bags thrown will increase soil temperature and destroy the micro-organisms present in the soil. ★ Soil fertility decreases. (Any two) 1 + 1	2
	OR ★ Hot effluents are directly released into river. ★ Destroys the aquatic life due to thermal shock. ★ Thermal pollution occurs. (Any two) 1 + 1	2

Qn. Nos.	Value Points	Total
24.	<p>Draw the diagram of a dicot plant. Label the following parts :</p> <p>(i) Tap root</p> <p>(ii) Leaf.</p> <p>Ans. :</p>  <p style="text-align: right;">ii) Leaf</p> <p style="text-align: right;">i) Tap root</p> <p style="text-align: right;">For diagram — 1 For labelling — $\frac{1}{2} + \frac{1}{2}$</p>	2

Qn. Nos.	Value Points	Total
27.	<p>“The heart muscles have suitable structure to work continuously throughout a person’s life span.” Justify this statement.</p> <p>Ans. :</p> <p>Heart Muscles :</p> <ul style="list-style-type: none"> ★ are branched ★ branches are attached ★ are involuntary ★ show highly rhythmic contraction and relaxation ★ striped ★ have nucleus. <p style="text-align: right;">(Any four) $4 \times \frac{1}{2}$</p>	2
30.	<p>“Quality of food materials have been improved through recombinant DNA technology.” Justify this statement.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Through hybridization process superior breeds increase the yield of plant and animals products. ★ The rare traits of certain organisms can be protected by producing transgenic organisms. ★ Production of food additives like sweeteners, colourants, flavourants and anti-oxydants. ★ Improvement in the nutritional value of the food. ★ Through tissue culture, development of plants with desired trait by gene modification method. ★ Developing the new varieties of plants to suit varying climatic conditions to equip the plants to cope better with diseases and pests. <p style="text-align: right;">(Any four) $4 \times \frac{1}{2}$</p>	2

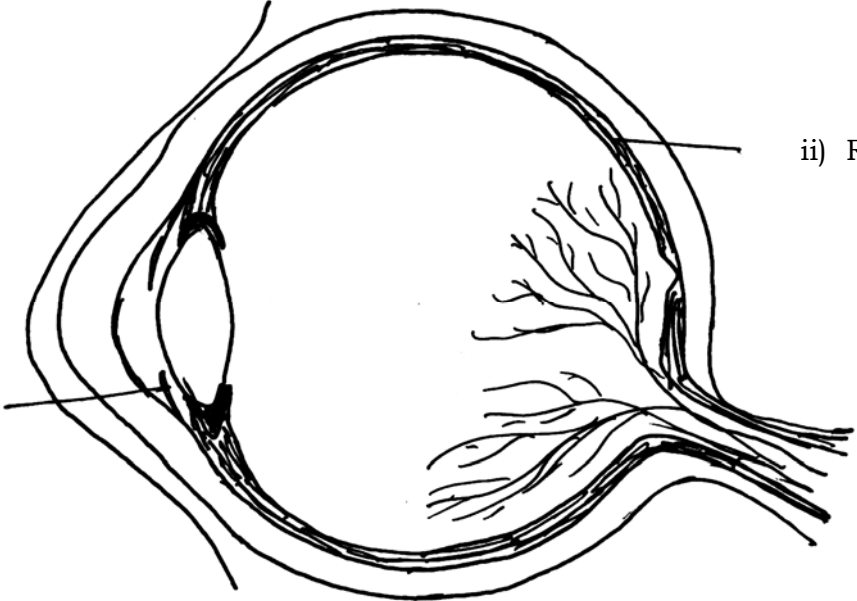
Qn. Nos.	Value Points	Total
32.	<p>Compared to sexually transmitted diseases the death rate is more in bird flu. Why ?</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Disease causing microbes spread through air. ★ Infection spreads simply by touching through saliva and <i>faeces</i>. ★ Microbe can live more than 10 days out of the human body. <p style="text-align: right;">(Any two) $\frac{1}{2} + \frac{1}{2}$</p> <p style="text-align: center;">but</p> <p>The virus causes sexually transmitted disease is</p> <ul style="list-style-type: none"> ★ only alive in body secretions ★ can't live out of the body ★ infected person can survive several years with proper medication. <p style="text-align: right;">(Any two) $\frac{1}{2} + \frac{1}{2}$</p>	2
34.	<p>Write the characteristics of Neanderthal man.</p> <p style="text-align: center;">OR</p> <p>Write the characteristics of Mongoloid man.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ He was rather short, heavily built and exceedingly strong. ★ Brow ridges were heavy ★ Forehead was sloping ★ Small chin ★ Protruding jaws. <p style="text-align: right;">(Any four) $4 \times \frac{1}{2}$</p> <p style="text-align: center;">OR</p>	2

Qn. Nos.	Value Points	Total
	<ul style="list-style-type: none"> ★ Yellowish and reddish skin ★ Thick lips ★ Wide nose ★ Hairs are straight. 	$4 \times \frac{1}{2}$ 2
36.	<p>Write the economic importance of ferns.</p> <p><i>Ans. :</i></p> <ul style="list-style-type: none"> ★ Grown for their ornamental value ★ The leaves of ferns used in making flower bouquet. ★ In the preparation of medicine. ★ Horse tail and club mosses are involved in the formation of fossil fuels like coal and petroleum. 	$4 \times \frac{1}{2}$ 2
39.	<p>Give reasons :</p> <p>(i) Goitre is an endemic disease</p> <p>(ii) Adrenaline is called an emergency hormone.</p> <p><i>Ans. :</i></p> <p>(i) The people living in the regions where there is deficiency of iodine in the soil and water will be affected more.</p> <p>(ii) In fear, anxiety, anger and in emotional stress adrenal gland secretes in excess of adrenaline and prepares the body to face the emergency situations properly.</p>	<p style="text-align: right;">1</p> <p style="text-align: right;">1</p> <p style="text-align: right;">2</p>

Qn. Nos.	Value Points	Total
44.	<p>Draw the diagram showing the structure of HIV. Label the following parts :</p> <p>(i) RNA</p> <p>(ii) Protein wall.</p> <p>Ans. :</p>  <p style="text-align: right;">(1 + $\frac{1}{2}$ + $\frac{1}{2}$)</p>	2
46.	<p>(a) Explain the alternation of generation with reference to bryophytes.</p> <p>(b) Write two characteristics of Cycas.</p>	

Qn. Nos.	Value Points	Total
	<p><i>Ans. :</i></p> <p>(a) ★ The adult plant is a gametophyte. Male and female gametes produced in antheridia and archegonia respectively.</p> <p>★ The zygote resulting from sexual reproduction, develops a diploid sporophyte.</p> <p>★ The haploid spores produced by meiosis.</p> <p>★ These spores on germination give rise to a haploid gametophyte. 2</p> <p>(b) ★ Have naked seeds / seeds are not enclosed in fruits.</p> <p>★ They are bushy</p> <p>★ Have cones as their reproductive parts.</p> <p>★ The plant body is a sporophyte</p> <p>★ Male cones contain microsporophylls which produce microspores that have male gametes</p> <p>★ Female cones contain megasporophylls which produce ovule containing female gametes.</p> <p style="text-align: right;">(Any two) 2 × $\frac{1}{2}$</p>	3
49.	<p>Write the application of biotechnology in the following fields :</p> <p>(i) Agriculture</p> <p>(ii) Health and medicine</p> <p>(iii) Food processing.</p> <p style="text-align: center;">OR</p> <p>Draw the checker board showing the results of F_2 generation in Carl Correns hybridization experiment. How does it verify the law of 'incomplete dominance' ?</p>	

Qn. Nos.	Value Points	Total													
	<p>Ans. :</p> <p>(i) <i>Agriculture</i> : Improvement of plants and animal breeds and controlling of pests and pathogens.</p> <p>(ii) <i>Health and Medicine</i> : Synthesis of life saving drugs like antibiotics, vaccines and artificial hormones in a large scale.</p> <p>(iii) <i>Food processing</i> : Synthesis of acceptable additives as preservatives, colouring agents and artificial flavours. 1 + 1 + 1</p> <p style="text-align: center;">OR</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td></td> <td>R</td> <td>W</td> </tr> <tr> <td rowspan="2">R</td> <td>RR</td> <td>RW</td> </tr> <tr> <td>Red</td> <td>Pink</td> </tr> <tr> <td rowspan="2">W</td> <td>RW</td> <td>WW</td> </tr> <tr> <td>Pink</td> <td>White</td> </tr> </tbody> </table> <p style="text-align: right; margin-right: 100px;">1</p> <p>★ Red (RR) and White (WW) genes expressed only in homogygous condition.</p> <p>★ In heterozygous condition both the genes (RW) express.</p> <p>★ But, instead of Red and White, Pink coloured flowers obtained.</p> <p>Thus, this experiment varifies incomplete dominance. 2</p>		R	W	R	RR	RW	Red	Pink	W	RW	WW	Pink	White	<p style="text-align: center;">3</p> <p style="text-align: center;">3</p>
	R	W													
R	RR	RW													
	Red	Pink													
W	RW	WW													
	Pink	White													

Qn. Nos.	Value Points	Total
52.	<p>Draw the vertical section of the human eye. Label the following parts :</p> <p>(i) Iris</p> <p>(ii) Retina.</p> <p>Ans. :</p>  <p style="text-align: right;">$(3 + \frac{1}{2} + \frac{1}{2})$</p>	4