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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, JUNE, 2019

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 24. 06. 2019]

Date : 24. 06. 2019]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

CODE NO. : 83-E (Bio)

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಜೀವಶಾಸ್ತ್ರ / **Biology**)

(ಹಳೆ ಪಠ್ಯಕ್ರಮ / Old Syllabus)

(ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

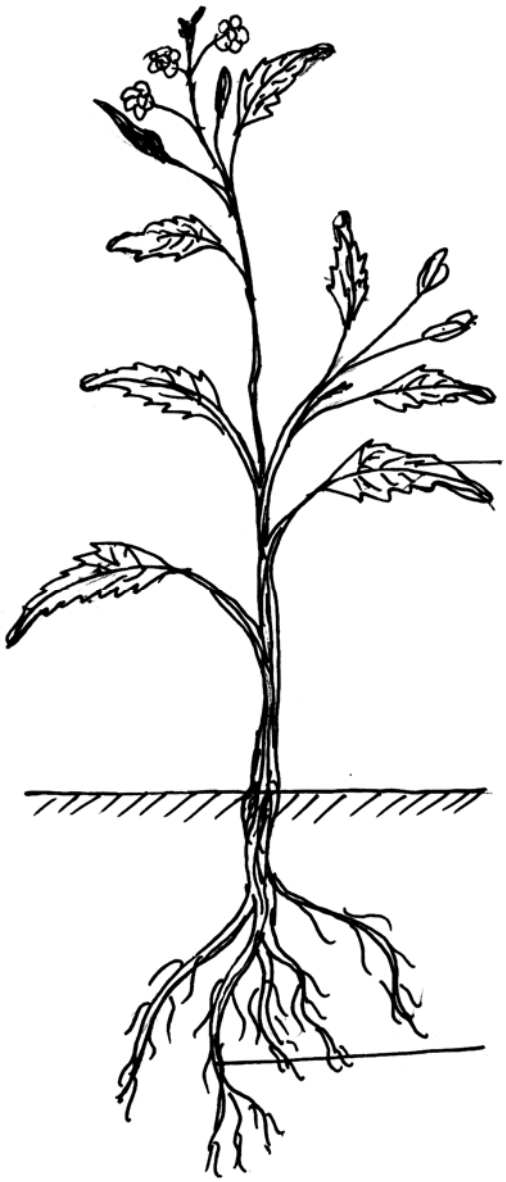
[ಗರಿಷ್ಠ ಅಂಕಗಳು : **80**

[Max. Marks : 80

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

Qn. Nos.	Value Points	Total
6.	The hormone that inhibits the growth of plant is (A) auxin (B) gibberellin (C) cytokinin (D) abscisic acid. *Ans.* : (D) — abscisic acid	1
8.	Parenchyma tissue filled with air in its intercellular spaces is (A) Chlorenchyma (B) Aerenchyma (C) Sclerenchyma (D) Collenchyma. *Ans.* : (B) — Aerenchyma.	1
10.	The types of plants in genotypic ratio of Mendel's monohybrid cross experiment are (A) 3 hybrid tall, 1 dwarf (B) 1 pure tall, 2 hybrid tall, 1 pure dwarf (C) 1 hybrid tall, 2 pure tall, 1 pure dwarf (D) 1 hybrid tall, 3 pure dwarf. *Ans.* : (B) — 1 pure tall, 2 hybrid tall, 1 pure dwarf	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 OR ★ Hot effluents are directly released into river. ★ Destroys the aquatic life due to thermal shock. ★ Thermal pollution occurs. (Any *two*) 1 + 1	2 2

Qn. Nos.	Value Points	Total
24.	Draw the diagram of a dicot plant. Label the following parts : (i) Tap root (ii) Leaf. *Ans.* :  For diagram — 1 For labelling — $\frac{1}{2}+\frac{1}{2}$	2

Qn. Nos.	Value Points	Total
27.	"The heart muscles have suitable structure to work continuously throughout a person's life span." Justify this statement. *Ans.* : Heart Muscles : ★ are branched ★ branches are attached ★ are involuntary ★ show highly rhythmic contraction and relaxation ★ striped ★ have nucleus. (Any *four*) $4 \times \frac{1}{2}$	2
30.	"Quality of food materials have been improved through recombinant DNA technology." Justify this statement. *Ans.* : ★ 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 varities of plants to suit varying climatic conditions to equip the plants to cope better with diseases and pests. (Any *four*) $4 \times \frac{1}{2}$	2

Qn. Nos.	Value Points	Total
32.	Compared to sexually transmitted diseases the death rate is more in bird flu. Why ? *Ans.* : ★ Disease causing microbes spread through air. ★ Infection spreads simply by touching through saliva and *faeces*. ★ Microbe can live more than 10 days out of the human body. (Any *two*) $\frac{1}{2}+\frac{1}{2}$ *but* The virus causes sexually transmitted disease is ★ only alive in body secretions ★ can't live out of the body ★ infected person can survive several years with proper medication. (Any *two*) $\frac{1}{2}+\frac{1}{2}$	2
34.	Write the characteristics of Neanderthal man. OR Write the characteristics of Mongoloid man. *Ans.* : ★ He was rather short, heavily built and exceedingly strong. ★ Brow ridges were heavy ★ Forehead was sloping ★ Small chin ★ Protruding jaws. (Any *four*) $4 \times \frac{1}{2}$ OR ★ Yellowish and reddish skin ★ Thick lips ★ Wide nose ★ Hairs are straight. $4 \times \frac{1}{2}$	2 2

Qn. Nos.	Value Points	Total
36.	(a) Explain the alternation of generation with reference to bryophytes. (b) Write two characteristics of Cycas. *Ans.* : (a) ★ The adult plant is a gametophyte. Male and female gametes produced in antheridia and archegonia respectively. ★ The zygote resulting from sexual reproduction, develops a diploid sporophyte. ★ The haploid spores produced by meiosis. ★ These spores on germination give rise to a haploid gametophyte. 2 (b) ★ Have naked seeds / seeds are not enclosed in fruits. ★ They are bushy ★ Have cones as their reproductive parts. ★ The plant body is a sporophyte ★ Male cones contain microsporophylls which produce microspores that have male gametes ★ Female cones contain megasporophylls which produce ovule containing female gametes. (Any *two*) $2 \times \frac{1}{2}$	3
39.	Write the application of biotechnology in the following fields : (i) Agriculture (ii) Health and medicine (iii) Food processing. OR 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' ? *Ans.* : (i) *Agriculture* : Improvement of plants and animal breeds and controlling of pests and pathogens. (ii) *Health and Medicine* : Synthesis of life saving drugs like antibiotics, vaccines and artificial hormones in a large scale. (iii) *Food processing* : Synthesis of acceptable additives as preservatives, colouring agents and artificial flabours. 1 + 1 + 1 OR	3

Qn. Nos.	Value Points	Total

	R	W
R	RR	RW
	Red	Pink
W	RW	WW
	Pink	White

1

★ Red (RR) and White (WW) genes expressed only in homogygous condition.

★ In heterozygous condition both the genes (RW) express.

★ But, instead of Red and White, Pink coloured flowers obtained.

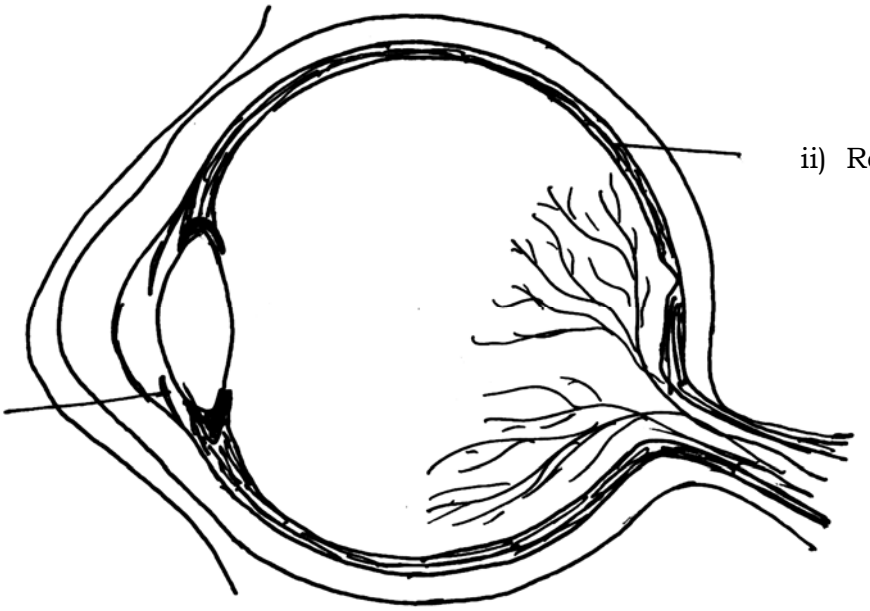
Thus, this experiment varifies incomplete dominance. 2 3

42. Draw the vertical section of the human eye. Label the following parts :

(i) Iris

(ii) Retina.

Ans. :



(3 + $\frac{1}{2}$ + $\frac{1}{2}$) 4