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

KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, MALLESHWARAM, BENGALURU, 560 003

ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಪರೀಕ್ಷೆ, ಜೂನ್ / ಜುಲೈ, 2022

S.S.L.C. EXAMINATION, JUNE / JULY, 2022

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 27. 06. 2022] ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Bio)**

Date : 27. 06. 2022] **CODE NO. : 83-E (Bio)**

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ಭೌತ ವಿಜ್ಞಾನ, ರಸಾಯನ ವಿಜ್ಞಾನ ಮತ್ತು ಜೀವ ವಿಜ್ಞಾನ / Physics, Chemistry & Biology)

(ಪುನರಾವರ್ತಿತ ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / ಎನ್.ಎಸ್.ಆರ್. & ಎನ್.ಎಸ್.ಪಿ.ಆರ್.)

(Private Repeater / NSR & NSPR)

(ಜೀವಶಾಸ್ತ್ರ / Biology)

(ಇಂಗ್ಲಿಷ್ ಮಾಧ್ಯಮ / English Medium)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : **100**

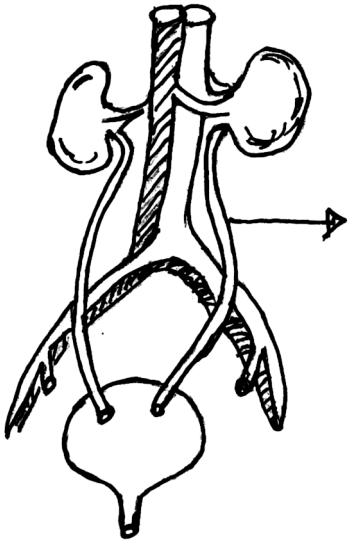
[Max. Marks : 100

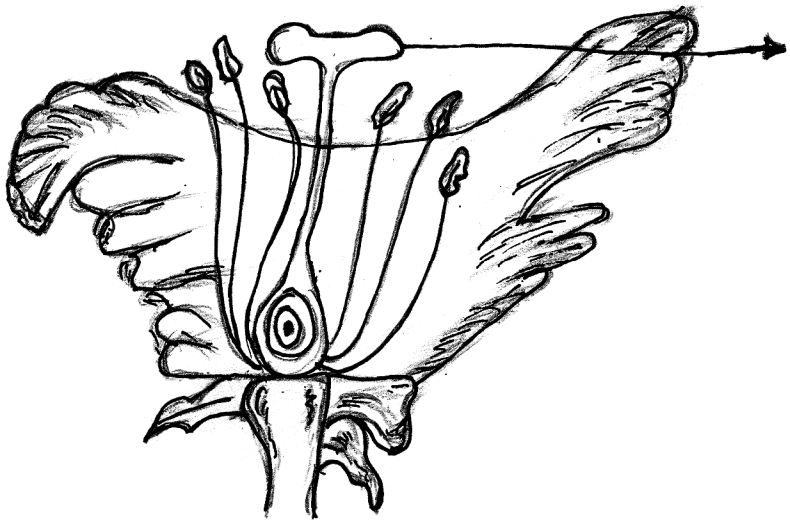
Qn. Nos.	Value Points	Total
	PART - C	
	(BIOLOGY)	
XII.	Multiple choice : $4 \times 1 = 4$	
30.	In plants the major function of xylem is the transportation of	
	(A) water (B) food	
	(C) amino acids (D) oxygen.	
	Ans. :	
	(A) — water	1

Qn. Nos.	Value Points	Total
31.	An example for positive geotropism in plants is (A) growth of shoot (B) growth of roots into deep soil (C) growth of tendrils of creepers (D) upward growth of roots. *Ans.* : (B) — growth of roots into deep soil	1
32.	Primary consumers in any food chain are always (A) carnivores (B) herbivores (C) higher carnivores (D) producers. *Ans.* : (B) — herbivores	1
33.	Part of a flower in the plant that develops into fruit is (A) petal (B) stigma (C) ovary (D) style. *Ans.* : (C) — ovary	1
XIII.	Answer the following questions : $4 \times 1 = 4$	
34.	Which hormone inhibits the growth of plants ? *Ans.* : Abscisic acid	

Qn. Nos.	Value Points	Total
35.	What is the sex of a child born by receiving *X* chromosome from father ? *Ans.* : Female child / baby girl	1
36.	Nowadays Chlorofluorocarbon (CFC) free refrigerators are being manufactured. Why ? *Ans.* : CFC's are responsible for the decrease in the amount of ozone layer which protects the earth from ultraviolet rays of sun.	1
37.	What is 'biological magnification' ? *Ans.* : Process that involves magnification (increase) of the harmful chemicals at different trophic levels of ecosystem.	1
XIV.	Answer the following questions : $7 \times 2 = 14$	
38.	Mention any two effects of non-biodegradable substances on the environment. OR Mention any two methods that reduce the problems caused while disposing the wastes.	

Qn. Nos.	Value Points	Total
	Ans. : ★ These substances do not undergo natural recycling and remain inert in the environment. ★ May harm the various members by adding in to different stages of ecosystem / cause 'Biological magnification'. ★ Cause environmental pollution. (Any *two* or consider relevant answer) 1 + 1	2
	OR	
	By adopting following methods : ★ Segregation of dry wastes and wet wastes. ★ Reusing of wet wastes by converting them into manures. ★ Recycling dry wastes ★ Limiting the use of disposable materials ★ Following eco-friendly packagings. 1 + 1 (Consider any other relevant answers)	2
39.	Can the wing of butterfly and the wing of bat be considered as Analogous organs ? If yes, why ? If no, why ? *Ans.* : ★ Yes, these structures are considered as Analogous organs. $\frac{1}{2}$ ★ Because the wing of butterfly and wing of bat both are useful for flight. 1 ★ But their basic design / origin are not same. $\frac{1}{2}$	2

Qn. Nos.	Value Points	Total
40.	Draw the diagram showing the structure of human excretory system and label 'ureter'. *Ans.* : *Excretory system in human beings* :  $1\frac{1}{2}+\frac{1}{2}$	2
41.	Name the enzyme present in Saliva. What is the function of this enzyme ? *Ans.* : ★ Amylase 1 ★ The amylase breaks down starch, a complex molecule to simple sugar. 1	2
42.	Name the mineral required for the production of thyroxine hormone. What are the functions of this hormone ? *Ans.* : ★ Iodine ★ For the production of required quantity of thyroxine by thyroid glands. ★ Thus, to control the possibility of having goitre disease	

Qn. Nos.	Value Points	Total
	★ To regulate metabolic activities ★ To provide a best balance for body growth. (Any *four*) $4 \times \frac{1}{2}$	2
43.	Draw the diagram of longitudinal section of a flower and label 'stigma'. *Ans.* : *Structure of a flower* :  $1\frac{1}{2}+\frac{1}{2}$	2
44.	"The flow of energy is unidirectional in an ecosystem." How ? Explain. *Ans.* : In an ecosystem the flow of energy is unidirectional. Because ★ the energy that is captured by the autotrophs does not revert back to the solar input. 1 ★ the energy which passes to the herbivores does not come back to autotrophs. As it moves progressively through the various levels, it is no longer available to the previous level. 1	2

Qn. Nos.	Value Points	Total
XV.	Answer the following questions : $3 \times 3 = 9$	
45.	Explain the stages of 'double circulation' of the blood in humans.	
	OR	
	Mention the events that occur during photosynthesis in plants. What are the methods used by plants to get rid of excretory products ?	
	Ans. :	
	Transportation of blood in heart :	
	i) Oxygen-rich blood from the lungs comes to the left atrium. $\frac{1}{2}$	
	ii) When the left atrium relaxes and contracts then blood gets transferred to left ventricle $\frac{1}{2}$	
	iii) When the left ventricle contracts the blood is pumped out to the body through aorta. $\frac{1}{2}$	
	iv) De-oxygenated blood comes from the body to the right atrium. $\frac{1}{2}$	
	v) As the right atrium contracts the blood get transferred to the right ventricle. $\frac{1}{2}$	
	vi) On contraction of right ventricle the blood go to the lungs for oxygenation. $\frac{1}{2}$	3
	OR	

Qn. Nos.	Value Points	Total
	★ Absorption of sunlight by chlorophyll. $\frac{1}{2}$	
	★ Conversion of light energy into chemical energy / decomposition of water into oxygen and hydrogen molecule. $\frac{1}{2}$	
	★ Reduction of carbon dioxide into carbohydrate. $\frac{1}{2}$	
	Methods to get rid of excretory products in plants :	
	★ Excess of water removed by transpiration	
	★ Remove oxygen and carbon dioxide gases through stomata	
	★ Waste products and dead cells in vacuoles by shedding leaves / barks	
	★ Resins and gums get store in old xylem	
	★ Diffusing certain wastes into surrounding soil.	
	(Any *three* points) $3 \times \frac{1}{2}$	3
46.	How does uterus prepare to receive the fertilized egg in woman ? What happens if egg does not fertilise ? Explain.	
	Ans. :	
	★ Uterus prepares itself every month to receive fertilized egg. It makes its inner layer thick and spongy. 1	
	★ If the egg is not fertilized, it lives for about one day. 1	
	★ If fertilization doesn't occur the lining slowly breaks and comes out through the vagina as blood and mucous.	
	(Menstruation occurs) 1	3

Qn. Nos.	Value Points	Total
47.	"An individual organism cannot pass the experiences acquired during its life time to the progenies of the next generation." Explain this concept with the help of an illustration. OR Pure 'short' pea plant is crossed with pure 'tall' pea plant. Represent the results obtained in F_2 generation with the help of checker board and mention the ratio of the types of plants obtained. *Ans.* : ★ Change in non-reproductive tissues cannot be passed on to the DNA of the germ cells. 1 ★ For example, if we breed a group of mice all their progeny will have tails, as expected. Now, if the tails of these mice are removed by surgery in each generation, the tailless mice produce tailed progeny. 1 ★ Because, removal of the tail cannot change the genes of the germ cells of the mice. 1 (Consider if other relevant illustration is given) OR	3

Qn. Nos.	Value Points	Total
	Result of F_2 generation :	

Gametes	*T*	*t*
T	*TT*	*Tt*
t	*Tt*	*tt*

2

Ratio obtained in F_2 generation :

Pure tall : tall : Pure dwarf

1 : 2 : 1

OR

Tall : dwarf

3 : 1

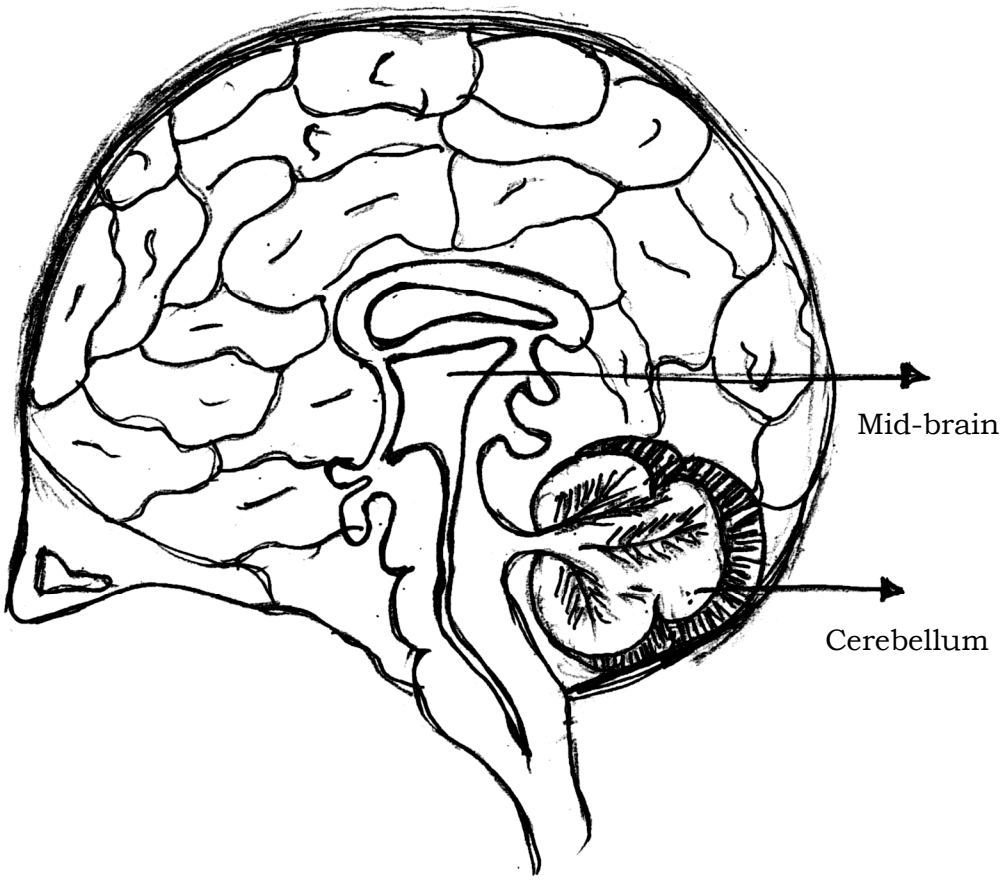
1 3

XVI. Answer the following question : $1 \times 4 = 4$

48. Draw the diagram showing the structure of the human brain and label the following parts :

i) Cerebellum

ii) Mid-brain.

Qn. Nos.	Value Points	Total
	Ans. : *Structure of Human Brain* :  For diagram — 3 For labelling — $\frac{1}{2}+\frac{1}{2}$	4