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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, ಸೆಪ್ಟೆಂಬರ್, 2020

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)

(ಹಳೆ ಪಠ್ಯಕ್ರಮ / Old Syllabus)

(ಪುನರಾವರ್ತಿತ ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ / Private Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 100

[Max. Marks : 100

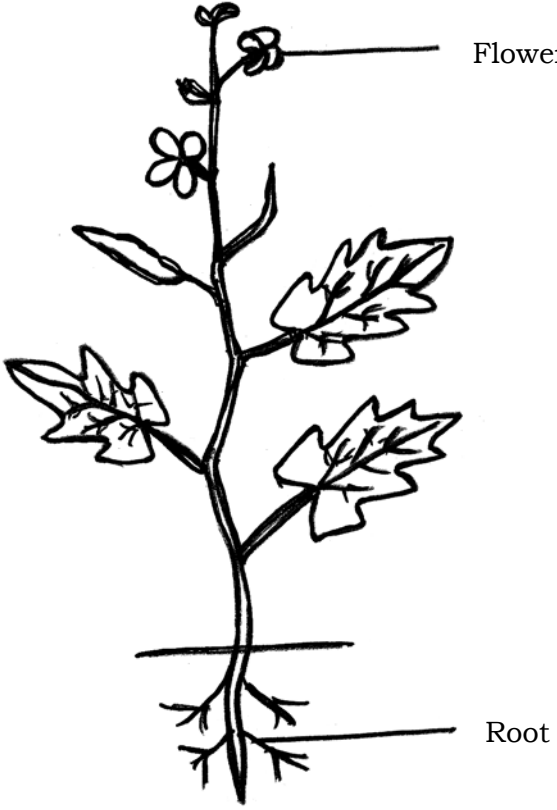
Qn. Nos.	Value Points	Total
3.	The disease caused by human papiloma virus is (A) Birdflu (B) Gonnorrhoea (C) Syphilis (D) Genital warts. Ans. : (D) Genital warts	1
6.	The hormone deficiency in a person suffering from goitre is (A) Parathormone (B) Thyroxine (C) Insulin (D) Cortisone. Ans. : (B) Thyroxin	1

PR (D)-# 43048(MA) (BIO)

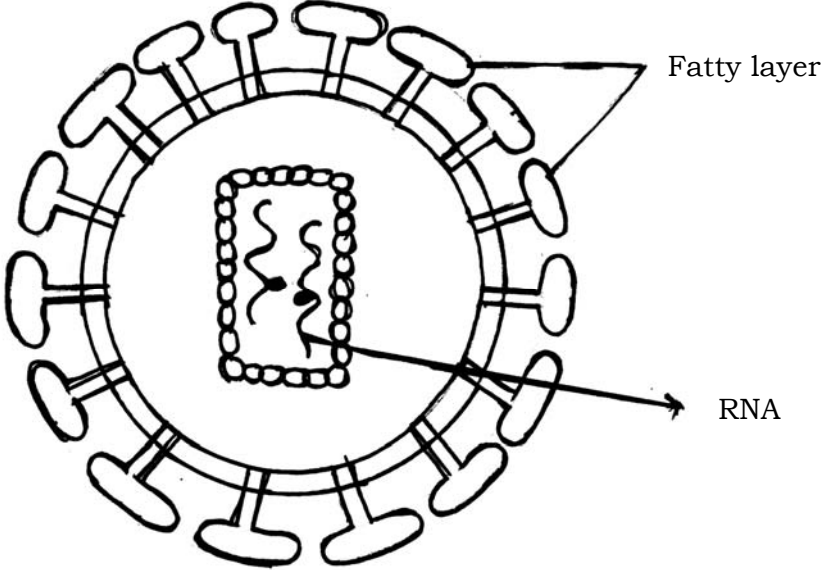
[Turn over

Qn. Nos.	Value Points	Total
9.	The technique used to identify the genetic relationship is (A) cloning (B) DNA finger print technology (C) blood test (D) tissue culture. Ans. : (B) D.N.A. finger print Technology	1
12.	“When compared to detergents soaps are ecofriendly.” Why ? Ans. : Soaps are biodegradable.	1
14.	When apical portion of the jowar plant is cut and removed, then the plant will die. Why ? Ans. : Plant dies due to removal of apical meristem / meristematic tissue.	1
17.	What is monohybrid cross ? Ans. : A cross between two plants which differ in one specific character is called monohybrid cross.	1
19.	Mention the symptoms found in a person suffering from dengue fever. Ans. : ★ Headache, fatigue, fever, muscle and joint pain. $\frac{1}{2}$ Swollen glands ★ Bleeding gums $\frac{1}{2}$ ★ Severe pain behind eyes $\frac{1}{2}$ ★ Redness in palms and soles. $\frac{1}{2}$	2
22.	What are the limitations of biotechnology ? OR Why did Mendel select pea plants for his experiment ? Ans. : ★ Results in seed sterility in plants. ★ Cloning would pose serious social, ethical, moral and cultural problems. ★ Used for illegal purposes and destructive activities. ★ Genetically modified foods threatening the human health. ★ Upsets the balance of the nature. (Any two) 1 + 1	2

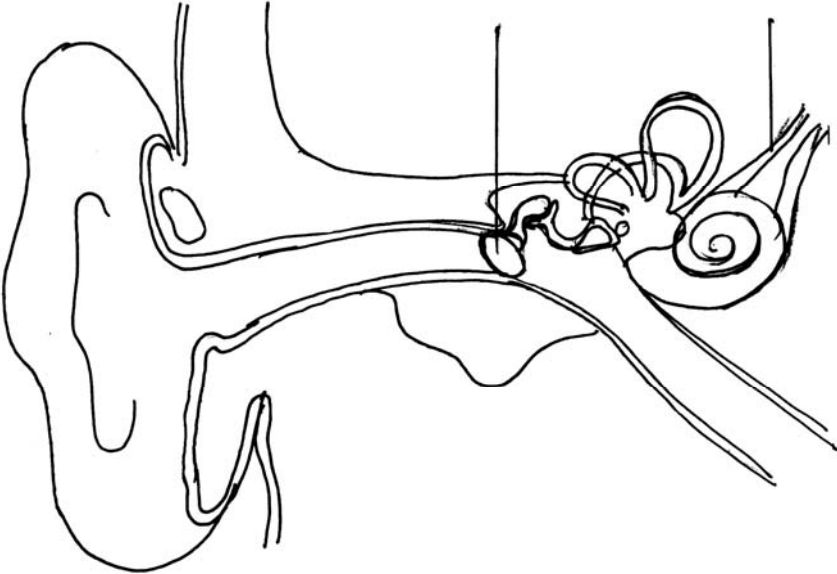
Qn. Nos.	Value Points	Total
	<p>Mendel had the following advantages with pea plants.</p> <ul style="list-style-type: none"> ★ They can be grown easily in open ground or even in pots. ★ They have a short growth period and life cycle ★ They give selfpollinating flowers and also it is easy to conduct cross pollination artificially ★ They produce large number of seeds ★ They show contrasting heritable characters ★ They produce fertile hybrids on cross pollination. <p style="text-align: right;">(Any two) 1 + 1</p>	2
26.	<p>Suggest the measures to be followed to control the depletion of ozone layer.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Making less use of refrigerators and cooling equipments ★ Burning less fossil fuels ★ Making less use of insulating foam ★ Using more public transport vehicles like train and bus. <p style="text-align: right;">(Any two) 1 + 1</p>	2
29.	<p>List the advantages of making changes in genetic material of animals in animal breeding.</p> <p style="text-align: center;">OR</p> <p>Explain any two methods followed in conventional plant breeding.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Improves the growth rate ★ Increases the production of milk, meat egg, wool and other products ★ Improves the quality products ★ Improves the resistance to diseases ★ Increases the shelf life of productivity (consider other suitable answer) ★ Increases the rate of reproduction. <p style="text-align: right;">(Any two) 1 + 1</p>	2
	<p style="text-align: center;">OR</p> <p>i) <i>Selection of plants</i> : Selecting the plants from a population of plants having desirable characteristics.</p> <p>ii) <i>Hybridization</i> : Bringing together desired traits through cross pollination in one plant.</p> <p>iii) <i>Polyploidy</i> : Selecting the plants with multiple sets of chromosomes.</p> <p>iv) <i>Induced mutation</i> : Bringing genetic changes in plant by using certain agents called mutagens.</p> <p style="text-align: right;">(Any two) 1 + 1</p>	2

Qn. Nos.	Value Points	Total
32.	<p>Draw the diagram showing the structure of a dicot plant. Label the following parts :</p> <p>i) Flower</p> <p>ii) Root.</p> <p>Ans. :</p> <div style="text-align: center;">  </div> <p style="text-align: right;">Diagram — 1</p> <p style="text-align: right;">Parts — $\frac{1}{2} + \frac{1}{2}$</p>	2
34.	<p>Mention any four changes found, when Dryopithecus pre-human ancestors evolved into Zinzanthropus pre-humans.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Developed stronger and straighter legs with feet suited more for walking. ★ Prehensile nature of the big toe was gradually lost. 	

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	<ul style="list-style-type: none"> ★ Upright posture was the result of evolutionary changes in the pelvic girdle and associated muscles. ★ The pelvic girdle changed into a broad basin like structure to support the trunk. ★ Cerebrum showed considerable enlargement. <p style="text-align: right;">(Any four) $4 \times \frac{1}{2}$</p>	2
35.	<p>List the major sources of noise pollution.</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ The gadgets used at home ★ Transport vehicles ★ Commercial and industrial activities ★ Social and public events. <p style="text-align: right;">(Any two) 1 + 1</p>	2
38.	<p>What are the adaptations in birds to fly ?</p> <p>Ans. :</p> <ul style="list-style-type: none"> ★ Streamlined body ★ Forelimbs modified into wings ★ Special arrangements of feathers on the wings to provide the lift ★ Presence of flight muscles ★ Reduced body weight ★ Long bones are pneumatic filled with air ★ Absence of teeth, replaced by a beak ★ Lungs are supported by air sacs for storing additional air. <p style="text-align: right;">(Any four) $4 \times \frac{1}{2}$</p>	2

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41.	Draw the diagram showing the structure of HIV. Label the following parts : i) RNA ii) Fatty layer. Ans. :	
	<div style="text-align: center;">  <p>The diagram shows a cross-section of an HIV virus. It consists of an outer envelope (fatty layer) with glycoprotein spikes. Inside is a conical capsid containing two RNA molecules. Labels 'Fatty layer' and 'RNA' point to their respective parts.</p> </div> <div style="text-align: right; margin-top: 20px;"> Diagram — 1 Parts — $\frac{1}{2} + \frac{1}{2}$ </div>	2
44.	A person is able to identify the words shown on the screen 3 m away from him, but he is unable to read letters from the book 30 cm away from him. Which type of eye defect is he suffering from ? What remedy do you suggest to overcome this defect ? Ans. : Hypermetropia or Farsightedness. This can be corrected by using convex lens.	2
46.	Write any three differences between amphibians and reptiles. OR Write any three differences between vascular plants and non-vascular plants.	

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	<p><i>Ans. :</i></p> <table border="1"> <thead> <tr> <th><i>Amphibians</i></th> <th><i>Reptiles</i></th> </tr> </thead> <tbody> <tr> <td>★ There is no exoskeleton, skin is smooth and moist</td> <td>★ Exoskeleton is in the form of epidermal scales forming distinct plates</td> </tr> <tr> <td>★ The tail may be absent in adult stage</td> <td>★ In adult stage tail is present</td> </tr> <tr> <td>★ Respiratory organs are gills in the larva and a pair of lungs in the adult. Skin also helps in respiration</td> <td>★ Respiratory organs are a pair of lungs</td> </tr> <tr> <td>★ Nervous system has a brain, a spinal cord and ten pairs of cranial nerves</td> <td>★ Nervous system has a brain, a spinal cord and 12 pairs of cranial nerves</td> </tr> <tr> <td>★ Fertilization and development both are external</td> <td>★ Fertilization is internal but development is external.</td> </tr> </tbody> </table> <p style="text-align: right;">(Any three) 1 + 1 + 1</p> <p style="text-align: center;">OR</p> <table border="1"> <thead> <tr> <th><i>Vascular plants</i></th> <th><i>Non-vascular plants</i></th> </tr> </thead> <tbody> <tr> <td>★ Xylem and phloem present</td> <td>★ Xylem and phloem absent</td> </tr> <tr> <td>★ Vascular plants classified into ★ Pteridophytes ★ Gymnosperms ★ Angiosperms</td> <td>★ Non-vascular plants classified into ★ Multicellular Algae ★ Bryophytes</td> </tr> <tr> <td>★ Found in all kinds of Habitats</td> <td>★ Found in cold and humid conditioned Habitats</td> </tr> <tr> <td>★ Most of the plants have definite root, stem, leaves</td> <td>★ Most of the plants have thalloid structure</td> </tr> </tbody> </table> <p style="text-align: right;">(Any three) 1 + 1 + 1</p>	<i>Amphibians</i>	<i>Reptiles</i>	★ There is no exoskeleton, skin is smooth and moist	★ Exoskeleton is in the form of epidermal scales forming distinct plates	★ The tail may be absent in adult stage	★ In adult stage tail is present	★ Respiratory organs are gills in the larva and a pair of lungs in the adult. Skin also helps in respiration	★ Respiratory organs are a pair of lungs	★ Nervous system has a brain, a spinal cord and ten pairs of cranial nerves	★ Nervous system has a brain, a spinal cord and 12 pairs of cranial nerves	★ Fertilization and development both are external	★ Fertilization is internal but development is external.	<i>Vascular plants</i>	<i>Non-vascular plants</i>	★ Xylem and phloem present	★ Xylem and phloem absent	★ Vascular plants classified into ★ Pteridophytes ★ Gymnosperms ★ Angiosperms	★ Non-vascular plants classified into ★ Multicellular Algae ★ Bryophytes	★ Found in all kinds of Habitats	★ Found in cold and humid conditioned Habitats	★ Most of the plants have definite root, stem, leaves	★ Most of the plants have thalloid structure	<p style="text-align: center;">3</p> <p style="text-align: center;">3</p>
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49.	<p>a) Leaves of banana plant will tear easily by wind force but the midrib of the leaves do not tear. Why ?</p> <p>b) The body of a person is showing low immunity against bacterial infection. In which tissue there is a problem and how this tissue protects our body ?</p> <p>Ans. :</p> <p>a) In leaves, thin walled parenchyma cells are arranged loosely. But in midrib thick walled collenchyma with hemicellulose or pectin is present. 1</p> <p>b) ★ Lymph tissue 1 ★ By producing antibodies to kill bacteria. 1</p>	3
52.	<p>Draw the diagram showing the internal structure of human ear. Label the following parts :</p> <p>i) Auditory nerve</p> <p>ii) Ear drum.</p> <p>Ans. :</p> <div style="text-align: center; margin: 10px 0;"> <p>Eardrum Auditory nerve</p>  </div> <p style="text-align: right; margin-right: 100px;">Drawing — 3 Parts — $\frac{1}{2} + \frac{1}{2}$</p>	4