



<b>Q.2</b>	<b>Short Answers (1 Mark Each)</b>	<b>8M</b>
i.	Give one example for each- a) mutualism      b) Interspecific competition	1M
ii.	Name the organ which prevents the entry of food into the trachea while eating.	1M
iii.	Give the full form of IAA.	1M
iv.	Define heredity.	1M
v.	Why are farmers and gardeners advised to buy new F <sub>1</sub> hybrid seeds every year?	1M
vi.	Name the four regions of a typical root.	1M
vii.	Krishna was going to school and on the way he saw a major bus accident. His heart beat increased and hands and feet become cold. Name the part of the nervous system that had a role to play in this reaction.	1M
viii.	How we can calculate the length of DNA molecule?	1M

## SECTION B

	<b>Attempt Any Eight Questions</b>	<b>16M</b>
<b>Q.3</b>	Write a short note on Pleiotropy.	2M
<b>Q.4</b>	Explain any four effects after application of gibberellins.	2M
<b>Q.5</b>	Sketch and label Antibody.	2M
<b>Q.6</b>	Name any two enzymes and antibiotics with their microbial source.	2M
<b>Q.7</b>	Distinguish between Hibernation and Aestivation.	2M
<b>Q.8</b>	Which are the two types of goiter?	2M
<b>Q.9</b>	Write a note on coagulation of blood.	2M
<b>Q.10</b>	Describe structure of root hair	2M
<b>Q.11</b>	A PCR machine can rise temperature up to 100°C but after that it is not able to lower the temperature below 70°C automatically. Which step of PCR will be hampered first in this faulty machine? Explain why?	2M
<b>Q.12</b>	Describe the characters of Dryopithecus	2M
<b>Q.13</b>	Give scientific reason : Castor seed is endospermic or albuminous.	2M
<b>Q.14</b>	Distinguish between primary succession and secondary succession.	2M

## SECTION C

	<b>Attempt Any Eight Questions</b>	<b>24M</b>
<b>Q.15</b>	Loss of biodiversity can harm ecosystem. Justify.	3M
<b>Q.16</b>	Explain the types of biofertilizers.	3M
<b>Q.17</b>	Describe the effects of drug alcohol abuse.	3M
<b>Q.18</b>	What is cerebrospinal fluid? Enlist its functions.	3M
<b>Q.19</b>	Distinguish between Arteries and Veins.	3M
<b>Q.20</b>	Which one of the plant growth regulators would you use if you are asked to: i. induce rooting in a twig ii. quickly ripen a fruit iii. delay leaf senescence iv. induce growth in axillary buds v. 'bolt' a rosette plant vi. induce immediate stomatal closure in leaves	3M
<b>Q.21</b>	Enlist the properties of water which makes it a significant molecule that connects physical world with biological processes.	3M
<b>Q.22</b>	By taking industrial melanism as one example. Explain the concept of natural selection.	3M

- Q.23** On a crime scene in a hotel, forensic investigators found the blood spots and hairs near the dead body of a person. Police arrest the suspected individuals. Which technique would be applied by forensic investigators to identify and confirm the criminal? Explain the technique in detail. **3M**
- Q.24** Write a short note on thalassemia. **3M**
- Q.25** How is gonorrhoea caused? Mention its symptoms. What is the cure and prevention for gonorrhoea? **3M**
- Q.26** Describe three devices by which cross pollination is encouraged in angiosperms by avoiding self pollination. **3M**

**SECTION D**

- Attempt Any Three Questions** **12M**
- Q.27** Draw neat and labelled diagram of anatropous ovule and explain its structure in detail. **4m**
- Q.28** Describe the various methods of birth control to avoid pregnancy. **4m**
- Q.29** Explain the steps in process of rDNA technology with suitable diagrams. **4m**
- Q.30** Describe the parts of diencephalon in detail. Add a note on functions of hypothalamus. **4m**
- Q.31** i. With the help of neat and labelled diagram, describe the internal structure of human heart. **4m**  
ii. What is role of papillary muscles and chordae tendineae in human heart?

*Together we will make a difference*