

13. REPRODUCTION

Q. No	Question	Marks
Multiple Choice Question		
Q.38	<p>Contraceptives help in preventing pregnancies.</p> <p>What function would a contraceptive loop inserted at T serve?</p> <p>A. Stopping sperms from reaching and fertilizing eggs</p> <p>B. Stopping release of sperms</p> <p>C. Blocking the release of eggs</p> <p>D. Stopping egg creation</p>	1
Free Response Question/ Subjective Question		
Q.39	<p>Bindu wants to produce a hybrid variety of tomatoes. She has tomato plants X and Y belonging to two different varieties, one with smooth, long fruits and the other one with wrinkled, round fruits.</p> <p>Tomatoes have bisexual flowers. Bindu carries out the following steps carefully to cross pollinate the flowers of plants X and Y:</p> <ol style="list-style-type: none"> 1. She removes a part of the flowers of tomato plant X just before the flowers bloom. 2. She manually pollinates the flowers of tomato plant X using pollen from the flowers of tomato plant Y. 3. She ties small plastic bags around the pollinated flowers of tomato plant X. The plastic bags are removed after a couple of days. <p>What could be reason for covering the pollinated flowers of plant X?</p>	1
Q.40	<p>Water hyacinths reproduce both sexually and asexually. They reproduce sexually by producing seeds through flowers, and asexually by bud formation or fragmentation. It undergoes reproduction through either of the methods depending on environmental conditions. Water hyacinths bloom freely in water-rich conditions whereas, reproduction for survival is more effort-intensive in water-scarce conditions.</p> <p>(a) Explain why this variation in reproduction is required in water hyacinths.</p> <p>(b) Which mode of reproduction is likely to occur in the following conditions? Justify:</p>	4

	(i) abundance of water (ii) scarcity of water	
Q.41	<p>Compare the reproductive parts of flowers and humans and answer the questions below:</p> <p>(a) Which part of the human female reproductive system has a similar function as the stigma in a flower? Give a reason to support your answer.</p> <p>(b) Testes in the male reproductive system would correspond to which part of the male reproductive system in a flower? Justify.</p> <p>(c) The style of a flower and the fallopian tube in humans correspond functionally with each other. Is this statement true? Justify your answer.</p>	3

Answer Key & Marking Scheme

Q. No	Answers	Marks
Q.38	A. Stopping sperms from reaching and fertilizing eggs	1
Q.39	to prevent pollen from other plants from reaching the stigma	1
Q.40	<p>(a) 1 mark for each point:</p> <ul style="list-style-type: none"> - The population of each species thrives in its specific habitat/niche, having particular environmental conditions which can change due to reasons beyond the organisms' control - Having variation ensures greater chances of survival through such changes. <p><i>[Accept any other valid answer]</i></p> <p>(b) 0.5 marks each for the following points:</p> <p>(i)</p> <ul style="list-style-type: none"> - asexual reproduction - In its natural environment, the organism is likely to undergo an energy-efficient method of reproduction such as asexual reproduction. <p>(ii)</p> <ul style="list-style-type: none"> - sexual reproduction - In a stressed environment, the organism is likely to opt for the effort-intensive method for survival. <p><i>[Accept any other valid answer]</i></p>	4
Q.41	<p>(a) 0.5 marks for identifying the part and 0.5 marks for the reason:</p> <ul style="list-style-type: none"> - Part - Cervix/Vagina - Reason - The stigma of the flower serves as the point of entry of the male gametes/pollen grains, similarly, the cervix serves as the point of entry of the male gametes/sperm in humans/ vagina receives the male gametes in humans. <p>(b) 0.5 marks for identifying the part and 0.5 marks for the reason:</p> <ul style="list-style-type: none"> - Part - anther - Function - produces male gametes in form of pollen, just like testes which produce sperms <p>(c) 0.5 for stating true/false and 0.5 marks for the reason:</p> <ul style="list-style-type: none"> - False - Reason - the main function of the fallopian tube is to serve as the point of fertilisation, which is not the function of the style in flowers. <p><i>[Accept any other valid answer]</i></p>	3