Chapter:15 Plant Growth and Development

True and False

Q.No	Question	Answer True/ False	Typology
Q.1	Bolting is observed in plants due to Gibbrellins.	True	Understanding
Q.2	Seed dormancy is induced by Abscisic acid.	True	Understanding
Q.3	Dormancy ensures seed germination under suitable environmental conditions.	True	Understanding
Q.4	The relative length of light and darkness required for flowering is termed as photoperiodism.	True	Knowledge
Q.5	A weedicide named 2,4-D may also induce flowering in litchi and pineapple	True	Application
Q.6	Kurosawa isolated gibbrellins from a virus.	False	Knowledge
Q.7	During tea plantation axillary buds are deliberately removed for efficient branching and increased yield.	False	Application
Q.8	In agriculture, application of cytokinins improves the number and size of fruits in grapes.	False	Application
Q.9	Kinetin occurs naturally in plants.	False	Knowledge
Q.10	ABA inhibits fruit drops and fruit ripening.	False	Knowledge
Q.11	Ethephon releases a gaseous phytohormone called Ethylene.	True	Application
Q.12	The cold treatment required for flowering is called Vernalization.	True	Knowledge
Q.13	Auxins initiate rooting in stem cuttings.	True	Knowledge
Q.14	Auxins help to overcome apical dominance.	False	Understanding
Q.15	Unripe fruits will lead to early ripening if mixed with a rotten fruit.	True	Application

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Multiple Choice Questions

Q.No	Question	Answer	Typology
Q.1	Rooting can be introduced in stem cuttings by using - a. IBA b. 2,4-D c. Ethylene d. ABA	a	Knowledge
Q.2	To speed up malting process in brewing we must use – a. Ethylene b. GA_3 c. ABA d. 2,4-D	b	Knowledge
Q.3	Auxins promote apical dominance. The hormone used by the farmer to overcome the same would be – a. Gibbrellins b. Cytokinins c. Ethylene d. ABA	b	Analyzing
Q.4	Which of the following phytohormones promote leaf senescence – a. ABA b. Cytokinins c. IBA d. GA_3	a	Knowledge
Q.5	As an expert, if you need to guide a farmer for increasing the yield of sugarcane, which of the following growth regulator , would you suggest- a. Auxins b. Gibbrellins c. Cytokinins d. ABA	b	Application
Q.6	A biologist forgot to add cytokinins to a culture medium. What results do you expect? a. Rooting will not occur b. Shoot formation will not occur c. Callus will get destroyed d. Culture will get infected	b	Analyzing

Q.7	Which combination of plant growth regulators will you prefer for simultaneous flowering in a short day and a long day plant – a. Gibbrellins and Cytokinins b. Ethylene and ABA c. Auxins and ethylene d. Auxins and ABA	a	Analyzing
Q.8	Which part of the plant perceives the light stimulus? a. Stem b. Leaves c. Roots d. Flowers	b	Knowledge
Q.9	Leaf fall occurs when content of – a. Auxin increases b. Auxin decreases c. Ethylene increases d. ABA decreases	b	Understanding
Q.10	Pruning of plants promotes branching during hedge formation because of overcoming the action of – a. Auxins b. gibbrellins c. Cytokinins d. ABA	a	Understanding

Fill in the Blanks

Q.No	Question	Answer	Typology
Q.1	A winter variety can be grown in spring if the plant is subjected to _____ .	vernalisation	Knowledge
Q.2	Sugarcane yield is increased by spraying hormone _____	Gibbrelic acid	Knowledge
Q.3	The three phases of period of growth are _____ elongation and maturation	Meristematic,	Knowledge
Q.4	In the equation $L_t = L_0 + rt$, for arithmetic growth, r represents _____	Growth rate/elongation per unit time	Understanding
Q.5	The exponential growth can be expressed as W_1 = _____	W_0e^{rt}	Knowledge
Q.6	The living differentiated cells, can regain the capacity to divide under certain conditions. This phenomenon is termed as _____	Dedifferentiation	Understanding

Q.7	Plants follow different pathways in response to environment or phases of life to form different kinds of structure. This ability is called _____	Plasticity	Understanding
Q.8	Buttercup shows difference in shape of leaves produced in air and those produced in water. This phenomenon is called _____	Heterostyly	Knowledge
Q.9	Terpenes fall in the category of _____ (phytohormones).	Gibbrellins	Understanding
Q.10	After a series of experiment done by Charles Darwin, he concluded that _____ was the site of transmittable influence that caused bending of the entire coleoptile.	Tip of coleoptile	Understanding
Q.11	Auxin was isolated by _____ from tips of coleoptiles of oat seedlings.	F.W Went	Knowledge

Match the Following

Q.No	Question		Answer		Typology
Q.1	Column A a. E. Kurosawa b. F. Skoog and coworkers	Column B i) Identified Abscission II ii) Identified Gibbrellic acid iii) Identified Dormin iv) Identified Kinetin	Column A a. b.	Column B ii) iv)	Knowledge
Q.2	Column A a.Auxins b.Cytokinins	Column B i) A simple gaseous PGR ii) In Greek means to grow iii) Form of adenine, a purine iv) regulates abscission and dormancy	Column A a. b.	Column B ii) iii)	Knowledge
Q.3	Column A a.Auxins b. Ethylene	Column B i) Induce Parthenocarpy ii) Cause fruits like apples to elongate and improve its shape iii) promotes bolting iv) highly effective in fruit ripening	Column A a. b.	Column B i) iv)	Understanding

Q.4	Column A a.Photoperiodism b.Vernalization	Column B i) Response of plants to periods of day/night ii) Respiratory climactic iii)Qualitative or quantitative dependence on exposure to low temperature iv) Internode elongation prior to flowering	Column A a. b.	Column B i) iii)	Understanding
Q.5	Column A a.Plants with rosette habit b. Yield in sugarcane	Column B i) show quick seed production ii)show bolting on spraying GAs iii) increases on spraying GAs iv) increases on application of Auxins	Column A a. b.	Column B ii) iii)	Understanding
Q.6	Column A a.IBA b. NAA	Column B i) isolated from plants ii) synthetic Auxin iii) isolated from corn-kernels iv) discovered from herring sperm DNA	Column A a. b.	Column B i) ii)	Knowledge
Q.7	Column A a.Responsible for respiratory climactic b. Increases tolerance of plants to various kinds of stress	Column B i) GA3 ii) Ethylene iii)Zeatin iv) ABA	Column A a. b.	Column B ii) iv)	Understanding
Q.8	Column A a. role of PGRs b. Growth	Column B i)Relative or Absolute ii) Includes all the changes occurring during life cycle of	Column A a. b.	Column B iv) i)	Understanding

		an organism iii) Antagonistic to each other iv) Individualistic or Synergistic			
Q.9	Column A a. Cousins b. F.W Went	Column B i)purification and chemical characterization of three different kinds of inhibitors ii) Isolated Auxins iii) Confirmed the release of a volatile substance from ripened oranges iv) reported the appearance of symptoms of 'bakanae' in rice seedlings by applying sterile filtrates of a fungus	Column A a. b.	Column B iii) ii)	Knowledge
Q.10	Column A a. Abscisic Acid b. Ethylene	Column B i) helps seeds to withstand desiccation ii) Applied for hedge making iii) promotes making female flowers in cucumber iv) promotes bolting	Column A a. b.	Column B i) iii)	Understanding