Question	Answer
ABA acts antagonistically to which hormone in most situations?	Gibberellins (GAs).
Approximately how many animal species have been recorded in India?	About twice the number of plant species.
Approximately how many species have become extinct in recent times?	Nearly 700 species.
Cytokinins were first discovered as which compound?	Kinetin.
Gibberellic acid (GA3) belongs to which chemical class?	Terpenes.
Gibberellins belong to which category of PGRs?	Promotory PGRs.
Growth at the cellular level mainly results from an increase in what?	Increase in the amount of protoplasm.
Growth in maize root apical meristem is expressed as an increase in what?	Increase in cell number.
How are gibberellins used in grapes?	To increase the length of grape stalks.
How do gibberellins increase sugarcane yield?	By increasing stem length.
How does biodiversity loss affect resistance to environmental perturbations?	It lowers resistance to disturbances such as drought.
How does greater solar energy in the tropics contribute to biodiversity?	It leads to higher productivity, which indirectly contributes to greater diversity.
How does temperature affect plant growth?	Every plant has an optimum temperature range best suited for growth.
How is ethylene used in pineapple cultivation?	To initiate flowering and synchronise fruit-set.
How many biosphere reserves are present in India according to the summary?	14 biosphere reserves.
How many biosphere reserves are there in India according to the text?	14.
How many plant species are found in the Amazonian rain forest?	More than 40,000 species.
How many plant species were included among the extinct species listed by IUCN (2004)?	87 species.
How many reptile species are found in the Amazonian rain forest?	378 species.

Question	Answer
In arithmetic growth, after mitotic division, how many daughter cells continue to divide?	Only one daughter cell continues to divide while the other differentiates and matures.
In buttercup, why are leaf shapes different in air and water?	Due to environmental influence causing heterophyllous development.
In the exponential growth equation, what does (W_0) represent?	Initial size at the beginning of the period.
Name some direct benefits humans obtain from biodiversity.	Food, fibre, firewood, and pharmaceuticals.
Name some extrinsic factors affecting plant development.	Light, temperature, water, oxygen, and nutrition.
Name some institutions used for ex situ conservation.	Zoological parks, botanical gardens, and wildlife safari parks.
Name the three categories of reasons for conserving biodiversity.	Narrowly utilitarian, broadly utilitarian, and ethical.
Name the three phases of growth.	Meristematic phase, elongation phase, and maturation phase.
Name three effects of ethylene on seedlings.	Horizontal growth, swelling of the axis, and apical hook formation in dicot seedlings.
What agricultural process is accelerated by ethephon in flowers and fruits?	Abscission.
What does the broadly utilitarian argument for biodiversity conservation state?	Biodiversity plays a major role in ecosystem services provided by nature.
What effect does ABA have on seed germination?	It inhibits seed germination.
What happens during the maturation phase of growth?	Cells attain maximal size with wall thickening and protoplasmic modifications.
What happens to cells while forming tracheary elements?	They lose their protoplasm.
What happens to progeny cells in geometrical growth?	Both progeny cells retain the ability to divide and continue dividing.
What is biodiversity?	Biodiversity refers to the immense diversity or heterogeneity existing at all levels of biological organisation, from macromolecules within cells to biomes.
What is callus in plant tissue culture?	A mass of undifferentiated cells.
What is cryopreservation used for in biodiversity conservation?	Long-term preservation of gametes.
What is development in plants?	All changes an organism undergoes during its life cycle from germination to senescence.

Question	Answer
What is ecological diversity?	Diversity at the ecosystem level.
What is endemism?	Species being confined to a region and not found anywhere else.
What is one characteristic of a stable biological community?	It should not show too much variation in productivity from year to year.
What is phototropism?	Growth towards the light source.
What is redifferentiation?	The process in which cells formed after dedifferentiation mature again to perform specific functions.
What is relative growth rate in quantitative comparisons?	Growth per unit time expressed on a common basis, such as per unit initial parameter.
What is secondary growth?	Increase in the girth of plant organs due to lateral meristems.
What is the effect of overharvesting marine fish populations?	It endangers the continued existence of commercially important species.
What is the meaning of the term auxin?	Auxin refers to indole-3-acetic acid (IAA) and related compounds with growth-regulating properties.
What is the present ongoing extinction event called?	The Sixth Extinction.
What is the Z value range for very large areas such as continents?	0.6 to 1.2.
What kind of relationship is obtained on a logarithmic scale in species-area relationships?	A straight-line relationship.
What moral responsibility do humans have regarding biodiversity?	To care for species and pass biological legacy in good order to future generations.
What percentage of animal species are insects?	About 70 per cent.
What percentage of bird species face the threat of extinction?	12 per cent.
What resumes when favourable conditions return after seed dormancy?	Metabolic activities and growth resume.
What role do auxins play in fruit and leaf drop?	They prevent early fruit and leaf drop but promote abscission of older mature leaves and fruits.
What role do cytokinins play in leaves?	They help produce new leaves and chloroplasts in leaves.
What type of comparison do biologists use to estimate total species on Earth?	Statistical comparison of temperate-tropical species richness.
What variation is seen in Rauwolfia vomitoria growing in different Himalayan ranges?	Variation in potency and concentration of the active chemical reserpine.

Question	Answer
Where was the World Summit on Sustainable Development held in 2002?	Johannesburg, South Africa.
Which activities are promoted by growth-promoting PGRs?	Cell division, cell enlargement, pattern formation, tropic growth, flowering, fruiting, and seed formation.
Which cells represent the meristematic phase of growth?	Constantly dividing cells at root and shoot apex.
Which factor is mainly blamed for biodiversity loss?	Human activities.
Which groups are included under plants in biodiversity records?	Algae, fungi, bryophytes, gymnosperms, and angiosperms.
Which hills of Rajasthan contain sacred groves?	Aravalli Hills.
Which illegally introduced fish threatens indigenous catfishes in Indian rivers?	African catfish (Clarias gariepinus).
Which method is used to propagate plants in ex situ conservation?	Tissue culture.
Which phase lies beyond the elongation phase?	Phase of maturation.
Which plant growth regulator is represented by GA3?	Gibberellic acid.
Which regions generally harbour more species: tropical or polar regions?	Tropical regions.
Which seeds show germination initiation by ethylene?	Peanut seeds.
Which stage ultimately follows maturation in plant development?	Senescence and death.
Which structures are responsible for unlimited growth in plants?	Meristems.
Which synthetic auxin is widely used as a herbicide?	2,4-D.
Which three levels of biodiversity are particularly important?	Genetic diversity, species diversity, and ecosystem diversity.
Why are estimates of prokaryotic species difficult to make?	Conventional taxonomic methods are not suitable for identifying microbial species.
Why do tropics have greater species richness according to the summary?	They had more evolutionary time, more constant environments, and greater solar energy availability.
Why is it difficult to estimate the total number of species on Earth?	Because many species are yet to be discovered and described.

Question	Answer
Why is rich biodiversity essential according to the text?	It is essential for ecosystem health and the survival of the human race.
Why is the Amazon rain forest being cut and cleared?	For cultivating soya beans and converting land into grasslands for beef cattle.
Write the formula for arithmetic growth.	$L_t = L_0 + rt$