

PU M Sc Ecology and Environmental Sciences

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Transgenics are known to be:-

- disease-inducive
- disease-resistant
- disease-promotive
- disease-prone

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Which one is the primary pollutant?

- CO
- PAN
- Smoke
- CO₂

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An automated system for the capture, storage, retrieval, analysis and display of spatial data is known as:-

- a GPS
- Landsat
- IRS
- a GIS

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Water that is good enough to drink is called:-

- Surface Water
- Potable Water
- Artesian Water
- Ground Water

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Which of these below is not a measure of indoor air quality?

- Smoke Pollution
- Dust Pollution
- Carbon Monoxide Pollution

- Heat

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What process follows, evaporation _____, rainfall?

- Infiltration
- Condensation
- Transpiration
- Absorption

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The most serious environmental effect posed by hazardous wastes is:-

- Contamination of groundwater
- Destruction of habitat
- Increased use of land for landfills
- Air pollution

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Which one of the hydrophytes contains root pockets?

- Eichhornia
- Azolla
- Najas
- Lemna

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The smallest unit in a raster data is:-

- Pixel
- Polygon
- Line
- Point

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Nano means:-

- one billionth
- one millionth
- one hundredth

- zero

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Barnacles growing on the back of whale is an example for:-

- mutualism
- commensalism
- parasitism
- amensalism

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Tree trunks of humid tropical forests are clothed with:-

- Hydrophytes
- Saprophytes
- Epiphytes
- Parasites

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The instrument which provides EMR of a specified wavelength is called:-

- Sensor
- Passive sensor
- Satellite
- Active sensor

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Atmospheric window is nothing but:-

- spectral region of the EMR which passes through the atmosphere without much attenuation
- spectral region of the EMR which is absorbed by the atmospheric particles
- spectral region of the EMR absorbed by the earth surface
- spectral region of the EMR reflected by the earth surface

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Which one is true?

- commensalism when none of the interacting individuals affect each other
- commensalism when the interaction is useful to both
- symbiosis when the interaction is useful to both

- symbiosis when neither affects the other

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Exotic plants exhibit:-

- slow growth and low-nutrient efficiency
- slow elongation and growth
- fast growth and high-nutrient efficiency
- none of these

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Which one of the wetland types has carpet of *Sphagnum* moss?

- Bogs
- Tundra
- Marshes
- Fen

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Type of coral reefs growing in Gulf of Mannar bioserve is:-

- Barrier reef
- Atoll
- Fringing reef
- Hard coral

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Pick up the correct statement from the following:-

- Spatial resolution of the imaging system decreases with decrease in platform height.
- Altitude of the satellite decides the spatial resolution.
- Scale of the aerial imaging depends on altitude of the airplane.
- Sensor's platforms are stationary.

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When solid becomes liquid at its melting point, the entropy:-

- Decreases
- Increases
- Zero

- Remains unaltered

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All bodies at temperatures above absolute zero degree emit electromagnetic radiations at different wavelengths, is known as:-

- Neuton's Law
- Planktan's Law
- Lambert's cosine Law
- Plank's Law

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Photochemical smog is generally formed:-

- in early hours of winters
- when intensity of solar radiations is very low
- when concentration of particulate matter is very low
- around mid-day in summer months

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The impact of sea level rise can be seen on the following examples, except:-

- Island systems
- Hydropower generation
- Tourism activities
- Coastal degradation

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Root nodules with N_2 fixers occur in:-

- cereals & cinnamons
- cassytha & mints
- cassava & sedges
- casuarinas & legumes

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The boundary between the saturated zone and the unsaturated zone is called the:-

- Porosity
- Aquiclude

- Aquifer
- Water Table

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Which of the following is LEAST likely to be an effect of global warming?

- Loss of fertile delta regions for agriculture
- Extinction of some species that have narrow temperature requirements
- Decreased rate of photosynthesis in vegetation
- Change in global patterns of precipitation

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Sodium is usually estimated by which of the following analytical technique:-

- Flame photometry
- Calorimetry
- Visible spectrophotometry
- High pressure liquid chromatography

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An active sensor depends on:-

- GIS
- Sun light
- GPS
- Radar

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The main chemical responsible for hematotoxicity is:-

- SO₂
- NO₂
- CO₂
- CO

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Which of these is not a symptom of ozone pollution on human health?

- Sore throat
- Amnesia

- Asthmatic attack
- Lung cancer

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The repetivity of a satellite decides:-

- radiometric resolution
- spatial resolution
- spectral resolution
- temporal resolution

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The World's coal resources is not exhaustively exploited, because:-

- Limited technology know-how in coal-fired energy generation
- It is not environmental friendly
- Limited coal deposits
- Operation costs are very expensive

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Which one of the following is not a wetland plant?

- Cyprus
- Scirpus
- Typha
- Ceratophyllum

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Ocean tide prevailing during full moon and new moon days, is called:-

- ocean tide
- neap tide
- lunar tide
- spring tide

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Which of the hydrophyte lacks stomata completely?

- Potamageton
- Ceratophyllum

- Lemna
- Pistia

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Tick the order of biomes indicating increasing rainfall.

- Grasslands, rainforests & deserts
- Cold deserts, hot deserts & grasslands
- Rainforests, savannahs & deciduous forests
- Deserts, savannahs, deciduous & evergreen forests

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Which of these instruments records wind direction?

- Anemometer
- Thermograph
- Rain Gauge
- Barograph

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The largest scale of the following is:-

- 1:500000
- 1:50000
- 1:100000
- 1:25000

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Sound is measured by the unit:-

- Decibel
- Calorie
- Bel
- Watt

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Most of the Earth's deserts are at approximately 30 latitude, north and south, because these latitudes are characterized by:-

- descending dry air currents

- predominantly low atmospheric pressure
- generally warm ocean currents
- slow-moving jet streams

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Which of these below best describe India's climate?

- Tropical Monsoon
- Tropical Wet and Dry
- Tropical Wet
- Tropical Dry

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The progressive series of changes that eventually produce a climax community on what was once a bare rocky island is an example of:-

- speciation
- evolution
- primary succession
- secondary succession

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Precise measurement of Earth features in Photogrammetry can be obtained from:-

- low-oblique photographs
- high-oblique photographs
- vertical aerial photographs
- only high-and low-oblique aerial photographs

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Which of the following is the best example of environmental remediation?

- The annual volume of sewage flowing into a stream is decreased by one half
- PCB-consuming bacteria are sprayed on an area that has soil contaminated with PCBs
- The height of a factory smokestack is increased
- A species of trout becomes extinct in a eutrophic lake

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Which of the following interactions will not promote co evolution?

- Commensalism
- Parasitism
- Interspecific competition
- Mutualism

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A country currently has a population of 100 million and an annual growth rate of 3.5 percent. If the growth rate remains constant, what will be the population of this country in 40 years?

- 150 million
- 300 million
- 400 million
- 200 million

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When both partners are affected negatively the nature of interaction is:-

- predation
- amensalism
- commensalism
- competition

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Psammophytes means:-

- plants growing in red soil
- plants growing in sandy soil
- plants growing in polar region
- plants growing in Taiga

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Floating & rooted macrophytes of pond ecosystems:-

- Halophila - Halodule & Eichhornia - Pistia
- Lemna - Wolfia & Elodia Vallisneria
- Enhalus - Blyxa & Lemna - Hydrocharis
- Utricularia - Oenothera & Wolfia - Eichhornia

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Which one of following is not a lentic water body?

- Pond
- River
- Lake
- Sea

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Which of these describes Malthusian theory on population growth?

- Decayed growth
- None applicable
- Linear growth
- Exponential growth

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Which of the processes below not associated with vegetation systems?

- Transpiration
- Photosynthesis
- Interception
- Leaching

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The equatorial crossing time of a sun-synchronous satellite is around:-

- 7.30 am to 8.30 am
- 10.15 pm to 11.15 pm
- 10.15 am to 11.15 am
- 7.30 pm to 8.30 pm

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Mycorrhiza represents:-

- parasitic association between a fungus and roots of plants
- symbiotic association between a fungus and roots of higher plants
- parasitic association between a fungus and an alga
- symbiotic association between a fungus and liverworts

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The largest mangrove area in India is:-

- Gulf of Mannar
- Sundarbans
- Palk Strait
- Gulf of Combay

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The hottest region of atmosphere is:-

- Troposphere
- Mesosphere
- Stratosphere
- Ionosphere

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Which type of electricity-generating power plant releases radioactive materials as well as toxic metals such as lead and arsenic under normal operating conditions?

- Coal-burning
- Nuclear
- Solar
- Hydroelectric

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The temperature of earth core is about:-

- 20,000°C
- 1000°C
- 500°C
- 5500°C

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Weed control is achieved by:-

- cytological, physiological & embryological means
- pathological, karyologocal & cytological means
- chronological, cytological & astrological means
- mechanical, chemical & biological means

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Which of these below is not an indicator of global warming?

- Glacial retreat
- Increase in Green House Gases (GHGs)
- Sea level rise
- Slope failures

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Dobson unit is a used to express concentration of:-

- Moisture
- Oxygen
- CO
- Ozone

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Biomagnification is:-

- A chemical process used to manufacture pesticides
- Increasing toxicity of animal products used in the food industry
- Increase in concentration of toxic substances at higher levels in food chain
- Large scale increase in CO₂ in the atmosphere

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Which of the following is most sensitive to outlier values?

- Median
- Mean
- Mode
- Kurtosis

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One of the following combination lists out current environmental issues:-

- Deforestation, transpiration, hibernation
- Ozone depletion, respiration and photosynthesis
- Sea level rising, pollination, nutrient cycling
- Deforestation, biodiversity loss, ozone depletion and population increase

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Endosulfan is reported to cause:-

- endo-purine reaction
- endemic rashes
- genetic disorders
- endometrial disorders

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Which of the following is more persistent in toxicity?

- Carbamate insecticide
- Fumigant insecticide
- Organophosphorus insecticide
- Organochlorine insecticide

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Viruses have:-

- proteins and DNA
- proteins and RNA
- only proteins
- proteins and DNA or RNA

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Cell immobilization technique is facilitated using:-

- Sodium alginate
- Sodium chloride
- Potassium permanganate
- Calcium carbide

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The following are reported to emit Electro Magnetic Radiation:-

- Cellphone towers
- High altitude towers
- Water reservoirs
- Bromine water

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Name of the gas that caused disaster in Bhopal is:-

- PAN
- Methyl isocyanate
- Acetylcholine
- Butyl alcohol

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Which of the following is an arithmetic progression?

- 1,11,111,1111
- 1,2,4,8
- 1,2,3,4
- 1,1,2,3,5

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Photosynthesis is energised by:-

- red part of sunlight
- violet-blue part of sunlight
- green part of sunlight
- UV radiation in sunlight

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When you take a loan on compound interest the amount payable:-

- will increase quartically with time
- will increase quadratically with time
- will increase linearly with time
- will increase exponentially with time

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Who is related to 'Use and Disuse theory' of evolution?

- T.H.Morgan
- Charles Darwin
- Mendal
- De Vris

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Which one of the places is likely to be effected by Chemical weathering?

- Tibetan Plateau
- Siwaliks
- Western Ghats
- Thar Desert

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The African elephant is given binomial name of *Loxodonta africana*. The Asian elephant is given the name *Elephas maximus*. They belong to:-

- the same genus but different family
- the same family but different genus
- different genus and family
- the same genus and family

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Which of the following is not a micro-parasite?

- Helminth
- Virus
- Bacteria
- Mycoplasma

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Human genome contains approximately (order of magnitude wise):-

- 20000 active genes
- 2 million active genes
- 2000 active genes
- 200000 active genes

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Evergreen forests are made up of trees like:-

- mango
- coconut
- teak
- oak

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The Water Act amendment was made in the year:-

- 2001
- 1999
- 1988
- 2014

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Which of these Biosphere Reserves was established in India?

- Palawan Biosphere Reserve
- Woolong Biosphere Reserve
- Nilgiri Biosphere Reserve
- Mount Chatkal Biosphere Reserve

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What is the measure of a species density?

- All individuals of a species in unit area
- All species in unit area
- Relative abundance of species
- Abundance of individuals

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Meiosis is a process of cell division that results in the production of:-

- Four haploid cells
- Two diploid cells
- Four diploid cells
- None of the above

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The enzyme that breaks DNA into segments:-

- Ligase
- Polymerase
- Amylase
- Endonuclease

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How old is the earth?

- Over 4 billion years
- The earth always existed
- 10,000 years
- 1 million years

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The Hardy-Weinberg law is the basis for which subject?

- Niche theory
- Species-area relationship
- Mendelian genetics
- Population genetics

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Which of the following does not occur within mitochondria?

- Krebs cycle
- Glycolysis
- Electron transport system
- ATP synthesis

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Who wrote the 'Origin of Species'?

- Charles Darwin
- Alexander Humbolt
- John Maynard Smith
- Charles Lyell

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The excretory organs in silkworms are:-

- Book lungs
- Malpighian tubules
- Trachea
- None

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T-lymphocytes are formed in:-

- Spleen
- Yolk
- Bone marrow
- Liver

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Balanced sets of chromosomes are seen in:-

- Aneupoids
- Allopolyploids
- Euploid
- Auto polyploids

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Which of these Phyla in the animal kingdom have the largest number of species?

- Cnidaria
- Arthropoda
- Bacteria
- Chordata

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Hormone for falling of leaf in plants:-

- Ethylene
- Auxins
- AB Acid
- Gibberellin

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Which is the largest mammal?

- African Elephant
- Dugong
- Blue Whale
- Giraffe

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Cell organelle that aids in photorespiration:-

- None
- Golgi bodies
- Mitochondria
- Peroxisomes

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One BYTE can store unsigned integer values from:-

- 0-255
- 0-127
- 1-256
- 1-128

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In a normal year Tamil Nadu is likely to receive approximately:-

- 2500 mm of rain
- 1500 mm of rain
- 1000 mm of rain
- 750 mm of rain

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High photosynthetic activity is seen in:-

- Fern
- Algae
- Bryophytes
- Angiosperms

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Which of the following play important role in protein synthesis?

- E.R
- Vacuoles
- Ribosomes
- Mitochondria

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The value of e - the base of natural logarithms - is best approximated by:-

- 2.718
- 1.414
- 1.618
- 3.142