

# DU MSc Environmental Studies

Topic:- ES MSC

**1) Which of the following layers of the atmosphere is least studied?[Question ID = 8683]**

1. Thermosphere [Option ID = 34729]
2. Mesosphere [Option ID = 34730]
3. Troposphere [Option ID = 34731]
4. Stratosphere [Option ID = 34732]

**2) Which of the following range of wavelengths in the electromagnetic spectrum represents an atmospheric window? [Question ID = 8684]**

1. Between 8 and 12 nm [Option ID = 34733]
2. Between 8 and 12 pm [Option ID = 34734]
3. Between 8 and 12  $\mu\text{m}$  [Option ID = 34735]
4. Between 8 and 12 mm [Option ID = 34736]

**3) In a hypothetical human population of 10,000 in which there are 200 births per year and 100 deaths per year, what would be the growth rate?[Question ID = 8685]**

1. 10% [Option ID = 34737]
2. 1% [Option ID = 34738]
3. 0.1% [Option ID = 34739]
4. 0.01% [Option ID = 34740]

**4) What is the value of 80 °C on the Fahrenheit scale?[Question ID = 8686]**

1. 180 °F [Option ID = 34741]
2. 178 °F [Option ID = 34742]
3. 176 °F [Option ID = 34743]
4. 190 °F [Option ID = 34744]

**5) Which of following concepts explains that the hotter objects radiate more total energy per unit area than do colder objects? [Question ID = 8687]**

1. Wein's displacement law [Option ID = 34745]
2. Stefan-Boltzmann law [Option ID = 34746]
3. Faraday law [Option ID = 34747]
4. Zeroth Law of Thermodynamics [Option ID = 34748]

**6) Identify the incorrect statement related to entropy in natural processes from the following:**

**[Question ID = 8688]**

1. Entropy is continuously increasing in the universe in all natural processes  
[Option ID = 34749]
2. Entropy is continuously decreasing in the universe in all natural processes  
[Option ID = 34750]
3. Entropy in the universe does not change in the natural processes  
[Option ID = 34751]
4. Entropy has nothing to do with any natural process in the universe  
[Option ID = 34752]

**7) Which of the following processes explains absorption of ammonium/nitrate by plant roots followed by incorporation of its nitrogen into plant proteins and nucleic acids? [Question ID = 8689]**

1. Nitrification [Option ID = 34753]
2. Ammonification [Option ID = 34754]
3. Assimilation [Option ID = 34755]
4. Denitrification [Option ID = 34756]

**8) In which of the following years, the Indian government formulated the EIA framework and issued an EIA notification for the first time?[Question ID = 8690]**

1. 1970 [Option ID = 34757]
2. 1994 [Option ID = 34758]
3. 2006 [Option ID = 34759]
4. 2020 [Option ID = 34760]

**9) The Organization that has been set up by the Indian Government to make decisions regarding the validity of GM research and the safety of introducing GM-organisms for public services. [Question ID = 8691]**

1. OAGEBA [Option ID = 34761]
2. APHIS [Option ID = 34762]
3. GEAC [Option ID = 34763]



4. GTRC [Option ID = 34764]

**10) What leads to acute toxicity in living organisms?[Question ID = 8692]**

1. Exposure to a high concentration of a toxicant for a short time [Option ID = 34765]
2. Exposure to a low concentration of a toxicant for a long time [Option ID = 34766]
3. Exposure to a very low concentration of a toxicant for a very short time [Option ID = 34767]
4. Exposure to a low concentration of a toxicant for a short time [Option ID = 34768]

**11) Which of the following is an early noticeable impact of inbreeding depression in plants?[Question ID = 8693]**

1. Reduced fertility and productivity [Option ID = 34769]
2. High multiplication rate [Option ID = 34770]
3. Hybrid vigour [Option ID = 34771]
4. Suppression of phytopathogens [Option ID = 34772]

**12) Which of the following factors serve as the two most important criteria to characterize/categorize biomes?[Question ID = 8694]**

1. Temperature and precipitation [Option ID = 34773]
2. Grazing and Phosphorus [Option ID = 34774]
3. Grazing and Carbon [Option ID = 34775]
4. Fire and pH [Option ID = 34776]

**13) Which of the following fates of inorganic toxicants cannot be expected after the interaction of inorganic toxicants with either plants or microbes? [Question ID = 8695]**

1. Volatilization [Option ID = 34777]
2. Transformation [Option ID = 34778]
3. Sequestration [Option ID = 34779]
4. Degradation [Option ID = 34780]

**14) What would be the molar (M) concentration of ammonia (NH<sub>3</sub>), in the resulting solution when exactly 34.0 g of ammonia was dissolved in water and the solution was made up to a volume of exactly 0.5 L?[Question ID = 8696]**

1. 1.0 mol/L [Option ID = 34781]
2. 2.0 mol/L [Option ID = 34782]
3. 3.0 mol/L [Option ID = 34783]
4. 4.0 mol/L [Option ID = 34784]

**15) The maximum population that can be sustained by an ecosystem is: [Question ID = 8697]**

1. Population stabilization [Option ID = 34785]
2. Population density [Option ID = 34786]
3. Carrying capacity [Option ID = 34787]
4. Population crash [Option ID = 34788]

**16) The decrease in temperature of  $-6.5^{\circ}\text{C}/\text{km}$  with altitude in the troposphere is referred to as:[Question ID = 8698]**

1. Temperature Inversion [Option ID = 34789]
2. Normal environmental lapse rate [Option ID = 34790]
3. Cooling effect [Option ID = 34791]
4. Heating effect [Option ID = 34792]

**17) The wetlands play the most vital roles in:**

- A. Flood control
- B. Water filtration
- C. Pollutants removal
- D. Gold accumulation

Choose the *correct* answer from the options given below:

**[Question ID = 8699]**

1. A, D and C only  
[Option ID = 34793]
2. A, D and B only  
[Option ID = 34794]
3. A, B and C only  
[Option ID = 34795]
4. B, C and D only  
[Option ID = 34796]

**18) At which of the following temperature, the incineration of organic wastes is usually carried out?[Question ID = 8700]**

1. Below  $800^{\circ}\text{C}$  [Option ID = 34797]
2. Above  $800^{\circ}\text{C}$  [Option ID = 34798]
3. Below  $400^{\circ}\text{C}$  [Option ID = 34799]
4. Above  $2600^{\circ}\text{C}$  [Option ID = 34800]

19) What is the minimum thickness of 'carrying bags' is recommended according to Recycled Plastics (Manufacture and Usage) Rules 1999? [Question ID = 8701]

1. 10 microns [Option ID = 34801]
2. 20 microns [Option ID = 34802]
3. 30 microns [Option ID = 34803]
4. 50 microns [Option ID = 34804]

20) The PVC toys are considered as a direct source of which of the following toxic chemicals harmful to the children: [Question ID = 8702]

1. Sodium Alginate [Option ID = 34805]
2. Black Carbon [Option ID = 34806]
3. Phthalates [Option ID = 34807]
4. Chlorine [Option ID = 34808]

21) Arrange the following activities representing the correct sequence of the health risk assessment process.

- A. Hazard identification
- B. Exposure assessment
- C. Risk characterization
- D. Dose-response assessment

Choose the *correct* answer from the options given below

[Question ID = 8703]

1. A, B, C, D  
[Option ID = 34809]
2. A, B, D, C  
[Option ID = 34810]
3. B, A, C, D  
[Option ID = 34811]
4. A, D, B, C  
[Option ID = 34812]

22) Which of following is the correct sequence of soil horizon in the soils associated with forest vegetation with high rainfall, starting from top to bottom? [Question ID = 8704]

1. O, A, B, C, R, E [Option ID = 34813]
2. O, A, E, B, C, R [Option ID = 34814]
3. A, B, C, E, O, R [Option ID = 34815]
4. A, B, C, O, R, E [Option ID = 34816]

23) Arrange the following processes in the correct sequence of their occurrence during anaerobic digestion, from early to later.

- A. Hydrolysis
- B. Acetogenesis
- C. Acidogenesis
- D. Methanogenesis

Choose the *correct* answer from the options given below

[Question ID = 8705]

1. A, B, C, D  
[Option ID = 34817]
2. D, C, B, A  
[Option ID = 34818]
3. A, C, B, D  
[Option ID = 34819]
4. A, D, B, C  
[Option ID = 34820]

24) Arrange the following atmospheric motions in the correct sequence, from macroscale to microscale.

- A. Tornadoes
- B. Hurricanes
- C. Wind gusts
- D. Land/sea breeze



Choose the *correct* answer from the options given below

[Question ID = 8706]

1.  $A > B > C > D$

[Option ID = 34821]

2.  $B > D > A > C$

[Option ID = 34822]

3.  $C > A > D > B$

[Option ID = 34823]

4.  $B > A > C > D$

[Option ID = 34824]

25) Arrange the following treatments in the correct sequence of steps of wastewater treatment, from early to later.

A. Removal of suspended and floating particles from wastewater by mechanical processes.

B. Reduction in biochemical oxygen demand of water.

C. Reduction of phosphorus and nitrogen, and other nutrients.

D. Biological decomposition of suspended organic material.

E. Generation of sludge consisting of the solids.

Choose the *correct* answer from the options given below

[Question ID = 8707]

1. A, B, C, D, E

[Option ID = 34825]

2. A, C, D, E, B

[Option ID = 34826]

3. A, D, E, C, B

[Option ID = 34827]

4. A, D, E, B, C

[Option ID = 34828]

26) Arrange the following regions of the world in decreasing order of people with malnutrition.

A. Asia and South Pacific

B. Latin America and Caribbean

C. Sub-Saharan Africa

D. North America and Europe

Choose the *correct* answer from the options given below

[Question ID = 8708]

1.  $A > B > C > D$

[Option ID = 34829]

2.  $B > A > D > C$

[Option ID = 34830]

3.  $A > C > B > D$

[Option ID = 34831]

4.  $C > A > B > D$

[Option ID = 34832]

27) Which of the following is the correct order of increasing global warming potential of gases?

[Question ID = 8709]

1.  $\text{CH}_4 < \text{CO}_2 < \text{N}_2\text{O} < \text{SF}_6$

[Option ID = 34833]

2.  $\text{CO}_2 < \text{CH}_4 < \text{N}_2\text{O} < \text{SF}_6$

[Option ID = 34834]

3.  $\text{N}_2\text{O} < \text{SF}_6 < \text{CH}_4 < \text{CO}_2$

[Option ID = 34835]

4.  $\text{SF}_6 < \text{N}_2\text{O} < \text{CO}_2 < \text{CH}_4$

[Option ID = 34836]

28) Which of the following factors lead to high species richness in a community?

A. Availability of many potential ecological niches

- B. Area is at the margins of adjacent communities
- C. The community is isolated and severely stressed
- D. One species does not dominate others
- E. Communities have a long geologic history

Choose the *correct* answer from the options given below:

[Question ID = 8710]

1. A, B, C and D

[Option ID = 34837]

2. B, C, D and E

[Option ID = 34838]

3. A, C, D and E

[Option ID = 34839]

4. A, B, D and E

[Option ID = 34840]

29) Which of the following actions/processes satisfy the first law of thermodynamic?

- A. During photosynthesis radiant energy of the Sun is transformed into chemical energy of carbohydrates
- B. When string of a bow is released potential energy of bow is converted into kinetic energy of arrow
- C. When a rabbit eats carrot and hops in the garden, chemical energy of bonds of food molecules is transformed into kinetic energy of rabbit
- D. In our cells, energy use for metabolism is about 40% efficient

Choose the *correct* answer from the options given below:

[Question ID = 8711]

1. A, B and C only

[Option ID = 34841]

2. B, C and D only

[Option ID = 34842]

3. A, C and D only

[Option ID = 34843]

4. A, B and D only

[Option ID = 34844]

30) Which of the following statements is correct regarding domestication of a plant species?

- A. Reduction in yield
- B. Lowering of genetic diversity than the wild relatives
- C. Selection of most desirable trait
- D. Increasing of genetic diversity than the wild relatives

Choose the *correct* answer from the options given below:

[Question ID = 8712]

1. A and B only

[Option ID = 34845]

2. B and C only

[Option ID = 34846]

3. B and D only

[Option ID = 34847]

4. C and D only

[Option ID = 34848]

31) Which of the following materials are referred as synfuels?

- A. Coal
- B. Liquefied coal
- C. Natural gas
- D. Coal gas

Choose the *correct* answer from the options given below:

[Question ID = 8713]



1. A and C only  
[Option ID = 34849]
2. B and C only  
[Option ID = 34850]
3. A and D only  
[Option ID = 34851]
4. B and D only  
[Option ID = 34852]

32) Which of the following statements are correct related to the Bioprospecting?

- A. It helps in estimating gross primary productivity of ecosystems
- B. It focuses on analyzing genes for developing useful products
- C. It focuses on analyzing whole organisms for developing useful products
- D. It relies on analyzing natural compounds for developing useful products

Choose the *correct* answer from the options given below:

[Question ID = 8714]

1. A, B and C only  
[Option ID = 34853]
2. B, C, and D only  
[Option ID = 34854]
3. A, B, and D only  
[Option ID = 34855]
4. A, C, and D only  
[Option ID = 34856]

33) Gasohol, used as a fuel in the existing internal combustion engine, is a mixture of gasoline with:[Question ID = 8715]

1. Methane [Option ID = 34857]
2. Ethylene [Option ID = 34858]
3. Ethanol [Option ID = 34859]
4. Kerosene [Option ID = 34860]

34) Which of the following processes is most widely used for production of gamma rays?[Question ID = 8716]

1. Electron transition processes [Option ID = 34861]
2. Electromagnetically interaction of free moving electrons with nuclei [Option ID = 34862]
3. Radioactive decay of the nucleus [Option ID = 34863]
4. Settling process of an excited electron [Option ID = 34864]

35) Which of the following outcomes can be associated with high biodiversity in an ecosystem?

- A. Greater stability of the ecosystem
- B. Lowering of the success rate of invasive plant species
- C. Greater number of functional ecosystem processes
- D. Collapsing of ecosystem due to high competition

Choose the *correct* answer from the options given below:

[Question ID = 8717]

1. A, B and C only  
[Option ID = 34865]
2. B, C and D only  
[Option ID = 34866]
3. A, B and D only  
[Option ID = 34867]
4. A, C and D only  
[Option ID = 34868]

36) Which of the following turtles is known for its nesting sites in Galathea Bay National Park in Andaman and Nicobar Islands?[Question ID = 8718]

1. Green Sea Turtle [Option ID = 34869]
2. Olive Ridley Sea Turtle [Option ID = 34870]
3. Leatherback sea Turtle [Option ID = 34871]
4. Hawksbill Sea Turtle [Option ID = 34872]

37) As per one of the most reliable estimates, the brain size of Neanderthal man was approximately: [Option ID = 8719]



1. 650-800 cc [Option ID = 34873]
2. 900 cc [Option ID = 34874]
3. 1400 cc [Option ID = 34875]
4. 4000 cc [Option ID = 34876]

**38) Which of the following types of diversity indices represents the true measure of the diversity of species across larger landscape levels?[Question ID = 8720]**

1. Alpha diversity [Option ID = 34877]
2. Gamma diversity [Option ID = 34878]
3. Beta diversity [Option ID = 34879]
4. Zeta diversity [Option ID = 34880]

**39) Which international organization compiles an annual 'red list' of threatened species?[Question ID = 8721]**

1. IPCC [Option ID = 34881]
2. IUCN [Option ID = 34882]
3. WWF-N [Option ID = 34883]
4. UNEP [Option ID = 34884]

**40) Which of the following represents geological formations that hold water?[Question ID = 8722]**

1. Karst [Option ID = 34885]
2. Aquifer [Option ID = 34886]
3. Stratum [Option ID = 34887]
4. Sinkholes [Option ID = 34888]

**41) Which of the following statements correctly explain the biomarkers?[Question ID = 8723]**

1. Any biological response to an environmental chemical that expresses at below individual level [Option ID = 34889]
2. Any biological responses to an environmental chemical visible at higher than the population level [Option ID = 34890]
3. Any biological response that has high ecological relevance to demonstrate the health of the ecosystem [Option ID = 34891]
4. Any biological response that is useful to analyze variations at the community level [Option ID = 34892]

**42) As seawater evaporates, the soluble salts start precipitating in the order, from first to the last[Question ID = 8724]**

1. halite, carbonates, calcium sulfate [Option ID = 34893]
2. calcium sulfate, halite, carbonates [Option ID = 34894]
3. iron oxide, quartz, peat [Option ID = 34895]
4. carbonates, calcium sulfate, halite [Option ID = 34896]

**43) The carbon to nitrogen ratio for composting should ideally be in between[Question ID = 8725]**

1. 20 to 25 : 1 [Option ID = 34897]
2. 25 to 50 : 1 [Option ID = 34898]
3. 6 to 10 : 1 [Option ID = 34899]
4. 15 to 25:1 [Option ID = 34900]

**44) Based on the processes involved, which of the following is considered as an endogenic hazard?[Question ID = 8726]**

1. Floods [Option ID = 34901]
2. Volcanism [Option ID = 34902]
3. Snow Avalanche [Option ID = 34903]
4. Desertification [Option ID = 34904]

**45) In MC Mehta vs Union of India and Others (Taj Trapezium case), (1997) 2 SCC 353: AIR 1997 SC 734, which of the following principles the Supreme Court applied for judgement?[Question ID = 8727]**

1. Polluter pays principle [Option ID = 34905]
2. Common but differentiated responsibility [Option ID = 34906]
3. Precautionary principle [Option ID = 34907]
4. Willingness to pay [Option ID = 34908]

**46) In accordance with the notification released in 2016, since when the Indian government recommended skipping Bharat Stage V and directly implementing Bharat Stage VI standards?[Question ID = 8728]**

1. 2019 [Option ID = 34909]
2. 2020 [Option ID = 34910]
3. 2021 [Option ID = 34911]
4. 2022 [Option ID = 34912]

**47) Based on composition, which of the following igneous rocks contain highest amount of silica?[Question ID = 8729]**

1. Mafic [Option ID = 34913]
2. Ultra-Mafic [Option ID = 34914]
3. Andesitic [Option ID = 34915]
4. Felsic [Option ID = 34916]

**48) Along which of the following, the two plates move horizontally past each other?[Question ID = 8730]**

1. Convergent boundaries [Option ID = 34917]
2. Divergent boundaries [Option ID = 34918]
3. Transform fault boundaries [Option ID = 34919]
4. Hot spots [Option ID = 34920]



49) Sendai Framework adopted by the United Nations focuses on recommending about:[Question ID = 8731]

1. Biodiversity conservation [Option ID = 34921]
2. Disaster management [Option ID = 34922]
3. Pollution prevention [Option ID = 34923]
4. Water conservation [Option ID = 34924]

50) Which of these is not a geological hazard?[Question ID = 8732]

1. Earthquake [Option ID = 34925]
2. Tsunami [Option ID = 34926]
3. Slope failure [Option ID = 34927]
4. Thunderstorm [Option ID = 34928]

51) What is the Earth's surface average temperature ?[Question ID = 8733]

1. 255.15 Kelvin [Option ID = 34929]
2. 288.15 Kelvin [Option ID = 34930]
3. 298.15 Kelvin [Option ID = 34931]
4. 273.15 Kelvin [Option ID = 34932]

52) Development of a community on the bare rock in a typical sequence comprising of:

lichens → mosses → grasses → shrubs → trees, is known as:

[Question ID = 8734]

1. Primary succession  
[Option ID = 34933]
2. Secondary succession  
[Option ID = 34934]
3. Autogenic succession  
[Option ID = 34935]
4. Heterotrophic succession  
[Option ID = 34936]

53) Which of the following categories of radioactive waste is produced in the Hospitals?[Question ID = 8735]

1. High level waste [Option ID = 34937]
2. Very high-level waste [Option ID = 34938]
3. Very low-level waste [Option ID = 34939]
4. Intermediate level waste [Option ID = 34940]

54) Which of the following health effects in children is significantly correlated with Pb exposure?[Question ID = 8736]

1. Malnutrition [Option ID = 34941]
2. Tuberculosis [Option ID = 34942]
3. Cognitive impairment [Option ID = 34943]
4. Polio [Option ID = 34944]

55) Where is Maputland - Pondoland - Albany biodiversity hotspot (MPA) located?[Question ID = 8737]

1. Africa [Option ID = 34945]
2. South America [Option ID = 34946]
3. North America [Option ID = 34947]
4. Europe [Option ID = 34948]

56) Given below are two statements

Statement I: Herbicides with glyphosate are popular due to its selective action and its low toxicity to amphibians.

Statement II: Glyphosate herbicides have been widely used on genetically engineered corn.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8738]

1. Both Statement I and Statement II are correct  
[Option ID = 34949]
2. Both Statement I and Statement II are incorrect  
[Option ID = 34950]
3. Statement I is correct but Statement II is incorrect  
[Option ID = 34951]
4. Statement I is incorrect but Statement II is correct  
[Option ID = 34952]

57) Given below are two statements

Statement I: Resistance is the ability of a community to recover quickly to its former state following an environmental disturbance.



**Statement II: Resilience is the ability of a community to withstand environmental disturbances.**

**In light of the above statements, choose the *most appropriate* answer from the options given below**

**[Question ID = 8739]**

1. Both Statement I and Statement II are correct  
[Option ID = 34953]
2. Both Statement I and Statement II are incorrect  
[Option ID = 34954]
3. Statement I is correct but Statement II is incorrect  
[Option ID = 34955]
4. Statement I is incorrect but Statement II is correct  
[Option ID = 34956]

**58) Given below are two statements**

**Statement I: Archaea is a kingdom/domain of life comprising of single-celled microorganisms lacking a cell nucleus, but sharing some enzymes with eukaryotes.**

**Statement II: Eukarya is kingdom/domain of life comprising of organisms whose cells lack a nucleus but contain other membrane-bound organelles.**

**In light of the above statements, choose the *most appropriate* answer from the options given below**

**[Question ID = 8740]**

1. Both Statement I and Statement II are correct  
[Option ID = 34957]
2. Both Statement I and Statement II are incorrect  
[Option ID = 34958]
3. Statement I is correct but Statement II is incorrect  
[Option ID = 34959]
4. Statement I is incorrect but Statement II is correct  
[Option ID = 34960]

**59) Given below are two statements**

**Statement I: Parasite is an organism growing in or on another organism and usually causes harm to it.**

**Statement II: Epiphyte is a plant growing on the surface of another plant and usually causes harm to it.**

**In light of the above statements, choose the *most appropriate* answer from the options given below**

**[Question ID = 8741]**

1. Both Statement I and Statement II are correct  
[Option ID = 34961]
2. Both Statement I and Statement II are incorrect  
[Option ID = 34962]
3. Statement I is correct but Statement II is incorrect  
[Option ID = 34963]
4. Statement I is incorrect but Statement II is correct  
[Option ID = 34964]

**60) Given below are two statements**

**Statement I: Species that determine the character of the entire habitat by their presence or absence are referred to as keystone species.**

**Statement II: Some species lack the social stimulation to breed and their populations may collapse, even to extinction should the numbers fall below a certain threshold, this phenomenon is known as Allee effect.**

**In light of the above statements, choose the *correct* answer from the options given below**

**[Question ID = 8742]**

1. Both Statement I and Statement II are true  
[Option ID = 34965]
2. Both Statement I and Statement II are false  
[Option ID = 34966]
3. Statement I is true but Statement II is false  
[Option ID = 34967]
4. Statement I is false but Statement II is true  
[Option ID = 34968]

61) Given below are two statements

Statement I: Deuterium and tritium are radioisotopes of hydrogen.

Statement II: Many isotopes are stable, but some are unstable; the unstable ones, called radioisotopes.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8743]

1. Both Statement I and Statement II are correct

[Option ID = 34969]

2. Both Statement I and Statement II are incorrect

[Option ID = 34970]

3. Statement I is correct but Statement II is incorrect

[Option ID = 34971]

4. Statement I is incorrect but Statement II is correct

[Option ID = 34972]

62) Match List I with List II

List I	List II
Author	Book
A. Paul Ehrlich	I. Ecology, Community and Lifestyle
B. Muhammad Yunus	II. Silent Spring
C. Arne Naess	III. A World of Three Zeros
D. Rachel Carson	IV. The Population Bomb

Choose the correct answer from the options given below:

[Question ID = 8744]

1. A - IV, B - III, C - I, D - II [Option ID = 34973]

2. A - IV, B - I, C - III, D - II [Option ID = 34974]

3. A - I, B - III, C - IV, D - II [Option ID = 34975]

4. A - I, B - II, C - III, D - IV [Option ID = 34976]

63) Match List I with List II

List I	List II
Types of Scattering	Example
A. Rayleigh scattering	I. Blue Sky
B. Mie scattering	II. Haze
C. Thomson scattering	III. Scattering of low intensity light by electron
D. Non-selective scattering	IV. Clouds appear white

Choose the correct answer from the options given below:

[Question ID = 8745]

1. A - I, B - II, C - III, D - IV [Option ID = 34977]

2. A - I, B - IV, C - III, D - II [Option ID = 34978]

3. A - IV, B - III, C - I, D - II [Option ID = 34979]

4. A - IV, B - II, C - III, D - I [Option ID = 34980]

64) Match List I with List II

List I	List II
Biodiversity	Spatial scales
A. Alpha	I. Macro-regional
B. Beta	II. Global taxonomical hierarchy
C. Delta	III. Comparison of diversity between ecosystems
D. Omega	IV. Species richness in a small, homogenous area

Choose the correct answer from the options given below:

[Question ID = 8746]

1. A - III, B - IV, C - II, D - I [Option ID = 34981]

2. A - I, B - IV, C - III, D - II [Option ID = 34982]

3. A - IV, B - III, C - I, D - II [Option ID = 34983]

4. A - IV, B - II, C - III, D - I [Option ID = 34984]

65) Match List I with List II

List I	List II
Drug/Active principle	Plant Source
A. Atropine	I. Pineapple
B. Taxol	II. Cotton
C. Gossypol	III. Pacific yew
D. Bromelain	IV. Belladonna

Choose the correct answer from the options given below:



[Question ID = 8747]

1. A -IV , B -III , C -II , D -I [Option ID = 34985]
2. A -III , B -II , C -I , D -IV [Option ID = 34986]
3. A -II , B -I , C -IV , D -III [Option ID = 34987]
4. A -I , B -IV , C -III , D -II [Option ID = 34988]

66) Match List I with List II

List I	List II
Radioactive Element	Half-Life
A. Uranium-238	I. 4510 million years
B. Carbon-14	II. $5730 \pm 30$ years
C. Potassium-40	III. 1300 million years
D. Samarium-147	IV. $2.5 \times 10^{11}$ years

Choose the correct answer from the options given below:

[Question ID = 8748]

1. A -I , B -II , C -III , D -IV

[Option ID = 34989]

2. A -II , B -I , C -IV , D -III

[Option ID = 34990]

3. A -III , B -II , C -I , D -IV

[Option ID = 34991]

4. A -IV , B -III , C -II , D -I

[Option ID = 34992]

67) Match List I with List II

List I	List II
Properties of Water	Effects and Significance
A. Higher heat capacity than any liquid other than ammonia	I. Stabilization of temperatures of organisms and geographical regions
B. Maximum density as a liquid	II. Controlling factor in physiology; governs drop and surface phenomenon
C. Higher surface tension than any other liquid	III. High solubility of ionic substances and their ionization in aqueous solution
D. Highest dielectric constant of any common liquid	IV. Ice floats

Choose the correct answer from the options given below:

[Question ID = 8749]

1. A -I , B -IV , C -II , D -III [Option ID = 34993]
2. A -II , B -IV , C -III , D -I [Option ID = 34994]
3. A -I , B -II , C -III , D -IV [Option ID = 34995]
4. A -II , B -I , C -IV , D -III [Option ID = 34996]

68) Match List I with List II

List I	List II
Atmospheric Particles	Description
A. Condensation aerosol	I. Particles formed by incomplete combustion of fuel
B. Dispersion aerosol	II. Liquid Particles
C. Mists	III. Formed by grinding of solids, atomization of liquids or dispersion of dusts
D. Smoke	IV. Formed by condensation of vapors or reactions of gases

Choose the correct answer from the options given below:

[Question ID = 8750]

1. A -I , B -II , C -III , D -IV [Option ID = 34997]
2. A -IV , B -III , C -II , D -I [Option ID = 34998]
3. A -I , B -III , C -II , D -IV [Option ID = 34999]
4. A -IV , B -II , C -III , D -I [Option ID = 35000]

69) Match List I with List II

List I	List II
Rock Type	Formation
A. Metamorphic rock	I. Formed from solid particles eroded from igneous rocks as a consequence of weathering
B. Chemical Sedimentary rocks	II. Formed from action of heat and pressure on sedimentary rock
C. Detrital rock	III. Contain residues of plant and animal remains
D. Organic Sedimentary rocks	IV. Produced by the precipitation or coagulation of dissolved or colloidal weathering products

Choose the correct answer from the options given below:

[Question ID = 8751]

1. A -III, B -IV, C -II, D -I [Option ID = 35001]
2. A -I, B -IV, C -III, D -II [Option ID = 35002]
3. A -II, B -IV, C -I, D -III [Option ID = 35003]
4. A -IV, B -II, C -III, D -I [Option ID = 35004]

**70) Match List I with List II**

List I	List II
Colour Codes	Biomedical waste categories
A. Black	I. Categories 1,2
B. Blue/White	II. Categories 3,6
C. Red	III. Categories 4, 7
D. Yellow	IV. Categories 5, 9

Choose the correct answer from the options given below:

**[Question ID = 8752]**

1. A -III, B -IV, C -II, D -I [Option ID = 35005]
2. A -II, B -IV, C -III, D -I [Option ID = 35006]
3. A -IV, B -III, C -II, D -I [Option ID = 35007]
4. A -IV, B -II, C -III, D -I [Option ID = 35008]

**71) In which of the following areas of research, the metagenomics holds tremendous potential?[Question ID = 8753]**

1. Quantifying metabolites [Option ID = 35009]
2. Quantifying RNA [Option ID = 35010]
3. Analyzing unculturable microbes [Option ID = 35011]
4. Estimating genome size [Option ID = 35012]

**72) What is the general pattern of distribution of biodiversity as we move from the equator to poles?[Question ID = 8754]**

1. Decreasing biodiversity [Option ID = 35013]
2. Increasing biodiversity [Option ID = 35014]
3. No changes in biodiversity [Option ID = 35015]
4. Random distribution of biodiversity [Option ID = 35016]

**73) Sigma factor is a component of[Question ID = 8755]**

1. DNA ligase [Option ID = 35017]
2. DNA polymerase [Option ID = 35018]
3. Endonuclease [Option ID = 35019]
4. RNA polymerase [Option ID = 35020]

**74) Which of the following elements does not form compounds in the gaseous phase and does not appreciably enter the atmosphere?[Question ID = 8756]**

1. Sulfur [Option ID = 35021]
2. Phosphorus [Option ID = 35022]
3. Oxygen [Option ID = 35023]
4. Nitrogen [Option ID = 35024]

**75) Which of the following methods, are examples of ex-situ conservation strategy?**

- A. Zoo
- B. Seed bank
- C. Gene bank
- D. Wildlife sanctuary

Choose the *correct* answer from the options given below:

**[Question ID = 8757]**

1. A, B and C only  
[Option ID = 35025]
2. B, C and D only  
[Option ID = 35026]
3. A, C and D only  
[Option ID = 35027]
4. A, B and D only  
[Option ID = 35028]

**76) Which one of the following microbes is widely used as a biopesticide?[Question ID = 8758]**

1. Bacillus thuringiensis [Option ID = 35029]
2. Agrobacterium tumefaciens [Option ID = 35030]
3. Escherichia Coli [Option ID = 35031]
4. Xanthomonas oryzae [Option ID = 35032]

**77) Which of the following statements is not true while characterizing the ecological niche of a species**





**[Question ID = 8759]**

1. It is the habitat that the species occupies

[Option ID = 35033]

2. It defines the food and nutrients that a species utilizes

[Option ID = 35034]

3. It takes into account the seasons and times that a species perform various activities

[Option ID = 35035]

4. It does not take into account the interactions of the species with other biotic and abiotic components of the ecosystem

[Option ID = 35036]

**78) Which of the following statements is not true about amphibians?**

**[Question ID = 8760]**

1. Some Amphibians adapted to live on land

[Option ID = 35037]

2. Amphibians are hot blooded

[Option ID = 35038]

3. Some Amphibians adapted to live in water

[Option ID = 35039]

4. Amphibians are cold blooded

[Option ID = 35040]

**79) Biological diversity consists of:[Question ID = 8761]**

1. Diversity of genes, species and ecosystems [Option ID = 35041]

2. Species richness [Option ID = 35042]

3. Genetic diversity [Option ID = 35043]

4. Diversity of ecosystems [Option ID = 35044]

**80) Which of the following statements most appropriately describes extinction?[Question ID = 8762]**

1. A species is facing threat which may cause it to become extinct within a short period [Option ID = 35045]

2. Population of species have declined to a point that it is facing a risk of extinction [Option ID = 35046]

3. A species is likely to become endangered unless the circumstances that are threatening its survival and reproduction improve [Option ID = 35047]

4. The death of last individual of a species [Option ID = 35048]

**81) What is the aim of restoration ecology?[Question ID = 8763]**

1. Converting any land in tropics into a lush green tropical rain forest [Option ID = 35049]

2. Returning a degraded environment to as close as its former native state [Option ID = 35050]

3. Establishing a forest in an area, which lacked forest earlier [Option ID = 35051]

4. Developing large scale estates for sustainable timber production [Option ID = 35052]

**82) A patch of forest with some herbaceous plants, shrubs, trees, insects, and birds represent:[Question ID = 8764]**

1. Community [Option ID = 35053]

2. Genus [Option ID = 35054]

3. Organ systems [Option ID = 35055]

4. Population [Option ID = 35056]

**83) What is the main goal of recognizing certain species as the flagship species?[Question ID = 8765]**

1. To captures the public's imagination [Option ID = 35057]

2. To develop symbol for the national flag [Option ID = 35058]

3. To promote biodiversity utilization [Option ID = 35059]

4. To assess genetic diversity in a community [Option ID = 35060]

**84) Which of the following most appropriately defines the Invasive species?[Question ID = 8766]**

1. Foreign species that spread rapidly in a new area where they are generally free of predators, parasites or resource limitations that may have controlled their populations in their native habitat [Option ID = 35061]

2. Native species that spread rapidly in a new area where they are generally more competitive with other species of the habitat [Option ID = 35062]

3. Foreign species that spread slowly in a new area and are well-known to increase the biodiversity, nutrient status, and dominance of other native species [Option ID = 35063]

4. Native species that spread slowly in a new area where they generally show co-existence with other native species while colonizing the habitat [Option ID = 35064]

**85) Which of the following is not a 'criteria air pollutant' as recognized by the EPA?**

**[Question ID = 8767]**

1. Surface Ozone

[Option ID = 35065]

2. Carbon Dioxide

[Option ID = 35066]

3. Nitrogen Dioxide



[Option ID = 35067]

4. Lead

[Option ID = 35068]

**86) Which of the following ecosystem services are considered as the supportive services?[Question ID = 8768]**

1. Soil formation, nutrient cycle, and primary productivity [Option ID = 35069]
2. Climate regulation and pathogen control [Option ID = 35070]
3. Groundwater recharge and climate regulation [Option ID = 35071]
4. Aesthetic and cultural diversity [Option ID = 35072]

**87) In the context of aerosols, what does the abbreviation CCN stands for?[Question ID = 8769]**

1. Cloud condensation nuclei [Option ID = 35073]
2. Cloud condensation number [Option ID = 35074]
3. Cloud counter nuclei [Option ID = 35075]
4. Cloud carbon number [Option ID = 35076]

**88) Which of the following gives a correct assemblage of environmental factors whose effects on a population change as population density changes?[Question ID = 8770]**

1. Predation, Disease, and Fire [Option ID = 35077]
2. Fire, Disease, and Competition [Option ID = 35078]
3. Fire, Hurricane, and Disease [Option ID = 35079]
4. Predation, Disease, and Competition [Option ID = 35080]

**89) Identify the incorrect statement**

**[Question ID = 8771]**

1. Mutations provide the genetic variability on which natural selection acts during evolutions

[Option ID = 35081]

2. The new traits arise as a result of mutations are always beneficial

[Option ID = 35082]

3. As a result of natural selection beneficial traits persist in a population

[Option ID = 35083]

4. Those traits disappear from populations which make an individual poorly suited to the environment

[Option ID = 35084]

**90) What could be most likely reason of a large bird with 10 feet wingspan getting endangered?[Question ID = 8772]**

1. Low reproductive rates [Option ID = 35085]
2. Specialized feeding habits [Option ID = 35086]
3. Need for specialized breeding areas [Option ID = 35087]
4. Reduced size of their wilderness habitats [Option ID = 35088]

**91) Which of the following is a true fruit botanically, i.e., formed by the ripening of ovary?[Question ID = 8773]**

1. Apple [Option ID = 35089]
2. Cashew [Option ID = 35090]
3. Peach [Option ID = 35091]
4. Tomato [Option ID = 35092]

**92) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R**

**Assertion A: Mangrove forests are among the world's most productive ecosystems in terms of biomass production.**

**Reason R: The mangrove trees have breathing roots that emerge from the mudbanks.**

**In light of the above statements, choose the *most appropriate* answer from the options given below**

**[Question ID = 8774]**

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35093]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35094]

3. A is correct but R is not correct

[Option ID = 35095]

4. A is not correct but R is correct

[Option ID = 35096]

**93) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R**

**Assertion A: Surface ocean currents have an important effect on climate.**

**Reason R: Gulf stream surface current flows southward along the east coast of United States.**

**In light of the above statements, choose the *most appropriate* answer from the options given below**



**[Question ID = 8775]**

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35097]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35098]

3. A is correct but R is not correct

[Option ID = 35099]

4. A is not correct but R is correct

[Option ID = 35100]

94) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** In a pond experiencing thermal pollution, a fish ventilates its gills more frequently to obtain enough oxygen.

**Reason R:** More oxygen dissolves in cold water than in warm water.

In light of the above statements, choose the *most appropriate* answer from the options given below

**[Question ID = 8776]**

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35101]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35102]

3. A is correct but R is not correct

[Option ID = 35103]

4. A is not correct but R is correct

[Option ID = 35104]

95) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** The air in urban areas is warmer than the air in the surrounding suburban and rural areas and is known as an urban heat island.

**Reason R:** Streets, rooftops, and parking lots in areas of high population density absorb solar radiation during the day and radiate heat into the atmosphere at night. Heat released by human activities such as fuel combustion is also highly concentrated in cities.

In light of the above statements, choose the *most appropriate* answer from the options given below

**[Question ID = 8777]**

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35105]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35106]

3. A is correct but R is not correct

[Option ID = 35107]

4. A is not correct but R is correct

[Option ID = 35108]

96) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** The challenge of environmental justice is to find and adopt equitable solutions that respect all groups of people, including those not yet born.

**Reason R:** Every citizen has right, regardless of age, race, gender, social class, or other factor, to adequate protection from environmental hazards.

In light of the above statements, choose the *most appropriate* answer from the options given below

**[Question ID = 8778]**

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35109]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35110]

3. A is correct but R is not correct

[Option ID = 35111]

4. A is not correct but R is correct

[Option ID = 35112]

97) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** Water is an excellent and a cheap solvent.



**Reason R:** The high specific heat of water is responsible for preventing large fluctuations in the surface temperature of the earth.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8779]

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35113]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35114]

3. A is correct but R is not correct

[Option ID = 35115]

4. A is not correct but R is correct

[Option ID = 35116]

98) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** Biochar is a fine-grained product of carbonization, which is obtained through the pyrolysis of biomass and biodegradable waste.

**Reason R:** Pyrolysis is a process that is carried out in the presence of oxygen.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8780]

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35117]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35118]

3. A is correct but R is not correct

[Option ID = 35119]

4. A is not correct but R is correct

[Option ID = 35120]

99) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** Chromium in its trivalent form is an essential micronutrient for many microorganisms, and relatively insoluble in water.

**Reason R:** The trivalent chromium is far more toxic than hexavalent chromium.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8781]

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35121]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35122]

3. A is correct but R is not correct

[Option ID = 35123]

4. A is not correct but R is correct

[Option ID = 35124]

100) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

**Assertion A:** Among the As species, As(III) is highly toxic.

**Reason R:** As(III) exerts its toxicity by attacking -SH groups of enzymes and thereby inhibiting their actions.

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 8782]

1. Both A and R are correct and R is the correct explanation of A

[Option ID = 35125]

2. Both A and R are correct but R is NOT the correct explanation of A

[Option ID = 35126]

3. A is correct but R is not correct

[Option ID = 35127]

4. A is not correct but R is correct

[Option ID = 35128]





