



## CSE PRELIMS 2020

### ENVIRONMENT -XI

#### EVERYDAY 25 QUESTIONS WITH EXPLANATION

1. Consider the following statements

1. The levels of thermal tolerance of different species determine to a large extent their geographical distribution.
2. Night blooming flowers generally white to attract the pollinating agents.

Which of the statements given above is/are CORRECT?

- a) 1 only                      b) 2 only  
c) Both 1 and 2              d) Neither 1 nor 2

**Answer : (c)**

**Night blooming flowers**, like **night blooming cereus**, are **white** and reflect the moonlight, making them glow and **attract** potential **pollinators**. The **night-bloomers generally** emit a strong sent that **attracts** the moths and bats that feed on their nectar.

A few organisms can tolerate and thrive in a wide range of temperature (they are called Eurythermal) but a vast majority of them are restricted to a narrow range of temperature (Such organism is called stenothermal).

2. With reference to Desert plant's adaptation, consider the following statements

1. Desert plants have thin cuticle on their leaf surfaces.
2. They have their stomata arranged in deep sunken (pits).
3. They enable their stomata to remain closed during day time.

Which of the statements given above is/are INCORRECT?

- a) 1 and 3 only              b) 1 only  
c) 2 and 3 only              d) All are correct.

**Answer : (d)**

Many desert plants have a thick cuticle on their surface and have their stomata arranged in deep pits to minimize water loss through transpiration. They also have special photosynthetic pathway (CAM) that enables their stomata to remain closed during daytime. Some desert plants like Opuntia, have no leaves- they are reduced to spine and the photosynthetic functions is taken over by flattened stems.

3. Which among the following statements given below is INCORRECT?
- Mammals from colder climates generally have shorter ears and limbs.
  - Acclimatization of body in high altitude areas lead to development of altitude sickness.
  - Tribes living in higher altitude have a higher red blood cell count than people in the plains.
  - Desert lizards lack the physiological ability that mammals have to deal with high temperatures of their habitat.

**Answer : (b)**

The human **body** can adapt to **high altitude** through both immediate and long-term **acclimatization**. **At high altitude**, in the short term, the lack of oxygen is sensed by the carotid **bodies**, which causes an increase in the breathing depth and rate (hyperpnea).

4. Consider the following statements
- Group of single individuals of any species, sharing similar resources and potentially interbreeding is called as 'community'.
  - Ozone layer is found in the Stratosphere of the atmosphere.

Which of the statements given above is/are CORRECT?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Answer : (b)**

Population can be defined as *a group of individual living in a well defined geographical area, share or compete for similar resources, potentially interbreed.*

The ozone layer is mainly found in the lower portion of the **stratosphere** from approximately 20 to 30 kilometers above **earth**, though the thickness varies seasonally and geographically.

5. Consider the following statements
- Greenhouse gases absorb shortwave radiations from the earth and emit it again towards the earth.
  - Depletion of ozone layer has potential to cause snow-blindness in humans.

Which of the statements given above is/are INCORRECT?

- 1 only
- 2 only

- c) Both 1 and 2    d) Neither 1 nor 2

**Answer: (a)**

**Greenhouse gases** in the atmosphere (such as water vapor and carbon dioxide) **absorb** most of the **Earth's emitted** long-wave infrared **radiation**, which heats the lower atmosphere.

**Strong UV radiation can cause inflammation of the cornea leading to photokeratosis or "snow blindness". Symptoms of this kind of an infection include the eyes becoming reddish, a sensitivity to light, enhanced excretion of tears, the feeling of having some dirt in one's eye, and pain.**

**6. Consider the following gases**

1. Methane                      2. Ammonia
3. Oxygen                        4. Sulphides

**Which of the above gases is/are emitted from the Landfills?**

- a) 1 and 2 only    b) 1, 2 and 4 only  
c) 1 and 4 only    d) 1, 2, 3 and 4

**Answer : (d)**

**Methane** and **carbon dioxide** make up 90 to 98% of landfill gas. The remaining 2 to 10% includes **nitrogen, oxygen, ammonia**, sulfides, hydrogen and **various** other gases. Landfill gases are produced when bacteria break down **organic** waste.

**7. With reference to Ecological footprint, consider the following statement.**

- 1) It is estimates of how much of Earth renewable resource an individual consumes.
- 2) Highest consumer is USA.

**Which of the statements given above is/are correct?**

- a) 1 only                      b) 2 only  
c) Both 1 and 2    d) Neither 1 nor 2.

**Answer : (a)**

The **ecological footprint** measures human demand on nature, i.e., the quantity of nature it takes to support people or an economy. It tracks this demand through an ecological accounting system. The accounts contrast the biologically productive area people use for their consumption to the biologically productive area available within a region or the world (bio-capacity, the productive area that can regenerate what people demand from nature). In short, it is a measure of human impact on Earth's ecosystem and reveals the dependence of the human economy on natural capital.

It was seen to be highest in the oil rich UAE, followed by USA, Europe, China, India, Japan.

**8. Consider the following**

1. West Bengal    2. Kerala
3. Goa

**Which of the states given above is/are having Mangroves?**

- a) 1 only                      b) 1 and 2 only  
c) 1 and 3 only              d) 1, 2 and 3

**Answer : (d)**

The following table shows the prevalence of mangroves in the states of India and the total area covered by them in square kilometers.

Rank	States/UTs with highest mangrove cover in 2017	Total mangrove cover in km <sup>2</sup> in 2015	2017
1	West Bengal	2,106	2114
2	Gujarat	1,107	1140
3	Andaman And Nicobar Islands	617	617
4	Andhra Pradesh	367	404
5	Maharashtra	222	304
6	Odisha	231	243
7	Tamil Nadu	47	49
8	Goa	26	26
9	Kerala	9	9
10	Karnataka	3	10

9. Consider the following statements with respect to 'Earth Hour'
1. Earth Hour is an global event organized by World Wide Fund.
  2. It involves turning off household and business non-essential lights.
- Which of the statements given above is/are INCORRECT?
- a) 1 only                      b) 2 only  
c) Both 1 and 2              d) Neither 1 nor 2

**Answer : (b)**

**Earth Hour** is a worldwide movement organized by the World Wide Fund for Nature (WWF). The event is held annually encouraging individuals, communities, and businesses to turn off non-essential electric lights for one hour, from 8:30 to 9:30 pm on a specific day towards the end of March, as a symbol of commitment to the planet. It was started as a lights-off event in Sydney, Australia, in 2007.

10. Which among the following is Part of 'Biodiversity Hotspots' in India?
1. Western Ghats
  2. Eastern Ghats
  3. Indo-Burma

Select the CORRECT answer using the codes given below:

- a) 1 and 3 only    b) 1 only  
c) 1 and 2 only    d) 2 and 3 only

**Answer : (a)**

**Biodiversity Hotspots in India:-**

- The Western Ghats and Sri Lanka. These hills are present along the western edge of peninsular **India**. ...
- The Eastern Himalayas. This region comprises of Bhutan, Northeast **India**, and Southern, Central and Eastern Nepal. ...
- Indo-Burma.

To qualify as a hot spot, a region must meet two strict criteria:

1. **Species endemism:** the region must contain at least 1,500 species of vascular plants (> 0.5% of the world's total) as endemics, and
2. **Degree of threat:** the region has to have lost at least 70% of its original habitat.

11. "Anthropocene" is a term often seen in Newspaper. It is related to

- a) It is human induced pollutants in the environment  
b) It is an epoch designated by dominance of Human species  
c) Its type of cancer causing agents found in the products produced by Humans  
d) None of the above

**Answer : (b)**

The *Anthropocene* defines Earth's most recent geologic time period as being human-influenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other earth system processes are now altered by humans.

12. Which among the following species is/are Keystone species?

1. Tiger                      2. Lion  
3. Crocodile                4. Elephant

Select the CORRECT answer using the codes given below:

- a) 1 only                      b) 1 and 3 only  
c) 1, 2 and 4 only        d) 1, 2, 3 and 4

**Answer : (d)**

A keystone species is often a dominant predator whose removal allows a prey **population** to explode and often decreases overall diversity. Other kinds of keystone species are those, such as coral or beavers, that significantly alter the **habitat** around them and thus affect large numbers of other organisms.

13. Consider the following statement:

- 1) Insects, arachnids, and fish are considered as warm blooded animals.

2) Birds are considered as cold blooded animals.

Which of the statements given above is/are correct?

- a) 1 only                      b) 2 only  
c) Both 1 and 2      d) Neither 1 nor 2.

**Answer : (d)**

**Warm blooded** are term to describe animal species which have a relatively higher blood temperature and maintain thermal homeostasis primarily through internal metabolic processes. For examples- Mammals and birds.

**Cold blooded:** - is term often used to refer to animals that do not use their metabolism to maintain body temperature. Examples- Reptiles, insects, arachnids, amphibians and fish.

**14. With reference to Transfat, consider the following statements**

1. Transfats are associated with a host of serious health problems ranging from diabetes to heart diseases.
2. Transfats are formed during the process of addition of hydrogen atoms to oils.
3. FSSAI, currently allow 2% of the Transfat in Indian foods.

Which of the statements given above is/are CORRECT?

- a) 1 and 2 only      b) 2 and 3 only  
c) 1 and 3 only      d) 1 only

**Answer: (C)**

Trans-fats pose a **higher risk of heart disease** than saturated fats. While saturated fats raise total cholesterol levels, TFAs not only raise total cholesterol levels but also reduce the good cholesterol (HDL), which helps to protect us against heart disease. Trans-fats consumption increases the risk of developing heart disease and stroke.

- It is also associated with a higher risk of developing obesity, type 2 diabetes, heart disease, metabolic syndrome, insulin resistance, infertility, certain types of cancers and can also lead to compromised fetal development causing harm to the yet to be born baby.
- WHO recommends that trans-fat intake be limited to less than 1% of total energy intake and has called for the total elimination of TFAs in global food supply by 2023. FSSAI has proposed to limit TFA limit in foods to 2% and eliminate trans-fats from foods by 2022.

**15. Consider the following statement.**

- 1) This disease occurs mostly in tropical rainforest of central and west africa.
- 2) It is a infecticious disease that can occur in certain animals including humans.
- 3) it is a rare viral zoonotic disease.

The above statement is related to which disease?

- a) Salmonella      b) Monkey pox  
c) Brucellosis      d) Amebiasis

**Answer : (b)**

**Monkeypox** is an infectious disease caused by the monkeypox virus that can occur in certain animals including humans. Symptoms begin with fever, headache, muscle pains, swollen lymph nodes, and feeling tired.

Monkeypox may be spread from handling bush meat, an animal bite or scratch, body fluids, contaminated objects, or close contact with an infected person. The virus is believed to normally circulate among certain rodents in Africa.

The disease mostly occurs in Central and West Africa. It was first identified in 1958 among laboratory monkeys. The first cases in humans were found in 1970 in the Democratic Republic of the Congo. An outbreak that occurred in the United States in 2003 was traced to a pet store where imported Gambian rodents were sold.

**16. Consider the following**

1. Rio Declaration on Environment and Development
2. Agenda 21
3. Forest Principles

Which of the above documents is/are adopted during Earth Summit?

- a) 1 and 2 only      b) 2 and 3 only  
c) 1 and 3 only      d) 1, 2 and 3

**Answer : (d)**

**The Earth** summit resulted into following documents:-

- # Rio declaration on Environment and development.
- # Agenda 21
- # Forest principles.

**17. Which of the following is characterized as Laterization process in soil?**

- a) It refers specifically to a particular cemented horizon in certain soils.
- b) It is process of soil formation resulting in the development of glei horizon in the lower part of soil profile.
- c) It is process of accumulation of salts in the soils in the form of a salty horizon.
- d) None of the above

**Answer : (a)**

*It refers specifically to a particular cemented horizon in certain soils which when dried, become very hard, like a brick. Such soils (in tropics) when massively mixed with sesquioxides (iron and aluminium oxides) to an extent of 70 to 80 per cent of the total mass, are called laterites or latosols (Oxisols).*

The Gleization is a **process of soil formation resulting in the development of a gley (or gley horizon) in the lower part of the soil profile** above the parent material due to poor drainage condition (lack of oxygen) and where waterlogged conditions prevail. Such **soils** are called hydro or phic **soils**.

Salinization: It is the **process of accumulation of salts**, such as Sulphates and chlorides of calcium, magnesium, sodium and potassium, in **soils in the form of a salty (salic) horizon**. **Salt accumulation** may also result from irrigation or seepage in areas of impeded drainage.

**18. Which among the following is/are used as manure commonly in India?**

1. Oil cakes
2. Bone meal
3. Fish meal

Select the **CORRECT** answer using the codes given below:

- a) 1 and 2 only      b) 2 and 3 only  
c) 1 only              d) 1, 2 and 3

**Answer :** (d)

**Oil cakes:-** There are many varieties which contains not only nitrogen but also some P and K, along with large percentage of organic matter. These oil cakes are of two types. 1) Edible oil cakes suitable for feeding cattle. 2) Non-edible oil cakes-not suitable for feeding cattle.

**Bone meal:-** Bones from slaughter houses carcasses of all animals and from meat industry constitute bone meal which is the oldest Phosphatic fertilizer used. It also contains some N.

**Fish meal:-** Fish Manure or meal is processed by drawing non-edible fish carcasses of fish and waste from fish industry. It contains 4-10% N, 3-9%P and 0.3-1.5%K. fish meal is quick acting organic manure and is suitable for application to all crops on all soils.

**19. Consider the following statements with reference to Himalayan griffon vulture**

1. It is classified as Vulnerable by IUCN in Red list.
2. Diclofenac residue has been a major cause of decline of this vulture.
3. Punjab Government becomes the first state in Asia to launch Gyps vulture re-introduction programme.

Which of the statements given above is/are **CORRECT**?

- a) 1 only              b) 2 only  
c) 1 and 3 only      d) 3 only

**Answer :** (b)

**IUCN Status :** Near Endangered

**Why vultures dying?** Because of **Diclofenac**. It is a drug given to cattle in inflammation and pain. Vultures are not able to break down Diclofenac and die of renal failure or kidney failure after eating carcasses of cattle administered with the drug.

**What Government is doing?**

- The Diclofenac drug was banned by Union Government of India for veterinary use in 2006. It was banned to bring down prevalence of the drug in cattle carcasses and make the environment safe for vultures.
- Later in July 2015, the multi-dose vials of Diclofenac drug for human use were banned by the Drug Controller General of India.

**20. Consider the following statements with reference to tiger Conservation**

1. National Tiger Conservation Authority is having statutory status.
2. Tiger census is conducted every 5 years
3. M-STrIPES is one of the methods used in the tiger census.

Which of the statements given above is/are CORRECT?

- a) 1 and 2 only      b) 2 and 3 only  
c) 1 and 3 only      d) 3 only

**Answer : (C)**

**National tiger conservation authority:-** The amendment act of 2006 provides for constitution of a **statutory authority** known as national tiger conservation authority to aid in the implementation of measure for the conservation of the tiger. The process of estimating the numbers of tigers in a given area is called Tiger census. It is conducted at **regular intervals** to know the current tiger population and population trends.

**M-STrIPES**, short for *Monitoring System for Tigers - Intensive Protection and Ecological Status* is a software-based monitoring system launched across Indian tiger reserves by the Indian government's National Tiger Conservation Authority (NTCA) in 2010. The system's objective is to strengthen patrolling and surveillance of the Endangered Bengal tiger.

**21. Which of the statements regarding seaweeds is/are CORRECT?**

1. These are often found in deep sea waters.
2. It carries medicinal properties like, anti-bacterial.
3. Potential indicator of pollution.

Select the CORRECT answer using the codes given below:

- a) 1 and 2 only      b) 2 and 3 only  
c) 1 and 3 only      d) 1, 2 and 3

**Answer : (b)**

**Sea weed:-** seaweeds are microscopic, such as the phytoplankton that live suspended in the water column and provide the base for most marine food chains. Some are enormous, like the giant

kelp that grow in abundant “forests” and tower like underwater redwoods from their roots at the bottom of the sea. Most are medium-sized, come in colors of red, green, brown, and black, and randomly wash up on beaches and shorelines just about everywhere.

Many weeds have great therapeutic properties and used as a medicine for ex-Phyllanthus niruri- Jaundice, Cynodon dactylon- Asthama piles. Weeds are also useful as an indicator of good and bad soils. Colinum occurs in rich soils while cymbopogon denotes poor light soil and sedges are found in ill drained soil.

**22. Match the following Tiger reserves with States in which they are located:**

<b>TIGER RESERVE</b>	<b>STATE</b>
1. Sariska	Rajasthan
2. Pilibhit	Bihar
3. Bhadra	Maharashtra
4. Palamau	Jharkhand

Select the CORRECTLY matched using the codes given below:

- a) 1 and 3 only    b) 2 and 4 only  
c) 3 and 4 only    d) 1 and 4 only

**Answer : (d)**

Pilibhit Tiger Reserve is located in Pilibhit district, Lakhimpur Kheri District and Bahraich District of Uttar Pradesh state in India. It lies along the India-Nepal border in the foothills of the Himalayas and the plains of the ‘terai’ in Uttar Pradesh.

Bhadra Wildlife Sanctuary is a protected area and a tiger reserve as part of Project Tiger, located 23 km south of Bhadravathi town and 38 km northwest of Chikkamagaluru town in Karnataka state, India Bhadra sanctuary has a wide range of flora and fauna and is a popular place for day outings.

**23. Which among the following Biosphere reservoir is found in UNESCO’s MAB list?**

1. Manas biosphere reservoir
2. Simlipal Biosphere reservoir
3. Nilgir Biosphere reservoir
4. Sunderban Biosphere reservoir
5. Agastamala Biosphere reservoir
6. Great Nicobar Biosphere reservoir

Select the CORRECT answer using the codes given below:

- a) 1, 2, 4, 5 and 6 only  
b) 2, 3, 4 and 6 only  
c) 1, 3, 5 and 6 only

d) 1, 2, 3, 4, 5 and 6

**Answer : (b)**

**List of Biosphere Reserves of India**

NB: Those Biosphere reserves in bold are part of World Network of Biosphere Reserves too.

Sl. No	Year	Name	State	Type	Key Fauna
1	2008	Great Rann of Kutch	Gujarat	Desert	Indian Wild Ass
<b>2</b>	<b>1989</b>	<b>Gulf of Mannar</b>	<b>Tamil Nadu</b>	<b>Coasts</b>	<b>Dugong or Sea Cow</b>
<b>3</b>	<b>1989</b>	<b>Sundarbans</b>	<b>West Bengal</b>	<b>Gangetic Delta</b>	<b>Royal Bengal Tiger</b>
4	2009	Cold Desert	Himachal Pradesh	Western Himalayas	Snow Leopard
<b>5</b>	<b>1988</b>	<b>Nanda Devi</b>	<b>Uttarakhand</b>	<b>Western Himalayas</b>	<b>NA</b>
<b>6</b>	<b>1986</b>	<b>Nilgiri Biosphere Reserve</b>	<b>Tamil Nadu, Kerala and Karnataka</b>	<b>Western Ghats</b>	<b>Nilgiri Tahr, Lion-tailed macaque</b>
7	1998	Dihang-Dibang	Arunachal Pradesh	Eastern Himalaya	NA
<b>8</b>	<b>1999</b>	<b>Pachmarhi Biosphere Reserve</b>	<b>Madhya Pradesh</b>	<b>Semi-Arid</b>	<b>Giant Squirrel, Flying Squirrel</b>
9	2010	Seshachalam Hills	Andhra Pradesh	Eastern Ghats	NA
<b>10</b>	<b>1994</b>	<b>Simlipal</b>	<b>Odisha</b>	<b>Deccan Peninsula</b>	<b>Gaur, Royal Bengal Tiger, Wild elephant</b>
<b>11</b>	<b>2005</b>	<b>Achanakamar - Amarkantak</b>	<b>Madhya Pradesh, Chhattisgarh</b>	<b>Maikala Hills</b>	<b>NA</b>
12	1989	Manas	Assam	East Himalayas	Golden Langur, Red Panda
13	2000	Khangchendzonga	Sikkim	East Himalayas	Snow Leopard, Red Panda
14	2001	Agasthyamalai Biosphere Reserve	Kerala, Tamil Nadu	Western ghats	Nilgiri Tahr, Elephants
<b>15</b>	<b>1989</b>	<b>Great Nicobar Biosphere Reserve</b>	<b>Andaman and Nicobar Islands</b>	<b>Islands</b>	<b>Saltwater Crocodile</b>
<b>16</b>	<b>1988</b>	<b>Nokrek</b>	<b>Meghalaya</b>	<b>East Himalayas</b>	<b>Red Panda</b>
17	1997	Dibru-Saikhowa	Assam	East Himalayas	Golden Langur
18	2011	Panna	Madhya Pradesh	Ken River	Tiger, Chital, Chinkara, Sambharand Sloth bear

24. Consider the following

METHOD	Definition
1. Biovent imported to site.	Micro-organism contaminated
2. Pyrolysis of oxygen.	Combustion in absence
3. Micro-bioremediation are used to decontaminate the area.	It is a type of remediation which algae

Select the CORRECTLY matched answer using the codes given below:

- a) 1 and 2 only    b) 2 only  
c) 3 only    d) 2 and 3 only

**Answer :** (b)

When *microorganisms* are *imported* to a *contaminated site* to enhance degradation, the process is called as "Bio-augmentation."

**Bioventing**:- Supply of air and nutrients through wells to contaminated soil to stimulate the growth of indigenous bacteria.

**Myco-remediation**:- is a form of bio-remediation in which fungi are used to decontaminate the area.

**Pyrolysis**:- Process of chemical decomposition of organic matter brought about by heat, in this process the organic material is heated in the absence of air.

25. Consider the following statement with reference to Wildlife protection act-1972.

1. Endemic plants which requires great protection, like Red Vanda, are listed in Schedule 1 of the Act.
2. State Government permission is mandatory for mass culling of schedule 2 and schedule 3 animals.
3. Great Indian Busturd is located in Schedule 1 of the act.

Which of the statements given above is/are CORRECT?

- a) 1 and 2 only    b) 2 and 3 only  
c) 3 only    d) 1 and 3 only

**Answer :** (c)

Red Vanda, Blue vanda, Kuth, Pitcher plant, Beddomes cycad and ladies slipper orchid are the list of plants listed in schedule-6. With the amendment of act in 1991, powers of the state government have been withdrawn almost totally, now the state government are not

empowered to declare any wild animal a vermin. Further by addition of provision, immunization of livestock within a radius of 5km from a national park or sanctuary has been made compulsory.

Examples of animals listed in schedule 1 are lion tailed macaque, rhinoceros, great Indian bustard, Narcondam hornbill, nicobar megapode, black buck. Etc.

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