



DAILY PT MCQs-CRACK PRELIMS 2020 TEST-XI (ENVIRONMENT)

1. "Each organism has an invariably defined range of conditions that it can tolerate, diversity in the resources it utilizes and a distinct functional role in the ecological system". All these together comprise its _____. Fill in the blank with correct phenomena being described
- Niche
 - Seral
 - Edge effect
 - None of the above
2. Consider the following statements
- The levels of thermal tolerance of different species determine to a large extent their geographical distribution.
 - Night blooming flowers generally white to attract the pollinating agents.
- Which of the statements given above is/ are CORRECT?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
3. With reference to Desert plant's adaptation, consider the following statements
- Desert plants have thin cuticle on their leaf surfaces.
 - They have their stomata arranged in deep sunken (pits).
 - They enable their stomata to remain closed during day time.
- Which of the statements given above is/ are INCORRECT?
- 1 and 3 only
 - 1 only
 - 2 and 3 only
 - All are correct.
4. 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.
5. 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?

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

6. 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?

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

7. Consider the following gases

- Methane
- Ammonia
- Oxygen
- 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

8. Which of the following statements is/are CORRECT?

- Eutrophication is the natural aging of lake by nutrient enrichment of its water.
- Thermal waste in hot water reduces the oxygen content of the water, hence leading to death of the aquatic animals.

Select the CORRECT answer using the codes given below:

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

9. Consider the following statements

- Higher Biochemical Oxygen Demand (BOD) means lower level of pollution in the Sewage waters.

- Electrostatic precipitator is an instrument used to clean the vehicular exhausted pollutions.

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

10. With reference to Ecological footprint, consider the following statement.

- It is estimates of how much of Earth renewable resource an individual consumes.

- 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.

11. Consider the following

- West Bengal
- Kerala
- 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

12. Consider the following statements with respect to 'Earth Hour'

- Earth Hour is an global event organized by World Wide Fund.
- 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

13. Consider the following

1. Biobank is one which preserves generic material, be it plant or animal.
2. Genebank is a cryogenic storage facility used to archive biological samples for use in research and experiments.

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

14. 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

15. Consider the following metal residuals

1. Cadmium
2. Lead
3. Beryllium

Which of the above metal pollutants generated due to E-wastes?

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

16. "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

17. Consider the following statements

1. Hibernation is a state of animal dormancy characterized by inactivity and a lowered metabolic rate that is entered in response to high temperatures and arid conditions.
2. Aestivation is a state of inactivity and metabolic depression in animals, characterized by lower body temperature, slower breathing and lower metabolic rate.

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

18. 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

19. 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.

20. 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

21. Consider the following statement.

- 1) This disease occurs mostly in tropical rainforest of central and west africa.
- 2) It is a infectious 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

22. Consider the following statement about Hope Island.

- 1) Small tadpole island situated off the west coast of Africa.
- 2) It acts as natural barrier for storm surges and possible tsunami events and provides tranquility to the ships.

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.

23. Consider the following

1. The conservation of biodiversity
2. Sustainable use of the components of biodiversity
3. Sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way.

Which of the above goals given is/are part of Convention on Biological Diversity (CBD)?

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

24. 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

25. 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) Niche:** - A niche is unique functional role or place of a species in an ecosystem. It is a description of all the biological, physical and chemical factors that a species needs to survive, stay healthy and reproduce. Each organism has an invariably defined range of conditions that it can tolerate, diversity in the resources it utilises and a distinct functional role in the ecological system, all these together comprise its **niche**.
- (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).
- (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.
- (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).
- (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.
 - (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.
 - (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.
 - (c)** Algal blooms causes deterioration of the **water** quality and fish mortality.

Eutrophication is the natural aging of a lake by nutrient enrichment of its water. Streams draining into the lake increases **nutrients** such as nitrogen and phosphorous which encourage the growth of aquatic organisms.

Raising water temperatures just 2 to 3°C above the optimal for some aquatic insects can greatly reduce the number of eggs produced by females because more energy is used to support higher metabolic rates and less is available for egg production.

9. **(d) BIOLOGICAL OXYGEN DEMAND:** - Therefore, a **low BOD** is an indicator of good quality **water**, while a **high BOD** indicates **polluted water**. Dissolved **oxygen** (DO) is consumed by bacteria when large amounts of organic matter from **sewage** or other discharges are present in the **water**.

ESP:- There are several ways of removing particulate matter; the most widely used method is electrostatic precipitation, which can remove over 99 per cent particulate matter present in the exhaust from a thermal power plant.

The emanating dust is charged with ions and the ionized particulate matter is collected on an oppositely charged surface.

An electrostatic precipitator has electrode wires that are maintained at several thousand volts, which produce a **corona** that releases **electrons**.

10. **(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.

11. **(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 ² 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

12. **(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.

13. (c) **Bio-bank**:-is a cryogenic storage facility used to archive biological samples for use in research and experiments.

Gene-bank:- Help preserve genetic material, be it plant or animals. In plant this could be by freezing cuts from the plants, or stocking the seeds. In animals this is the freezing of sperm and eggs in zoological freezers until further needs.

14. (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.

15. (a) E-waste-connected health risks may result from direct contact with harmful materials such as **lead, cadmium, chromium, Brominated flame retardants** or **polychlorinated**

biphenyls (PCBs), from inhalation of toxic fumes, as well as from accumulation of **chemicals** in soil, **water** and food.

16. (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.

17. (d) Aestivation is **characterized by inactivity and a lowered metabolic rate, that is entered in response to high temperatures and arid conditions**. It takes place during times of **heat** and dryness, the **hot dry** season, which are often the summer months. Both terrestrial and aquatic **animals** undergo aestivation.

Hibernation is a state of inactivity and metabolic depression in endotherms. Hibernation refers to a season of **heterothermy** characterized by low body temperature, slow breathing and heart rate, and low metabolic rate. It is most commonly observed during the winter months.

18. (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.

19. (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.

20. (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.

21. (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.

22. (b) **Hope Island:**

- Hope Island is a small tadpole shaped Island situated off the coast of Kakinada, Andhra Pradesh, in Bay of Bengal.
- It is formed from the sediment outflow carried by the waters of the Koringa River, a distributary of the Godavari.
- It acts as natural barrier for storm surges and possible tsunami events and provides tranquility to the ships anchored in Kakinada Bay which makes Kakinada Port one of the safest natural ports in the Eastern Coast of India.
- The sandy beaches of Hope island, along with the adjacent Coringa Wildlife Sanctuary are a nesting ground of the Vulnerable Olive Ridley turtle.

23. (d) Convention on Biological Diversity (CBD) is an international legally-binding treaty with three main goals:

- (1) conservation of biodiversity.
- (2) Sustainable use of biodiversity; fair and equitable

- (3) Sharing of the benefits arising from the use of genetic resources. Its overall objective is to encourage actions, which will lead to a sustainable future.
24. (d) **The Earth** summit resulted into following documents:-
 # Rio declaration on Environment and development.
 # Agenda 21
 # Forest principles.
25. (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 glei (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 orphic **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.

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