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Daily MCQs: 20-05-2024

1. Consider the following statements about Orcas (Killer whales):

1. They are the largest member of the dolphin family.
2. They exhibit highly social behavior and live in pods.
3. They are critically endangered according to the IUCN Red List of Threatened species.

Which of the statements given above is/are correct?

- A) 1 only
- B) 2 and 3 only
- C) 1 and 2 only
- D) 1,2 and 3

2. The term 'Sickout' recently seen in the news is related to?

- A) A formal process for employees to express grievances through recognized unions.
- B) A strategy where a large group of workers call in sick to collectively pressure management.
- C) A financial penalty imposed on employees for poor performance.
- D) A period of extended leave granted to employees for medical reasons.

3. Which of the following statements about the National Green Tribunal (NGT) is/are correct?

1. It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multidisciplinary issues.
2. The Tribunal shall be bound by the procedure laid down under the Code of Civil Procedure, 1908.
3. The Wildlife Protection Act,1972 has been kept out of NGT's jurisdiction.

Select the correct answer using the codes given below

- A) 1 only
- B) 1 and 3 only
- C) 1 and 2 only
- D) 1,2 and 3

4. Ethylene oxide is primarily used for:

- A) Food preservation
- B) Sterilization of medical equipment
- C) Production of plastics
- D) As a gasoline additive

5. Which of the following statements about DNA and RNA is incorrect?

- A) Both DNA and RNA are composed of nucleotides.
- B) DNA is double-stranded, while RNA is single-stranded usually.

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- C) The sugar molecule in DNA is deoxyribose, while in RNA it's ribose.
D) Both DNA and RNA contain the same nitrogenous bases.

Solutions:

1. Answer: C

Explanation

- Orcas (also known as killer whales) are marine mammals.
- **Statement 1 is correct:** They belong to the **suborder of toothed whales (known as odontocetes)** but are also the **largest member of the dolphin family**.
- **Statement 2 is correct:** Orcas are **highly intelligent and social animals**, spending their lives in **groups** or pods where they **hunt together and share responsibility for raising young** and taking care of the sick or injured.
- Orcas only **allow one half of their brains to sleep at a time**. The other half stays alert enabling them to continue breathing whilst looking out for dangers in the environment. They only close one eye when they sleep. The left eye will be closed when the right half of the brain sleeps, and vice versa. This type of sleep is known as **unihemispheric sleep** as **only one brain hemisphere sleeps at a time**. Orcas **periodically alternate which side is sleeping so that they can get the rest they need without ever losing consciousness**.

Physical Appearance

- Adult orcas have shiny black backs, white chests and patches of white above and behind their eyes.
- They have **paddle-shaped pectoral fins** and **tall triangular dorsal fins**.
- Orcas vary in size depending on where they live. Adult males are larger than adult females, with **males reaching 32 feet (10 meters)** in length and **females growing to 28 feet (8.5 meters)**.



Location and Types

- Orcas are likely the **second most widely distributed mammal in the world, next to humans** and are **found in every ocean on the planet**.

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- There are three distinct types of orcas recognized in the eastern North Pacific Ocean—**transient, resident, and offshore**.
 - **Residents live close to shore** in large pods of about **10 to 20 individuals** and feed primarily on fish.
 - **Offshore orcas** are similar to residents, but are distinguished by their **smaller overall size and rounded, nicked fins**.
 - **Transient orcas live in smaller groups** of about **three to seven individuals** and spend their lives out at sea where they prey on seals, sea lions, and other dolphins.
- All three types of orca have genetic differences and do not mingle or interbreed.

Natural Predators

- Killer whales have **no known natural predators** except possibly other killer whales.

Conservation status

- Killer whales were actively hunted in Norway, Japan, the Soviet Union and the Antarctic through until the 1980's, but are now only taken in small numbers for food (or as a population control measure) in coastal fisheries in Japan, Greenland, Indonesia, and the Caribbean islands¹⁵.
- **Statement 3 is incorrect:** Killer whales are considered **Data Deficient on the IUCN Red List of Threatened species**.

2. Answer: B

Explanation

- A sickout essentially involves **organizing a large number of workers with grievances and getting them to take coordinated leaves** on the pretext of being unwell, usually at the eleventh hour, giving the management hardly any time to respond effectively and put mitigation measures in place. Hence **option B is correct**.
- Traditional strikes and sickouts are **similar, as they involve employees refusing to work to force the management to address their grievances and consider their demands**.

Difference

Strike	Sickouts
<ul style="list-style-type: none">• It is formal and legal affair involving notices, procedures, recognised employee unions and associations, and typically a well-laid-down process,	<ul style="list-style-type: none">• Sickouts are seemingly informal, swift, and free of such constraints.

3. Answer: B

Explanation

About NGT

- It is a **statutory body** established in 2010 under the **National Green Tribunal Act 2010**.

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- It is a specialized body equipped with the necessary expertise to **handle environmental disputes** involving multi-disciplinary issues. Hence **statement 1 is correct**.
- The Tribunal **shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908**, but shall be guided by principles of natural justice. Hence **statement 2 is incorrect**.
- The Tribunal is vested with the powers of a **civil court** under the **Code of Civil Procedure** for discharging its functions but it can make its own rules.
- It provides **speedy environmental justice** and helps reduce the burden of litigation in the higher courts.
- New Delhi is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai shall be the other four places of sitting of the Tribunal.

Tribunal's composition

- The Tribunal has a presence in five zones- North, Central, East, South and West. The Principal Bench is situated in the North Zone, headquartered in Delhi.
- The Central zone bench is situated in Bhopal, East zone in Kolkata, South zone in Chennai and West zone in Pune.
- The Tribunal is headed by the Chairperson who sits in the Principal Bench and has at least ten but not more than twenty judicial members and at least ten but not more than twenty expert members.

Tribunal's Jurisdiction

- The NGT deals with civil cases under the seven laws related to the environment, these include
 - The Water (Prevention and Control of Pollution) Act, 1974
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 - The Forest (Conservation) Act, 1980
 - The Air (Prevention and Control of Pollution) Act, 1981
 - The Environment (Protection) Act, 1986
 - The Public Liability Insurance Act, 1991 and
 - The Biological Diversity Act, 2002
- Two important acts – Wildlife (Protection) Act, 1972 and Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 have been kept out of NGT's jurisdiction. **Hence statement 3 is correct**.
- The Tribunal has jurisdiction over all civil cases involving a substantial question relating to the environment. Additionally, any person aggrieved by an order/direction of any of the Appellate Authorities under the legislations mentioned above can also challenge them before the National Green Tribunal.

Are decisions of the Tribunal final?

- The Tribunal has powers to review its own decisions. If this fails, the decision can be challenged before the Supreme Court within ninety days.

4. Answer: B

Explanation

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- Ethylene oxide is a **flammable colorless gas** with a **sweet odor**.
- It is often used to **sterilize medical equipment** and **plastics** that are sensitive to **heat** or **moisture**.
- It is also used to produce other chemicals, including **antifreeze**.
 - *It is a substance added to a liquid (such as the water in an automobile engine) to lower its freezing point*
- Exposure to the **ethylene oxide** is said to cause **lymphoma** and **leukemia** and other **cancers**.

Why is Ethylene Oxide used in food?

- Since **Ethylene oxide** is a gas, it can easily be inserted into **breathable packaging** and can **disinfect** the surfaces of the packaging effectively, and is thus used as a **sterilizer** in order to keep a **curb** on **microbes**.
 - *Sterilization refers to any process that removes, kills, microorganisms such as fungi, bacteria, spores, in turn extending the shelf life of food items.*
- It disrupts the **reproductive processes** of **microorganisms**, thus preventing food from getting **spoiled**.
- Whenever food sterilized using ethylene oxide is not properly aerated, it leaves behind a **residue**. This, in turn, forms toxic compounds like **Ethylene Chlorohydrin** and **Ethylene Glycol** which are **carcinogenic**.

Why in the news ?

- **All India Spices Exporters Forum (AISEF)** has emphasised the need to allow **ethylene oxide treatment** for spices in India to align with **stringent food quality standards** of **importing nations**.

All India Spices Exporters Forum (AISEF)

- The **All India Spices Exporters Forum (AISEF)** was established in the year **1987**
- It works towards protecting the interests of the **spice exporters** in the country, creating a **sustainable, pro-development business environment** for the **spice industry** and its **stakeholders**.
- **AISEF** is managed by an **elected Managing Committee** chosen from among its members.
- **Membership** to AISEF is open to **exporters of spices and herbs**.

5. Answer: D

Explanation

- Both DNA and RNA are composed of nucleotides, serving as the building blocks of genetic material.
- DNA typically exists as a double-stranded helix, while RNA is usually single-stranded.
- The sugar molecule in DNA is deoxyribose, while RNA contains ribose as its sugar component.
- However, the statement that both DNA and RNA contain the same nitrogenous bases is incorrect. While they share some nitrogenous bases (adenine, cytosine, and guanine), **RNA contains uracil instead of thymine, which is found in DNA**.