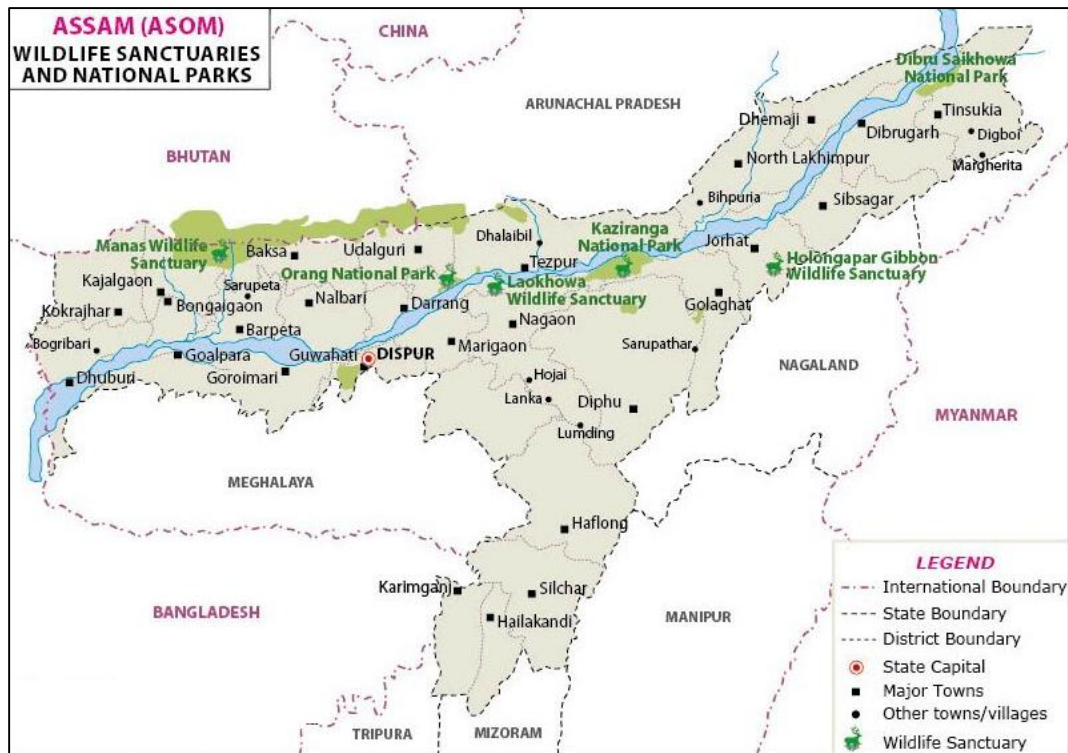


Weekly Quiz Answers (16th-22nd Oct)

Ans1. A

Explanation:



Kaziranga Wildlife Sanctuary

Location	- It is located in the State of Assam and covers 42,996 Hectare (ha). - It is the single largest undisturbed and representative area in the Brahmaputra Valley floodplain.
Legal Status	- It was declared as a National Park in 1974. - It has been declared a tiger reserve since 2007. - It has a total tiger reserve area of 1,030 sq km with a core area of 430 sq. km.
International Status	- It was declared a UNESCO World Heritage Site in 1985. - It is recognized as an Important Bird Area by Bird Life International.
Important Species Found	- It is the home of the world's most one-horned rhinos. - Pobitora Wildlife Sanctuary has the highest density of one-horned rhinos in the world and second highest number of Rhinos in Assam after Kaziranga National Park. - Much of the focus of conservation efforts in Kaziranga are focused on the 'big four' species— Rhino, Elephant, Royal Bengal tiger and Asiatic water buffalo. - The 2018 census had yielded 2,413 rhinos and approximately 1,100 elephants. - As per the figures of tiger census conducted in 2014, Kaziranga had an estimated 103 tigers, the third highest population in India after Jim Corbett National Park (215) in Uttarakhand and Bandipur National Park (120) in Karnataka.

	• Kaziranga is also home to 9 of the 14 species of primates found in the Indian subcontinent.
Flora	• It is a mix of eastern wet alluvial grasslands, semi-evergreen forests and tropical moist deciduous forests. • It is primarily famous for its dense and tall elephant grasses intermixed with small swamplands. • It also includes an abundant cover of water lilies, water hyacinths and lotus.
Rivers and Highways	• The National Highway 37 passes through the park area. • The park also has more than 250 seasonal water bodies, besides the Diphlu River running through it.

Ans2. B

Explanation:

Paintbrush Swift Butterfly makes a rare call in Himachal. The paintbrush swift (*Baoris farri*) butterfly has been photographed for the first time in Himachal Pradesh.

- Paintbrush swift is rarely found in the State, home to 25% of the butterfly species found in India; 120 species of butterflies have been documented by the **Wild Bhattiyat Project in 2022**.
- It has been noticed first time in Himachal Pradesh's **Chamba district**.
- The paintbrush swift (*Baoris farri*), a butterfly species of the Hesperidae family, was sighted and photographed in the second week of October during a field survey conducted under the Wild Bhattiyat Project initiated by the Bhattiyat Forest Range of the Dalhousie Forest Division of the Himachal Pradesh Forest Department in 2022.
 - Since the launch of the project, the department has so far documented 120 butterfly species.
- The species has never been photographed in Himachal Pradesh since its discovery in 1878.
- We have recorded and documented various uncommon butterfly species like the anomalous nawab, blank swift, tailed jay, siren, etc., which are frequently sighted, but the paintbrush swift has been sighted and photographed for the first time in the lower hills of the **Dhauladhar mountain range**.

About Paintbrush Swift Butterfly

- The paintbrush swift is **identified based on** two separated spots in the upper forewing cell.
- Other closely related species like the blank swift have no cell spot while the figure-of-eight swift has two conjoined cell spots. The species' larvae feed on bamboo and some other grass species.
- The paintbrush swift's **habitat distribution** is common in northeast, central and south India, and rare in Uttarakhand.
- This species is legally protected in India under **Schedule IV of the Wildlife (Protection) Act, 1972**.

Ans3. D

Explanation:

Kaziranga Wildlife Sanctuary

It is the home of the world's most one-horned rhinos.

- Pobitora Wildlife Sanctuary has the highest density of one-horned rhinos in the world and second highest number of Rhinos in Assam after Kaziranga National Park.

Much of the focus of conservation efforts in Kaziranga are focused on the ‘**big four**’ species— Rhino, Elephant, Royal Bengal tiger and Asiatic water buffalo.

- The 2018 census had yielded 2,413 rhinos and approximately 1,100 elephants.

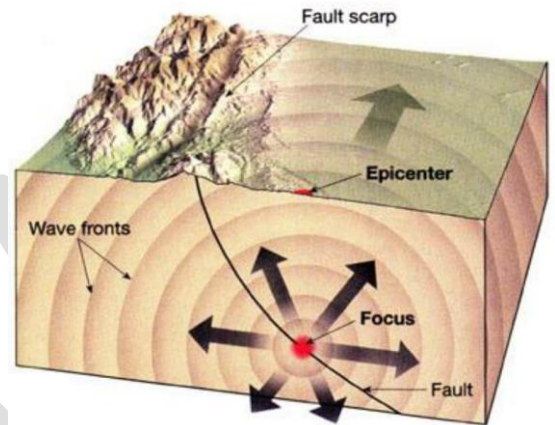
Ans4. B

Explanation:

How Do Earthquakes Occur?

The earth is made up of chunks of solid rocks called tectonic plates. Discontinuities in these rock masses, along which they have moved, are called fault lines.

- These fractures are a result of tectonic forces and stress that builds up in the earth’s lithosphere, causing the rocks to break and slip.
- An earthquake occurs when blocks of lithosphere suddenly slip past one another, releasing energy and sending seismic waves through the ground.
- The surface where the lithosphere chunks slip becomes a fault plane.
- The point within the earth where the fault rupture starts and produces an earthquake is called the **focus** or the **hypocentre**.
- The point on the surface of the earth directly above it is called the **epicentre**.



Tectonic plates are slow moving but are always in motion, mostly due to the heat energy generated inside the earth. The edges of these plates are called **plate boundaries** and consist of faults— this is where most earthquakes occur.

Ans5. D

Explanation:

- **Menstrual Hygiene Scheme:** Launched in 2011 to provide sanitary pads to girls aged 10 to 19 at a nominal rate.
- **Suvidha scheme:** Launched in 2019 to distribute eco-friendly and biodegradable pads at a subsidized rate. As of 2021-22 over 1,128 lakh pads are distributed under this scheme.
- **Rashtriya Kishor SwasthyaKaryakram:** Focuses on promoting sexual and reproductive wellness for all adolescents.
- **Mini incinerators:** The Union Government in 2013 issued guidelines for setting up mini incinerators in schools to burn sanitary waste.

Ans6. D

Explanation:

Features of Dam Safety Act 2021

- The National Committee on Dam Safety will be constituted and will be chaired by the chairperson, Central Water Commission.

- Functions of the committee will include formulating policies and regulations regarding dam safety standards and prevention of dam failures, analyzing the causes of major dam failures, and suggesting changes in dam safety practices.
- The act also envisages setting up a National Dam Safety Authority (NDSA) to be headed by an officer, not below the rank of an Additional Secretary, to be appointed by the central government.
 - The main task of this authority includes implementing the policies formulated by the National Committee on Dam Safety, resolving issues between State Dam Safety Organisations (SDSOs), or between an SDSO and any dam owner in that state, specifying regulations for inspection and investigation of dams.
- The NDSA will also provide accreditation to agencies working on construction, design, and alteration of dams.
- The act also envisages constituting a State Dam Safety Organisation (SDSO) whose functions will be to keep perpetual surveillance, inspection, monitoring the operation and maintenance of dams, keeping a database of all dams, and recommending safety measures to owners of dams.
- The owners of the specified dams are required to provide a dam safety unit in each dam.
 - This unit will inspect the dams before and after the monsoon season, and during and after any calamity or sign of distress.
- Dam owners will be required to prepare an emergency action plan, and carry out risk assessment studies for each dam at specified regular intervals.
- Dam owners will also be required to conduct a comprehensive dam safety evaluation of each dam, at regular intervals, through a panel of experts.
- The act provides for two types of offences – obstructing a person in the discharge of his functions, and refusing to comply with directions issued under the proposed law.

Ans7. C

Explanation:

Some animals feel the need to sleep to beat the heat, but for a whole season. This is called estivation (or aestivation).

- It is a biological phenomenon whereby the animal enters a long period of dormancy, or inactivity, in response to high temperature or maybe even drought-like conditions.
- It is a survival strategy that helps the animal conserve energy and water in a difficult time.
- During estivation, the animal often seeks shelter in a cool underground burrow, crevice or cocoon, where it will remain in a state of reduced metabolic activity, which in turn reduces the rate at which the body consumes energy.
- Estivation can also be a way to avoid desiccation – extreme dryness of the skin – and also lower the risk of being preyed on by a predator.

Aestivation vs Hibernation

Hibernation	Aestivation
Also known as "winter sleep".	Also known as "summer sleep".
Longer duration.	Short duration.
Animals look for a warm place to sleep.	Animals look for a moist, cool and shady place to sleep.
It prevents any internal body damage due to low temperatures.	It prevents excessive water loss and internal body damage due to high temperatures.
Hibernation takes place in warm and cold-blooded animals like bats, mammals, birds, etc.	Aestivation takes place in cold-blooded animals like snails, earthworms, frogs, etc.

Ans8. D

Explanation:

Radiation detection equipment (RDE) will soon be installed at eight land crossing points along India's borders with Pakistan, Bangladesh, Myanmar and Nepal to check the trafficking of radioactive materials for its possible use in making nuclear devices, officials said.

- The RDE will be installed at the integrated check posts and land ports of Attari (Pakistan border), Petrapole, Agartala, Dawki and Sutarkandi (all on the Bangladesh border), Raxaul and Jogbani (Nepal) and Moreh (Myanmar).
- The Union government has taken the initiative to install the RDE so that the trafficking of radioactive materials across international borders can be checked.

Radiation Detection Equipment (RDE)

Radiation detectors, also known as **particle detectors**, are instruments designed for the detection and measurement of subatomic particles.

- Radioactive materials emit subatomic particles (i.e., electrons, protons, neutrons, alpha particles, gamma rays, and numerous mesons and baryons) as they decay.

How RDEs Work?

RDEs are equipped with the following capabilities to detect and address potential threats effectively.

- **Raise Alarms:** RDEs can raise alarms in the presence of specific types of radiation: Gamma radiation & Neutron radiation.
- **Generate Video Frames:** RDEs have the capability to generate video frames, allowing for visual inspection of suspected objects.
- **Differentiation Abilities:** RDEs can differentiate between special nuclear material and naturally occurring radiation.
 - This is essential to prevent false alarms triggered by harmless substances like fertilizers and ceramics.
- RDEs can also detect high-energy gamma isotopes, a characteristic attribute of recycled uranium, further enhancing their detection capabilities.

Ans9. C

Explanation:

Why Do Frequent Earthquakes Occur In Afghanistan?

Afghanistan is located over **multiple fault lines** in the region where the **Indian and the Eurasian tectonic plates meet**.

- These plates collide often, leading to significant tectonic activity.
- Afghanistan is located on the Eurasian plate.
- Towards western Afghanistan, the Arabian plate subducts northward under Eurasia, and towards eastern Afghanistan the Indian plate does the same.
- In southern Afghanistan, the Arabian and Indian plates adjoin and both subduct northward under the Eurasian plate.

- The **Hindu Kush mountain range** and the **Pamir Knot** are geologically complex regions where tectonic plates meet.
- The collision and convergence of the Indian Plate and the Eurasian Plate result in the folding and faulting of the Earth's crust.



Ans10. A

Explanation:

Year : Theme

World Food Day 2020: Grow, nourish, sustain. Together. Our actions are our future.

World Food Day 2021: Safe food now for a healthy tomorrow.

World Food Day 2022: Leave NO ONE behind.

World Food Day 2023: Water is Life, Water is Food.

Ans11. D

Explanation:

Indian Initiatives Associated with Food Security

- **Eat Right India and Fit India Movement** along with **Swachh Bharat Abhiyan, Jal Jeevan Mission** and other efforts will improve the health of Indians and heal the environment.
- Introduction of 17 new **biofortified varieties** of crops to overcome the shortcomings of the common variety of crops which lacks important micronutrients.
 - Example: MACS 4028 Wheat, Madhuban Gajar, etc.
- Increased ambit and effective implementation of the **Food Security Act, 2013**.
- Amendments to the **APMC (agricultural produce market committee) Acts** to make them more competitive.
- Steps to ensure that farmers get one and a half times the cost as **Minimum Support Price (MSP)**, which along with the government procurement, is an important part of ensuring the country's food security.
- Development of a large network of **Farmer Producer Organisations (FPOs)**.
- **Amendments in the Essential Commodities Act, 1955** to deal with the issue of grain wastage in India.
- The government is making efforts to **make India Trans Fat free by 2022**, a year ahead of the World Health Organisation (WHO) target, in synergy with the vision of **New India @75** (75 years of India's independence).
 - **Trans Fat** is a food toxin present in Partially Hydrogenated Vegetable Oils (PHVOs) (e.g., vanaspati, shortening, margarine, etc.), baked and fried foods.

- FAO supported India's proposal to declare 2023 as the **International Year of Millets**.
- For improving food access, especially for vulnerable populations, the Government of India drives programmes such as the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**.

Ans12. B

Explanation:

Kaziranga National Park has more than 250 seasonal water bodies, besides the Diphlu River running through it.

Ans13. B

Explanation:

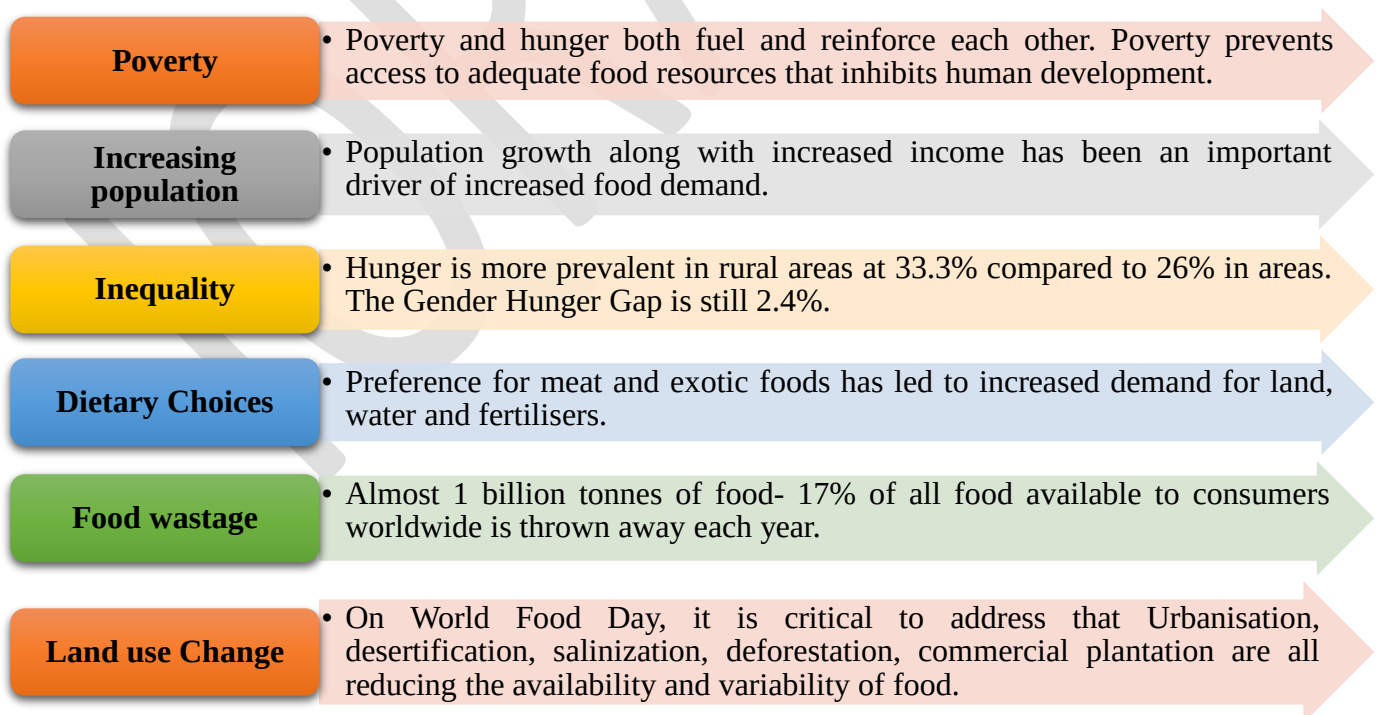
Draft of the menstrual hygiene policy

- The menstrual hygiene policy is designed to address the ongoing issues related to menstruation in our country. The policy acknowledges the historical significance of this biological process.
- Every woman, girl, and individual who menstruates should have access to a safe and stigma-free experience during their menstruation.
- Every female individual in India, regardless of age or gender identity, should have access to safe and respectful resources for managing menstrual hygiene. This would contribute to enhancing their overall well-being and allowing them to reach their maximum potential in various areas of life such as education, health, and economic stability.

Ans14. D

Explanation:

Challenges in Achieving Global Food Security



Climate Change

- Submergence of coastal lands, land degradation and erratic weather events have reduced food availability.
- Since 2000, flood-related disasters have increased by 134% and the number and duration of draughts increased by 29%

Conflict

- Episodes like Russia-Ukraine conflict, political instability in West Asian and Africa has led to severe malnourishment in these regions and also affected global food supply leading to lower availability and higher prices.

Ans15. C

Explanation:

Railways develops anti-freeze flushes and fuel tanks for journeys in J&K. The process of linking Kashmir to Kanniyakumari, through the new Udhampur-Srinagar-Baramulla Rail Link (USBRL) project, poses a unique challenge to the Railways in maintaining water and fuel in liquid form in sub-zero temperatures during the winters.

Key Highlights

- To circumvent the problem of water freezing in toilets and fuel tanks, engineers at the Rail Coach Factory (RCF) in Kapurthala have designed and implemented indigenous innovations.
- While the LHB coach design is prominently used by the Railways, it did not have temperature control systems.
- In winter, temperatures in the J&K region plummet to minus-eight to minus-12 degrees Celsius.
 - There is a problem if the water freezes in the tanks.
 - The flushes and the toilets won't work as the water won't get circulated.
 - There will be no supply of water in the taps.
- Another major challenge is that if the water tank is full, there is a hazard that it will develop cracks and burst, as ice has the tendency to expand.

About RCF

The RCF had designed double-walled composite insulated water tanks of capacities ranging between 450 litres and 685 litres.

- The water tank mimics thermoplastic bottles with two walls and an insulation layer of foam in the middle, which traps the air.
- This will maintain water in liquid form in sub-zero conditions from 16 to 20 hours. The water may remain cold but it won't freeze.
- In another innovation, the RCF has borrowed technology from the defence services to tackle the problem of freezing water in the supply pipelines.
 - They are using heated pipes with a distributed heating system covered by insulation. The water will remain cold at five to eight degrees Celsius in liquid form.
- To contain energy loss, geysers will be deployed at the point of use in toilets, where only as much water as is needed by the users will be heated. A similar technology is being deployed in the fuel tanks for locomotives by the RCF.