



Daily Current Affairs Prelims Quiz 08-12-2021 - (Online Prelims Test)

1) Consider the following statements with respect to Wolbachia Bacteria:

1. It is a type of bacteria that occurs naturally in 50% of insect species.
2. It does not cause any sickness to animals or humans.
3. Aedes aegypti mosquitoes don't normally carry Wolbachia.

Which of the above statements are correct?

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

Answer : d

Wolbachia Bacteria

- Wolbachia is a common type of bacteria found in insects.
- Approximately 6 in 10 of all types of insects, including butterflies, bees, and beetles, around the world have Wolbachia.
- Wolbachia bacteria cannot make people or animals (for example, fish, birds, pets) sick.
- Mosquitoes pick up viruses by biting infected people.
- When they bite again, they can transmit the virus to the next person. This is how mosquito-borne diseases spread.
- Mosquitoes do not naturally carry viruses – they can only get them from infected people.
- Aedes aegypti mosquitoes spread viruses including dengue, Zika, and chikungunya.
- Only female mosquitoes bite. They need a blood meal to produce eggs.
- Male mosquitoes do not bite. They feed on nectar from flowers.
- When aedes aegypti mosquitoes carry natural bacteria called wolbachia, they reduce the mosquitoes' ability to transmit viruses like dengue, zika, chikungunya and yellow fever.
- Scientists introduced Wolbachia into Ae. aegypti mosquito eggs.
- When male Ae. aegypti mosquitoes with Wolbachia mate with wild female mosquitoes that do not have Wolbachia, the eggs will not hatch.
- Because the eggs don't hatch, the number of Ae. aegypti mosquitoes decreases.

2) Consider the following statements regarding Zero Budget Natural Farming (ZBNF):

1. It is natural farming technique that uses biological pesticides instead of chemical-based fertilizers.
2. It requires only 10 percent water and 10 percent electricity than what is required under chemical and organic farming.
3. The four wheels of ZBNF are Jiwamrita, Bijamrita, Mulching and Waaphasa.

Which of the above statement(s) is/are correct?

- a. 1 and 2 only

- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : d

Zero Budget Natural Farming (ZBNF)

- It is a method of farming where the cost of growing and harvesting plants is zero.
- This means that farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops.
- It is, basically, a natural farming technique that uses biological pesticides instead of chemical-based fertilizers.
- Farmers use earthworms, cow dung, urine, plants, human excreta and such biological fertilizers for crop protection. It reduces farmers' investment. It also protects the soil from degradation.

Benefits of ZBNF

- Cow dung from local cows has proven to be a miraculous cure to revive the fertility and nutrient value of soil.
- One gram of cow dung is believed to have anywhere between 300 to 500 crore beneficial micro-organisms.
- These micro-organisms decompose the dried biomass on the soil and convert it into ready-to-use nutrients for plants.
- Zero budget natural farming requires only 10 per cent water and 10 per cent electricity than what is required under chemical and organic farming.
- ZBNF may improve the potential of crops to adapt to and be produced for evolving climatic conditions.
- As both a social and environmental programme, it aims to ensure that farming - particularly smallholder farming - is economically viable by enhancing farm biodiversity and ecosystem services.
- It reduces farmers' costs through eliminating external inputs and using in-situ resources to rejuvenate soils, whilst simultaneously increasing incomes, and restoring ecosystem health through diverse, multi-layered cropping systems.

Four Wheels of ZBNF

- The "four wheels" of ZBNF are 'Jiwamrita', 'Bijamrita', 'Mulching' and 'Waaphasa'.
- Jiwamrita
 - It is a fermented mixture of cow dung and urine (of desi breeds), jaggery, pulses flour, water and soil from the farm bund. This isn't a fertiliser, but just a source of some 500 crore micro-organisms that can convert all the necessary "non-available" nutrients into "available" form.
- Bijamrita
 - It is a mix of desi cow dung and urine, water, bund soil and lime that is used as a seed treatment solution prior to sowing.
- Mulching
 - It is the covering of the plants with a layer of dried straw or fallen leaves, is meant to conserve soil moisture and keep the temperature around the roots at 25-32 degrees Celsius, which allows the microorganisms to do their job.
- Waaphasa
 - Providing water to maintain the required moisture-air balance, also achieves the same objective.

Government Initiatives to support ZBNF

- Government of India has been promoting organic farming in the country through the dedicated schemes of Paramparagat Krishi Vikas Yojana (PKVY) since 2015-16 and also through Rashtriya Krishi Vikas Yojana (RKVY).
- In the revised guidelines of PKVY scheme during the year 2018, various organic farming models like Natural Farming, Rishi Farming, Vedic Farming, Cow Farming, Homa Farming, Zero Budget Natural Farming (ZBNF) etc. have been included wherein flexibility is given to states to adopt any model of Organic Farming including ZBNF depending on farmer's choice.
- Under the RKVY scheme, organic farming/ natural farming project components are considered by the respective State Level Sanctioning Committee (SLSC) according to their priority/ choice.

3) Consider the following statements:

1. Laser communications uses infrared light and has a shorter wavelength than radio waves.
2. Unlike Radio signals, optical signals cannot penetrate cloud coverage.
3. Optical communications provide decreased size, weight and power requirements.

Which of the above statement(s) is/are correct?

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

Answer : d

Bckground: NASA launched its new Laser Communications Relay Demonstration (LCRD) — the agency's first-ever laser communications system — from Cape Canaveral Space Force Station in Florida.

Laser Communications Relay Demonstration (LCRD)

- The Laser Communications Relay Demonstration (LCRD) will showcase the unique capabilities of optical communications.
- Currently, most NASA missions use radio frequency communications to send data to and from spacecraft.
- Optical communications will provide significant benefits for missions, including bandwidth increases of 10 to 100 times more than radio frequency systems.
- Additionally, optical communications provides decreased size, weight, and power requirements.
- A smaller size means more room for science instruments.
- Less weight means a less expensive launch.
- Less power means less drain on the spacecraft's batteries.
- With optical communications supplementing radio, missions will have unparalleled communications capabilities.
- Missions in space will send their data to LCRD, which will then relay the data down to designated ground stations on Earth.
- Laser communications and radio waves use different wavelengths of light.
- Laser uses infrared light and has a shorter wavelength than radio waves.
- This will help the transmission of more data in a short time.
- Unlike radio frequency communications, optical signals cannot penetrate cloud coverage, so NASA must build a system flexible enough to avoid interruptions due to weather.

4) Identify the Committee(s) associated with the Western Ghats:

1. Kasturirangan Committee

2. Gadgil Committee
3. Khusro Committee
4. Raja Chelliah Committee

Choose the correct option.

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

Answer : c

Background: Karnataka Chief Minister Basavaraj Bommai informed the Centre that the state is opposed to the Kasturirangan Committee report on Western Ghats.

Madhav Gadgil Committee

- Gadgil Commission, an environmental research commission is named after its chairman Madhav Gadgil.
- The commission is formally known as Western Ghats Ecology Expert Panel (WGEEP).
- The commission submitted the report to the Government of India on 31 August 2011.

Recommendations

- The Western Ghats Ecology Expert Panel (WGEEP) designated the entire hill range as an Ecologically Sensitive Area (ESA).
- The panel, in its report, has classified the 142 taluks in the Western Ghats boundary into Ecologically Sensitive Zones (ESZ) 1, 2 and 3.
- ESZ-1 being of high priority, almost all developmental activities (mining, thermal power plants etc) were restricted in it.
- Gadgil report recommended that “no new dams based on large-scale storage be permitted in Ecologically Sensitive Zone 1. Since both the Athirappilly of Kerala and Gundia of Karnataka hydel project sites fall in Ecologically Sensitive Zone 1, these projects should not be accorded environmental clearance,” it said.
- Gadgil Committee report specifies that the present system of governance of the environment should be changed. It asked for a bottom to top approach (right from Gram sabhas) rather than a top to bottom approach. It also asked for decentralization and more powers to local authorities.
- The commission recommended constitution of a Western Ghats Ecology Authority (WGEA), as a statutory authority under the Ministry of Environment and Forests, with the powers under Section 3 of the Environment (Protection) Act, 1986.

Kasturirangan Committee

- The Kasturirangan committee was constituted to examine the WGEEP report.
- The committee is often called HLWG – it denotes the 10 member high-level working group (HLWG), headed by Kasturirangan.

Recommendations

- Instead of the total area of Western Ghats, only 37% (i.e. 60,000 sq. km.) of the total area be brought under ESA under Kasturirangan report.
- A complete ban on mining, quarrying and sand mining in ESA.
- Distinguished between cultural (58% occupied in the Western Ghats by it like human

settlements, agricultural fields and plantations) and natural landscape (90% of it should come under ESA according to the committee).

- Current mining areas in the ESA should be phased out within the next five years, or at the time of expiry of mining lease, whichever is earlier.
- No thermal power be allowed and hydropower projects are allowed only after detailed study.
- Red industries i.e. which are highly polluting be strictly banned in these areas.
- Kasturirangan report on the Western Ghats has made several pro-farmer recommendations, including the exclusion of inhabited regions and plantations from the purview of ecologically sensitive areas (ESAs).
- The Kasturirangan report had said 123 villages fall under the ESA purview.
- According the report the state of Karnataka has the highest percentage of the Eco-Sensitive Area among other states.

5) The World Inequality Report is released by which of the following?

- a. International Monetary Fund
- b. World Bank
- c. World Inequality Lab
- d. United Nations Development Programme

Answer : c

Background: World's most extreme inequality increase in India.

World Inequality Index

- France-based World Inequality Lab published its report titled "World Inequality Report 2022".
- This report was authored by Lucas Chancel, who is the co-director of World Inequality Lab.
- It was coordinated by famed French economist Thomas Piketty.

Findings

- Report notes that, top 1 % of the India's population owns more than one-fifth of the total national income in 2021.
- The bottom half of the population earns just 13.1 per cent.
- It highlights that, economic reforms and liberalization that India has adopted, have mostly benefited the top 1 percent.
- Report identifies India as a poor and an unequal country, with an affluent elite.
- 1 percent richest people in India hold 22% of the total national income in 2021, while the top 10 % owns 57 per cent of the income.
- Average national income of the Indian adult population is Rs 204,200 in 2021, on the basis of purchasing power parity.
- However, report clarified that average national income of a country masks inequalities.
- Among the BRICS nations, South Africa and Brazil have wider income inequalities as compared to India.