Q: To curb depletion in ground water levels and reduce power usage, the Punjab government is firming up a plan on crop diversification. Consider the following statement:

1. A third of water-intensive paddy grown would be gradually shifted to crops such as cotton, maize, oilseeds and pulses, over the next five years.
2. The state government will also provide incentives to farmers.
3. These crops will not be procured under Minimum Support Price (MSP).

Choose the correct option from the codes given below:

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

Ans: a
Explanation:

- Under it, around a million hectare (MH) or **a third of water-intensive paddy grown areas** in the state would be gradually shifted to alternative crops such as cotton, maize, oilseeds and pulses, over the next five years.
- The state government will also provide incentives to farmers for shifting around 10% of wheat area to alternative crops such as oilseeds and pulses.
- The crop diversification would entail financial incentives to farmers, procurement of crops by state agencies under the Minimum Support Price (MSP) operations and processing facilities. Annually, around 0.1-0.2 MH paddy sown will be shifted to alternate crops.

Q: Recently, scientists have discovered a new species of bamboo-dwelling bat. Consider the following statement and choose the incorrect option:

a) The new species of bats have been found from Nongkhyllem Wildlife Sanctuary.
b) Nongkhyllem Wildlife Sanctuary is in Mizoram.
c) These bats are currently composed of four recognised species from Southeast Asia.
d) Meghalaya has the highest bat diversity in the country.

Ans: b
Explanation:

- The species, found near the forested patch of Nongkhyllem Wildlife Sanctuary, has been named Glischropus meghalayanus.
- Thick-thumbed bats of the genus Glischropus are currently composed of four recognised species from Southeast Asia.
- The newly discovered species is small in size and has a dark brown colour with sulphur yellow belly.
- With this new discovery, the total number of bat species known from India stands at 131.
- Meghalaya, a State with a small geographical area, harbours the highest bat diversity in the country with 67 species, which is about 51% of total bat species in the country.

Q: Recently, Ministry of Electronics and IT (MeitY) has declared NPCI as 'critical information infrastructure'. Consider the following statement:

1. Critical Information Infrastructure' means a computer resource, whose destruction have debilitating impact on national security, economy, public health or safety.
2. Any person who secures access or attempts to secure access to a protected system shall be punished with imprisonment of a term which may extend to 10 years.

Choose the correct option from the codes given below:

a) 1 Only
b) 2 Only
c) 1 and 2
d) None of the above

Ans: c

Explanation:

- Critical Information Infrastructure' means a computer resource, the incapacitation or destruction of which, shall have debilitating impact on national security, economy, public health or safety.
- Any person who secures access or attempts to secure access to a protected system in contravention of the provisions shall be punished with imprisonment of a term which may extend to 10 years and shall also be liable for a fine.

Q: Researchers from the IIT Mumbai and Kharagpur have built a microscope that can image magnetic fields within microscopic two-dimensional samples. Consider the following statement:

1. It can measure biological activity of neurons and dynamics of vortices in superconductors.
2. First time tool has been built to image magnetic fields that change within milliseconds.
3. The key aspect of this sensor is a "nitrogen vacancy (NV) defect centre".

Choose the correct option from the codes given below:

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

Ans: d
Explanation:

- Researchers from the Indian Institutes of Technology (IIT) at Mumbai and Kharagpur have built a microscope that can image magnetic fields within microscopic two-dimensional samples that change over milliseconds.
- This has a huge potential for scientific applications, such as in measuring biological activity of neurons and dynamics of vortices in superconductors.
- This is the first time that such a tool has been built to image magnetic fields that change within milliseconds.
- The key aspect of this sensor is a "nitrogen vacancy (NV) defect centre" in a diamond crystal.
- Such NV centres act as pseudo atoms with electronic states that are sensitive to the fields and gradients around them (magnetic fields, temperature, electric field and strain).

Q: Consider the following statement regarding Amrit Sarovar Mission:

1. It aims at developing and rejuvenating 75 water bodies in each district in all States.
2. At least 50,000 water bodies are expected to be rejuvenated across the country.

Choose the correct option from the codes given below:

a) 1 Only
b) 2 Only
c) 1 and 2
d) None of the above

Ans: c
Explanation:

- The water conservation mission launched by Prime Minister Narendra Modi on April 24, 2022, aims at developing and rejuvenating 75 water bodies in each district in all States as part of the celebrations of 'Azadi ka Amrit Mahotsav'.
- **At least 50,000 water bodies are expected to be rejuvenated** across the country during the nationwide programme that would culminate on August 15, 2023.
- The Centre announced that the national flag would be hoisted at all the Amrit Sarovar sites on that day.