

**Q: Consider the following statement Green Hydrogen Project:**

1. United States and the European Union have approved billions for this project.
2. Hydrogen can be used as a fuel.
3. It is made through Isothermal process.

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:

- The United States and the European Union have already approved incentives worth billions of dollars for green hydrogen projects.
- Hydrogen can be used as a fuel. It is made by splitting water with an electrical process, electrolysis.
- If the devices that do that, electrolyzers, are powered by renewable energy, the product is called green hydrogen, a fuel free of greenhouse emissions.

**Q: Consider the following statement regarding Green Ammonia:**

1. It is made by combining carbon and nitrogen.
2. It can be used by the fertiliser industry.
3. The green hydrogen proposal is likely to be called "Strategic Intervention for Green Hydrogen Transition (SIGHT)".

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: b

Explanation:

- The Indian government expects industry to invest 8 trillion rupees in green hydrogen and its derivative green ammonia by 2030.
- Green ammonia is made by combining nitrogen with hydrogen using renewable energy sources; it can be used by the fertiliser industry or as a fuel or convenient means of transporting hydrogen.
- The green hydrogen proposal is likely to be called "Strategic Intervention for Green Hydrogen Transition (SIGHT)" and will be split into 45 billion rupees for electrolyser manufacturing for five years and the 135 billion rupees for green hydrogen and green ammonia production for three years.

**Q: Consider the following statement regarding PRASAD Scheme:**

1. This scheme is under Ministry of Tourism.
2. It aims to provide integrated infrastructure development to pilgrimage and heritage tourism destinations in 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:

- PRASHAD (National Mission on Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive) Scheme of the Ministry of Tourism, Government of India.
- Launched in the year 2014-15, the scheme aims to provide integrated infrastructure development to pilgrimage and heritage tourism destinations in the country.

**Q: Consider the following statement:**

1. Enzyme known as RfGH5\_4, can be used as a substitute for petrol.
2. RfGH5\_4 effectively breaks down the cellulose and hemicellulose in woody biomatter and converts it into bioethanol.
3. This bacterium is found in the gut of cows and other cud-chewing animals.

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 Indian Institute of Technology, Guwahati have found that a specific enzyme can effectively convert woody biomatter into bioethanol, a renewable fuel which can even be used as a substitute for petrol or in food medicine.
- The enzyme known as RfGH5\_4, which was derived from a bacterium called Ruminococcus flavefaciens, effectively breaks down the cellulose and hemicellulose in woody biomatter and converts it into bioethanol. This bacterium is found in the gut of cows and other cud-chewing animals.
- The efficiency of the enzyme, RfGH5\_4, was tested by breaking down and fermenting molecules of biomasses such as main stalk and small branches of cotton, sorghum stalk, sugarcane bagasse, finger millet stalk and maize leaves, into simple sugars.

**Q: Consider the following statement regarding Rampa Temple:**

1. The temple is dedicated to Lord Shiva.
2. It is included in UNESCO's World Heritage list.
3. The temple was built by Vijayanagar ruler.

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:

- The Ramappa temple of Lord Shiva, a perfect example of architectural brilliance, was built in 1213 AD by the Kakatiya rulers and has been inscribed on UNESCO's World Heritage list.
- This heritage temple attracts over 10 Lakh visitors every year and has a high visibility amongst the tourist circuit.
- The President inaugurated the project 'Development of Pilgrimage and Heritage Infrastructure of UNESCO World Heritage Site at Rudreshwara Temple (Ramappa)'.
- It aims to make Ramappa Temple, a world class pilgrimage and tourist destination, by providing state-of-the-art facilities for visitors while maintaining essence of heritage and tranquility of the site.