

UPSC CURRENT AFFAIRS MCQS 10-01-2024

Question.1

Consider the following with respect to 'Rejupave technology'

1. It is developed by the CSIR-Central Road Research Institute (CRRI) in collaboration with Japan.
2. It is a recycled plastic waste based asphalt modifier.
3. It allows for easier handling and paving even at sub-zero temperatures.

Select the correct statement(s)

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1 and 2 only

Solution (c)

Statement 1	Statement 2	Statement 3
Incorrect	Incorrect	Correct

Rejupave is an innovative Indian technology developed by the CSIR-Central Road Research Institute (CRRI) in collaboration with Verma Industries.

It's specifically designed for constructing and maintaining high-altitude bituminous roads in extremely cold temperatures and challenging conditions.

Rejupave is a bio-oil based asphalt modifier that significantly lowers the heating temperature needed for bituminous mixes. This is crucial in cold environments where traditional methods require high heat, leading to energy consumption and potential environmental damage. Improves workability at low temperatures: By lowering the mix temperature, Rejupave allows for easier handling and paving even at sub-zero temperatures. This extends the construction season and makes road building in high-altitude regions more feasible.

Question.2

With reference to ‘Fuel cells’, consider the following statements

1. Statement 1- They are electrochemical devices that convert chemical energy directly into electrical energy.
2. Statement 2-They operate without burning the fuel, resulting in higher energy efficiency and lower emissions.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement II is not the correct explanation for Statement-I
- (c) Statement-I is correct but statement II is incorrect
- (d) Statement -I is incorrect but Statement -II is correct

Solution (a)

About Fuel Cell

A fuel cell is a device that generates electricity by a chemical reaction.

A fuel cell consists of two electrodes—a negative electrode (or anode) and a positive electrode (or cathode).

Both electrodes must be immersed in and separated by an electrolyte, which may be a liquid or a solid but must, in either case, conduct ions between the electrodes in order to complete the chemistry of the system.

A single fuel cell generates a tiny amount of direct-current (DC) electricity.

Advantages of Fuel Cells:

Fuel cells have lower or zero emissions compared to combustion engines. Hydrogen fuel cells emit only water, addressing critical climate challenges as there are no carbon dioxide emissions.

There are also no air pollutants that create smog and cause health problems during the operation of a fuel cell.

They are quiet during operation as they have few moving parts.

They can operate at higher efficiencies than combustion engines.

A fuel cell resembles a battery in many respects, but it can supply electrical energy over a much longer period of time.



This is because a fuel cell is continuously supplied with fuel and air (or oxygen) from an external source, whereas a battery contains only a limited amount of fuel material and oxidant that are depleted with use.

Question.3

With reference to ‘Aadhaar Enabled Payment System (AePS)’ consider the following statements

1. The AePS is a bank-led model facilitating online interoperable financial transactions through Aadhaar authentication.
2. It eliminates the need for OTPs, bank details, and other financial information.

Select the INCORRECT statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution (d)

Statement 1	Statement 2
Correct	Correct

The Aadhaar Enabled Payment System (AePS) is a bank-led model that allows Aadhaar-linked bank account holders to access their accounts through Micro ATMs operated by Business Correspondents (BCs) like kirana stores or petrol pumps. These BCs act as mini-banks in remote areas where traditional bank branches might not be readily available. AePS does not require an OTP for authentication. It relies solely on your Aadhaar number and biometric verification (fingerprint or iris scan) to securely access your bank account.

This streamlines the process and makes it accessible even for those who may not have access to mobile phones or struggle with technology..

Context: In 2023, Aadhaar Enabled Payment System (AePS) frauds accounted for 11% of cyber financial scams originating in India, according to an analysis by the Indian Cyber Crime Coordination Centre (I4C)

Question.4

‘Lanjia Saura paintings’ which was recently in news belongs to

- (a) Gujarat



(b) West Bengal

(c) Odisha

(d) Chhattisgarh

Solution (c)

About Lanjia Saura paintings

Lanjia Saura paintings, also known as Idital, are a vibrant and mesmerizing form of tribal art practiced by the Lanjia Saura community in Odisha, India. These mural paintings adorn the mud walls of their homes, showcasing a unique blend of cultural symbolism and artistic talent. Here's a glimpse into their captivating world:

Themes and Significance:

-Religious motifs: Idital paintings are deeply rooted in Lanjia Saura beliefs and mythology. They often depict their chief deity Idital, along with other deities, ancestors, and spirits. These figures are presented in stylized forms, with bold lines and vibrant colors symbolizing their power and blessings.

Nature and daily life: Elements of nature, like animals, trees, and the sun, are frequently featured, reflecting the close connection the community has with its environment. Scenes of everyday life, such as hunting, farming, and rituals, are also depicted, providing a window into their cultural practices.

Protective Symbols: Geometric patterns and intricate designs hold significant meaning in Lanjia Saura symbolism. They are believed to ward off evil spirits, bring good luck, and protect the inhabitants of the house.

Art Materials and Techniques:

Natural pigments: Traditionally, Lanjia Saura artists used natural pigments derived from plants, minerals, and earth. Colors like red, white, black, and ochre are prominent, creating a striking visual contrast on the clay walls.

Simple tools: Brushes made from twigs or animal hair, along with fingers and palms, are used to apply the pigments. Their bold lines and stylized forms create a distinct aesthetic.

Collaborative process: Painting is often a communal activity, with family members and friends collaborating to create elaborate murals on the walls of their homes. This strengthens their social bonds and cultural identity..

Context: Lanjia Saura painting among 7 Odisha products to get GI tag



Question.5

With reference to ‘Wetlands’ consider the following statements

1. Wetlands contain rich biodiversity due to the ‘Edge effect’.
2. All Wetlands are protected under Ramsar Convention.
3. Amrit Dharohar is the initiative to protect Wetlands.

How many statement(s) given above are correct

- a) Only one
- b) Only two
- c) All three
- d) None

Correct

Solution (b)

Statement Analysis:

Statement 1	Statement 2	Statement 3
Correct	Incorrect	Correct

The “edge effect” refers to the ecological phenomenon that occurs at the boundary or edge between two different ecosystems. This concept is particularly relevant when discussing the interface between wetlands and adjacent terrestrial or aquatic ecosystems. Here are some key aspects of the edge effect in the context of wetlands:

Increased biodiversity: Edge zones often attract a wider variety of species due to the diverse mix of resources and habitat features.

Enhanced productivity: Higher nutrient availability and light infiltration can boost plant growth and animal activity.

Connectivity: Edges can act as corridors for species movement between different habitats.

Not all wetlands are Ramsar Sites.

The Ramsar convention entered into force in India on 1 February 1982. India currently has 75 sites designated as Wetlands of International Importance (Ramsar Sites). This is the highest in South Asia.



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Amrit Dharohar scheme which will promote their unique conservation values. This scheme will be implemented over the next three years to encourage optimal use of wetlands, and enhance bio-diversity, carbon stock, eco-tourism opportunities and income generation for local communities

Context: The Ministry of Environment, Forest, and Climate Change (MoEF&CC) has nominated Indore, Bhopal, and Udaipur for Wetland City Accreditation (WCA) under the Ramsar Convention on Wetlands. It is the first nomination of its kind by the Ministry of Environment, Forest, and Climate Change (MoEF&CC).