

Q: Consider the following statement:

1. Xylitol is a sugar substitute.
2. Only 8-15 percent of the xylose is converted to Xylitol.
3. Industrially, Xylitol is produced with the help of catalyst, Zinc.

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:

- Recently, the researchers at the Indian Institute of Technology (IIT), Guwahati have developed an ultrasound-assisted fermentation method to produce a safe sugar substitute called 'Xylitol' from bagasse, the residue left after crushing of sugarcane.
- The new method overcomes operational limitations of chemical methods of synthesis and time delays associated with conventional fermentation.
- Xylitol is industrially produced by a chemical reaction in which wood-derived D-xylose, a costly chemical, is treated with nickel catalyst at very high temperatures and pressures that makes the process highly energy consuming.
- Only 8-15 percent of the xylose is converted to Xylitol and the method requires extensive separation and purification steps, all of which translate to high price for the consumer.

Q: Consider the following statement:

1. The healthcare facilities are to be provided to Transgender persons under the Pradhan Mantri Suraksha Bima Yojana.
2. The ministry of social justice and empowerment (MOSJE) will fund Rs.5 lakh insurance cover per transgender.
3. Specific packages like Sex Reassignment Surgery (SRS) and treatment for transgenders are also provided.

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:

- Transgender persons will now get composite healthcare services under the Ayushman Bharat-PMJAY with a MoU being signed between the National Health Authority and the Department of Social Justice and Empowerment.
- The MoU as one of its kind in the country which will give impetus to ensuring rightful and respectable place for transgenders.
- The MoU will extend all healthcare benefits to transgender persons (holding a transgender certificate issued by the National Portal for transgender persons) across the country.
- The ministry of social justice and empowerment (MOSJE) will fund Rs.5 lakh insurance cover per transgender beneficiary per annum.
- A comprehensive package is being prepared for transgender category including the existing AB PM-JAY packages and specific packages like Sex Reassignment Surgery (SRS) and treatment for transgenders.

Q: Consider the following statement regarding Multi Modal Logistics Parks:

1. A tripartite agreement is signed between National Highways Logistics Management Limited (NHLML), Inland Waterways Authority of India (IWAI) and Rail Vikas Nigam Limited (RVNL) to build these park.
2. It is built under Smart Cities Mission.
3. Its objective is to centralize freight consolidation and reduce logistics cost.

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: c

Explanation:

- Recently, a tripartite agreement for swift development of modern Multi Modal Logistics Parks (MMLP) under Bharatmala Pariyojna across the country was signed.
- Its objective is to centralize freight consolidation and reduce logistics cost from 14% to less than 10% of GDP at par with International Standards.
- The tripartite agreement was signed by National Highways Logistics Management Limited (NHLML), Inland Waterways Authority of India (IWAI) and Rail Vikas Nigam Limited (RVNL).

Q: Consider the following statement regarding Nitrogen Fixing Plants:

1. Lightning contributes to nitrogen-fixation.
2. Legumes is the best-known nitrogen-fixing plants.
3. Legumes with rhizobium bacteria fix the atmospheric nitrogen.

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:

- Legumes such as pea, broad bean, soya bean, clover and cowpea are the best-known nitrogen-fixing plants. They team up with rhizobium bacteria to fix the atmospheric nitrogen. Lightning also contributes to nitrogen-fixation.
- Sangu pushpam (butterfly pea flower), fenugreek and agathi keerai (vegetable hummingbird) are some nitrogen-fixing plants that can be grown in home gardens.

Q: Consider the following statement

1. Supreme Court of India recently stated provision of the Benami Transaction Amendment Act as unconstitutional.
2. Benami property act violated Article 19 of the Indian Constitution.

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: a

Explanation:

- Recently, the Supreme Court of India stated the provision of the Benami Transaction Amendment Act unconstitutional on the grounds of being manifestly arbitrary.
- Some of the provisions dealt with a three-year jail term and a penalty.
- Chief Justice of India stated that the provision of Benami property act violated Article 20(1) of the Indian Constitution.
- According to Article 20(1), no person should be convicted of an offence or violation which was not in force at the time of the commission of the act charged as an offence.