

**Q: Consider the following statement regarding International Liquid Mirror Telescope (ILMT):**

1. It is the first liquid mirror telescope designed exclusively for astronomical observations.
2. This rotating mirror made up of a thin layer of Helium.

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:

- The ILMT employs a 4-metre-diameter rotating mirror made up of a thin layer of liquid mercury, to collect and focus light. The metal mercury is in liquid form at room temperature and at the same time highly reflective and hence, it is ideally suited to form such a mirror.
- ILMT is the first liquid mirror telescope designed exclusively for astronomical observations and this is the largest aperture telescope available in the country at present and is also the first optical survey telescope in India.

**Q: Consider the following statement:**

1. Waste-to-energy projects use recyclable dry waste to generate electricity.
2. Solid waste in India is 55-60% biodegradable organic waste
3. Of the non-biodegradable dry waste, only 2-3% including hard plastics, metals, and e-waste is recyclable.

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:

- Waste-to-energy projects use non-recyclable dry waste to generate electricity. The process increases the State's power generation capacity and eases the solid waste management (SWM) burden.
- Generally, solid waste in India is 55-60% biodegradable organic waste, which can be converted into organic compost or biogas; 25-30% non-biodegradable dry waste; and around 15% silt, stones, and drain waste.
- Of the non-biodegradable dry waste, only 2-3% including hard plastics, metals, and e-waste is recyclable. The remainder consists of low-grade plastic, rags, and cloth that can't be recycled.
- This fraction of the non-recyclable dry waste is the most challenging portion of the present SWM system; the presence of these materials also reduces the efficiency of recycling other dry and wet waste.

**Q: Consider the following statement:**

1. Low calorific value of solid waste in India due to improper segregation.
2. Biodegradable waste has high moisture content and cannot be used for power generation.

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:

- First is the low calorific value of solid waste in India due to improper segregation. The calorific value of mixed Indian waste is about 1,500 kcal/kg, which is not suitable for power generation. (Coal's calorific value is around 8,000 kcal/kg.)
- Biodegradable waste has high moisture content and cannot be used for power generation. The calorific value of segregated and dried non-recyclable dry waste is much higher, at 2,800-3,000 kcal/kg, sufficient to generate power.
- However, segregation (ideally at the source) should be streamlined to ensure the waste coming to the facility has this calorific value.

**Q: Recently, Union Minister for Environment, Forest and Climate Change released 14 guidelines to address Human-Wildlife Conflict (HWC). Consider the following statement regarding cross cutting issues:**

1. Cooperation between the Forest and Media sector in India

2. Crowd Management in Human-Wildlife Conflict
3. Occupational Health and Safety.

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:

Explanation:

- Guidelines for Cooperation between the Forest and Media sector in India: Towards effective communication on Human-Wildlife Conflict Mitigation
- Occupational Health and Safety in the Context of Human–Wildlife Conflict Mitigation
- Crowd Management in Human-Wildlife Conflict Related Situations
- Addressing Health Emergencies and Potential Health Risks Arising Out of Human—Wildlife Conflict Situations: Taking a One Health Approach.

**Q: Consider the following statement:**

1. The UN 2023 Water Conference took place at New York.
2. It was co-hosted by European Union.

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:

- The UN 2023 Water Conference formally known as the 2023 Conference for the Midterm Comprehensive Review of Implementation of the UN Decade for Action on Water and Sanitation (2018-2028) will take place at UN Headquarters in New York, 22-24 March 2023, co-hosted by Tajikistan and the Netherlands.
- It will result in a summary of proceedings from the UNGA President that will feed into the 2023 session of the UN High-level Political Forum on Sustainable Development (HLPF).