

Q: Recently researcher from IISc devised an experiment that led to transition in cell membrane. Consider the following statement:

1. Cell division
2. Transport of nutrients into cells
3. Fungal infections.

Which among the above following is essential for biological phenomenon?

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

Ans: a

Explanation:

- Recently, researchers at the Indian Institute of Science (IISc) have devised an experiment that sheds light on the mechanism that leads to transitions in cell membranes.
- The transition is essential for several biological phenomena such as cell division, cell mobility, transport of nutrients into cells, and viral infections.
- The researchers have looked at colloidal membranes, which are micrometer-thick layers of aligned, rod-like particles.
- These membranes provide a more tractable system to study as they exhibit many of the same properties as cell membranes, and unlike a plastic sheet, where all the molecules are immobile, cell membranes are fluidic sheets in which each component is free to diffuse.

Q: Hughes Communications India (HCI) in collaboration with the Indian Space Research Organization (ISRO) officially launched its first high throughput satellite (HTS). Consider the following statement regarding HTS:

1. It does not uses spot-beam to perform its operations.
2. HTS provides much more bandwidth.
3. It provides much lower-cost bandwidth, and it provides a much higher user experience.

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:

- High-throughput Satellite differs from a conventional satellite in the sense that it increases capacity when using the same amount of orbital spectrum while simultaneously reducing the cost per bit.
- HTS provides much more bandwidth. It provides much lower-cost bandwidth, and it provides a much higher user experience.
- HTS uses spot-beam to perform its operations, unlike traditional satellites which use a broad single beam or few beams. Spot beam technology allows to focus on a limited area and provides seamless and fast connectivity.
- Hughes India uses its home-grown Jupiter system for both HTS and conventional satellite implementations worldwide. HCI is currently providing satellite broadband access to more than two lakh business and government sites across India.

Q: Consider the following statement regarding Indira Gandhi Urban Employment Guarantee Scheme in Rajasthan:

1. It aims providing economic support to the poor and needy families living in the cities.
2. The scheme is in line with Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for villagers.

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 Indira Gandhi Urban Employment Guarantee Scheme has rolled out in Rajasthan with the objective of providing economic support to the poor and needy families living in the cities through work to be provided on demand for 100 days in a year.
- It is a scheme to give guaranteed jobs to the people residing in cities, on the lines of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) for villagers started by the UPA government at the Centre in 2006.

Q: Consider the following statement and choose the incorrect option:

- a) Ayyankali Urban Employment Guarantee Scheme: Kerala
- b) Urban Wage Employment Initiative under UNNATI: Odisha
- c) Mukhya Mantri Shramik Yojana: Jharkhand
- d) Mukhya Mantri Yuva Swabhiman Yojana: Chhattisgarh

Ans: d

Explanation:

- The Rajasthan government has prepared the employment guarantee programme after studying similar such schemes operative in other States. Several States are looking favourably towards an urban version of MGNREGA.
- These schemes include the Ayyankali Urban Employment Guarantee Scheme in Kerala, Urban Wage Employment Initiative under UNNATI in Odisha, Mukhya Mantri Shramik Yojana in Jharkhand and Mukhya Mantri Yuva Swabhiman Yojana in Madhya Pradesh.

Q: Consider the following statement regarding First Loss Default Guarantee (FLDG) arrangements:

1. The RBI working group had recommended a complete ban on such arrangements.
2. FLDG arrangement would also adversely impact the financial inclusion efforts of the RBI

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 digital lending industry thrived until now since banks and other regulated lenders were ready to provide capital on the assurance that if the borrowers default, they would be compensated by the fintech companies operating the digital lending platforms, and in sourcing new customers.
- Such compensation arrangements were structured through first loss default guarantee (FLDG) arrangements, and the extent of such credit comfort offered was commercially negotiated based on the quality of the loan portfolio, among other factors.
- The RBI working group had recommended a complete ban on such arrangements as it viewed such credit comfort obtained from unregulated fintech companies as posing systemic risks to the market. It appears that the RBI has accepted this recommendation since the digital lending guidelines effectively restrict any such FLDG arrangements.
- This could drastically affect access to capital for fintech companies who are working towards designing new-age credit products, and increasing offerings to new-to-credit borrowers.

- FLDG arrangement would also adversely impact the financial inclusion efforts of the RBI, as regulated lenders would be less incentivised to support new fintech companies innovating in this space without any skin in the game of such companies.