VAJIRAM & RAVI
Institute for IAS Examination

The Analyst

CURRENT AFFAIRS Handout

21st June 2025

India's Electric Vehicle Journey

CONTEXT: Rhodium group has highlighted in its report that by 2030 India is would become the 4th largest electric car manufacturer, after China, Europe & US.

What is an Electric Vehicle?

- *use one or more electric motors for propulsion*, instead of a traditional internal combustion engine that burns gasoline or diesel.
- **Types:**
  - **Battery Electric Vehicles:** e.g., Tesla, Nissan Leaf
  - **Plug-in Hybrid Electric Vehicles:** e.g., Toyota Prius
  - **Hybrid Electric Vehicles:** e.g., Honda Insight
- **Status of E-mobility In India:**
  - **Acc. to BEE:** EV industry in India is in nascent stage, with less than **1% share in total vehicle sales.**

Need of the E-mobility

- ❖ **Environment Sustainability:**
  - ➢ **NITI Aayog –** Road transport contribute **14%** of India's energy related emissions.
- ❖ **Reducing Import Dependence:**
  - ➢ **BEE:** transport sector accounts for 18% of total energy consumption in India
  - ➢ estimated **94 million tonnes** of oil equivalent energy
  - ➢ **2030 –** estimated **200 MTOE** of energy supply annually
- ❖ **Export Potential:**
  - ➢ **India surpasses Japan to become 3rd largest** auto market globally
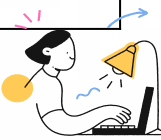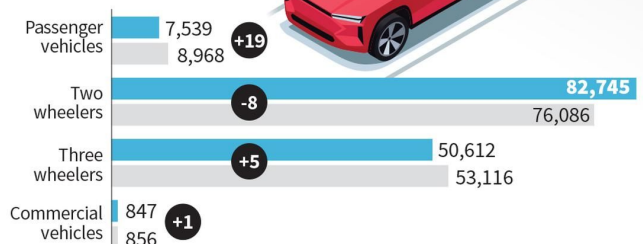
- ❖ **Job creation:**
  - ➢ **Economic Survey 2023:** EV industry to create 5 cr jobs by 2030

Challenges in transitioning to E-mobility

- **High Cost of EVs:**
  - Tata Nexon starts at around Rs 8 lakh, while the Nexon EV starts at Rs 14 lakh.
- **Limited Charging Infrastructure:**
  - **Ministry of Power –** 25,202 EVPCS (dec, 2024)
- **Range anxiety**
- **Issues with Battery Manufacturing Ecosystem:**
  - **Economic Survey 2024-25 –** India imports **75%** of lithium-ion batteries from China
- **Grid Dependence and Emissions**
- **E-Waste Management:**
  - **Global e-waste monitor, 2024:** India ranks **third in e-waste generation** after **China and the USA**.

Shifting gears

Barring two-wheelers, three segments of EVs reported growth in Feb., indicating rising preference for them in the market
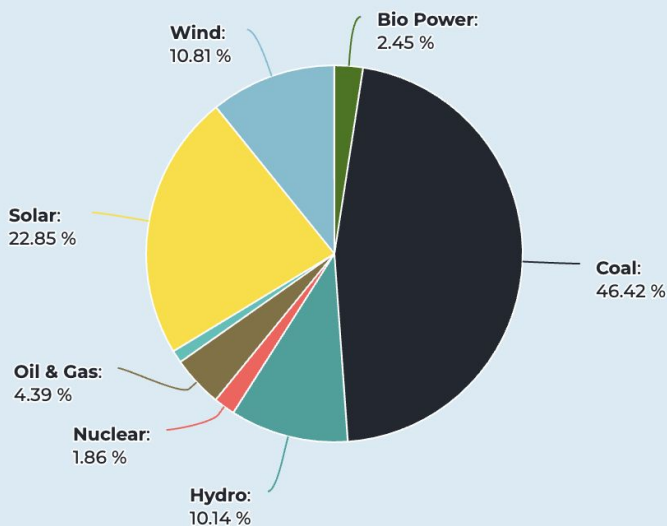
Segment	Value 1	Change	Value 2
Passenger vehicles	7,539	+19	8,968
Two wheelers	82,745	-8	76,086
Three wheelers	50,612	+5	53,116
Commercial vehicles	847	+1	856

India's Electric Vehicle Journey

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Source-wise Electricity Installed Capacity
(as on 30th April 2025)

- Wind: 10.81 %
- Bio Power: 2.45 %
- Solar: 22.85 %
- Coal: 46.42 %
- Oil & Gas: 4.39 %
- Nuclear: 1.86 %
- Hydro: 10.14 %

Source: CEA & NPP

Steps Taken
- **FAME India Scheme Phase-II, 2019**
- **PLI - Scheme for Automobile and Auto Component Industry in India, 2021**
- **PM E-DRIVE Scheme, 2024**

- **PM e-Bus Sewa-Payment Security Mechanism Scheme, 2024**
- **Scheme for Promotion of Manufacturing of Electric Passenger Cars in India, 2024**

Way Forward
- **"Battery Lease-to-Own" Program**
- **Increase Charger Density:** CII - India needs **over 1.3 million chargers** by 2030.
- **EV Rural Entrepreneurs" Program**
- **Highway Battery Swap Corridors**
- **Second-Life Battery Bazaar**

Mains Practise Question
"Despite policy support, electric vehicle adoption in India faces several hurdles. Critically examine the challenges impeding the widespread adoption of electric vehicles in India."

(15 Marks, 250 words)

Communalism in India

CONTEXT: Currently, we are witnessing communal tensions in Assam, as cattle body parts were allegedly found at a Hanuman temple.

Idea of Communalism

- ❖ **Rajni Kothari,** "tendency for religious communities to view themselves as **discrete and antagonistic entities.**
- ❖ **Ideology of Division:**
  - ➢ own set of political, economic, and social interests
  - ➢ creates a sense of **"us" versus "them.**
- ❖ **Communalism can manifest in various degrees:**
  - ➢ **Mildest -** aligning on secular interests
  - ➢ **Moderate communalism -** different communities having distinct interests
  - ➢ **Extreme communalism -** zero-sum game & **sense of religious superiority**

Types of Communalism

- ● **Sociologist T.K. Oomen:**
  - ○ **Assimilationist:** Hindu code bill applied to Sikhs, Jains & Buddhists.
  - ○ **Welfarist**
  - ○ **Retreatist:** Bahaism religion discourages involvement in party politics.
  - ○ **Retaliatory:** Gujarat riots, 2002
  - ○ **Separatist:** Demand for Gorkhaland, Greater Nagalim
  - ○ **Secessionist:** Demand for Khalistan

Causes

- ● **Historial seeds of Discord:**
  - ○ Divide & Rule Policy & Revivalist Movements
- ● **Political Factors:**
  - ○ Eg- demolition of the Babri Masjid in **1992**
  - ○ lack of strict action against **hate speech** by political leaders
- ● **Economic Factors:**
  - ○ 2013 Muzaffarnagar riots
  - ○ Sachar Committee Report
- ● **Social Factors:**
  - ○ like 'ghar wapsi', beef consumption
  - ○ **Fear of Demographic Change -** 2012 Assam riots between Bodos and Muslims
- ● **Media and Communication:**
  - ○ anonymity and ease of sharing allow
  - ○ Delhi riots of 2020

Impacts

- ● **Deterioration of Law and Order:**
  - ○ **NCRB –** 378 cases of "communal riots" in India in **2021**, resulting in 530 victims.
- ● **Human Rights Violations:**
  - ○ **E.g.** Bilkis Bano gang-raped during the **2002 Gujarat riots**
- ● **Disrupted Social Fabric:**
  - ○ A **2023 survey by the Pew Research Center** found that **only 42% of Indians** trust people from a different religion.

Communalism in India

CONTEXT: Currently, we are witnessing communal tensions in Assam, as cattle body parts were allegedly found at a Hanuman temple.

- ○ **1989 exodus of Kashmiri Pandits** from the Kashmir Valley
- **Economic Losses:**
  - ○ Global Peace Index Report 2022 - **6% of GDP annually**
- **Tarnished International Image:**
  - ○ **U.S. Commission on International Religious Freedom** designating **India as a "Country of Particular Concern."**

Way Forward
- **Strengthening the Justice System:**
  - ○ **Speedier Trials -** Gujarat riots 2002
  - ○ **Strictly enforcing the Model Code of Conduct** by the Election Commission of India.
- **Enhancing Minority Representation:**
  - ○ **Kerala** integrating minority communities into the police force

- **Addressing Legislative Gaps:**
  - ○ 'Prevention of Communal and Targeted Violence (Access to Justice and Reparations) Bill, 2011
- **Encouraging Interfaith Dialogue:**
  - ○ Eg. the Inter-religious Council of Kenya, Interfaith councils in the US
  - ○ NGOs like **Aman Biradari in Kashmir**
- **Promoting Value-Based Education**
- **2nd ARC recommendations**:
  - ○ **District Peace Committees-** like P**eace Committees in Maharashtra** that involve community leaders in resolving local conflicts.
  - ○ **Mohalla Committees to identify local problems**

Mains Practise Question
Discuss the socio-political and economic impacts of communalism in India. Suggest a multi-pronged strategy to counter its spread and ensure communal harmony.
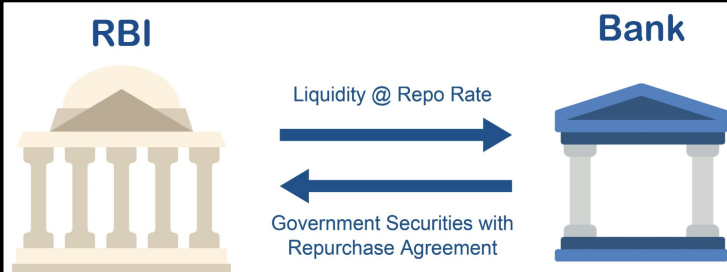
(15 Marks, 250 words)

Monetary Policy Stance

VAJIRAM & RAVI

GIVEN THE current macroeconomic conditions, especially the sharp fall in retail inflation, monetary policy needs to support growth, while remaining consistent with the objective of price stability, Reserve Bank of India Governor Sanjay Malhotra said at the Monetary Policy Committee (MPC) meeting held from June 4 to 6, the minutes released on Friday showed.

In the policy announced on June 6, the six-member MPC with a vote of 5:1 decided to reduce the repo rate — the key policy rate — by 50 basis points (bps) to 5.5 per cent, and changed the policy stance from accommodative to neutral. Following the move, banks have reduced lending and deposit rates.

"Given the sharp reduction in inflation of about 3 percentage points over the past few months (6.2 per cent in October 2024 to 3.2 per cent in April, 2025), and the projected reduction in annual average inflation by almost one percentage point from 4.6 to 3.7 per

Repo Rate

RBI — Liquidity @ Repo Rate → Bank

Bank — Government Securities with Repurchase Agreement → RBI

Decoding the news

➔ **RBI Act, 1934** amended in May, 2016 Flexible inflation targeting framework

➔ **Inflation targets** in terms of **CPI**, once in 5 years

➔ **Monetary Policy Committee:**
   ◆ 3 from RBI & 3 government appointed members
   ◆ **Members from RBI:** RBI Governor, Deputy Governor of RBI & Officer of RBI
   ◆ Decision based on **Majority**
   ◆ Governor - **Casting vote**
   ◆ **Quorum** - 4 members
   ◆ **Meeting:** At least **4 times** in a year
   ◆ **Functions**

PYQ. Which of the following statements is/are correct regarding the *'Monetary Policy Committee (MPC)*? (2017)

1. It decides the RBI's benchmark interest rates.
2. It is a 12-member body including the Governor of RBI and is reconstituted every year.
3. It functions under the chairmanship of the Union Finance Minister.

Select the correct answer using the code given below:

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

National Quantum Mission

SYLLABUS: Prelims: Science
Newspaper : The Hindu; **Page No :** 10

What is Quantum Computing?

Quantum computers use special units called qubits to store and process information. Unlike regular computers, where bits can only be 0 or 1, qubits can be both 0 and 1 at the same time. This ability to be in multiple states at once makes quantum computers different and potentially much more powerful than traditional ones.

About Quantum Computing Mission

- Major initiative by the Government of India to propel the nation to the forefront of quantum technology research and development.
- Approved on **19th April 2023** by the Union Cabinet, the mission is set to span from **2023–24 to 2030–31**, with a budget allocation of **₹6,003.65 crore.**
- **Objectives:**
  - **Quantum Communication Network:** Establishing a secure and high-bandwidth communication infrastructure spanning 2,000 kilometres.
  - **Quantum Computing Power:** Developing quantum computers with a processing capacity of 1,000 qubits, unlocking immense computational capabilities.
  - **Magnetometry and Atomic Clocks:** Advancing the development of highly sensitive magnetometers for precision measurements and reliable atomic clocks.
  - **Quantum Materials Design:** Synthesizing and characterizing novel quantum materials with tailored properties for cutting-edge device fabrication.

Scientists from IIT-Delhi and the DRDO recently demonstrated a key advance in quantum cybersecurity that stands to revolutionise how the world will communicate in the future. The world's secrets are currently stored and communicated via channels that are protected by difficult mathematical problems. Over the years, an increasing amount of computing power available to certain actors has forced these problems to become difficult and nigh-uncrackable. The imminence of quantum computing requires this paradigm to change because quantum computers can (at least on paper) solve problems currently out of reach of the most powerful conventional supercomputers. Quantum cybersecurity is one prong of this change, promising to protect communication channels irrespective of the computing power available to malicious actors. The IIT-Delhi and DRDO team successfully demonstrated a quantum key-distribution scheme through one kilometre of free space on the institute's campus. Such a technology allows two individuals (or stations) located a kilometre apart to securely access messages they send each other. If an eavesdropper tries to intercept any message, instantaneous changes in the keys the individuals use to decrypt the messages will reveal the channel has been compromised, and in a way that the eavesdropper cannot prevent. If scaled up to include satellites, the technology could allow stations anywhere in India to exchange information through a quantum network without fear of being compromised.

Quantum Domains of Four Thematic Hubs

Quantum Computing
1 Led by the Indian Institute of Science (IISc), Bengaluru.

Quantum Communication
2 Led by the Indian Institute of Technology Madras in association with the Centre for Development of Telematics (C-DOT), New Delhi

Quantum Sensing and Metrology
3 Spearheaded by the Indian Institute of Technology Bombay (IIT-B).

Quantum Materials and Devices
4 Coordinated by the Indian Institute of Technology Delhi (IIT-D).

Herein lies the rub. Quantum communications is one of the four themes of the National Quantum Mission, approved in 2023 with an outlay of ₹6,003 crore until 2031. Many of the same problems assailing fundamental research in India have already beset research under the Mission, however. A small fraction of the outlay has been disbursed thus far even as venture capital flow into startups remains trivial. Scientists have complained that just-in-time funding, absence of single-window clearances, and documentation requirements have increased the duration of projects. There are persistent foreign hardware and software dependencies: materials required for specific use-cases, such as cryostats and sensors, need to be fabricated abroad while most quantum software stacks are currently implemented by multinational companies. Government pay does not match global offers and lack of timely access to resources has forced researchers to accept short-term contracts and rent equipment. In fact, India's commitment, itself down from the ₹8,000 crore announced in 2020, is dwarfed by those of the U.S. and China, which are five- and 20-times higher, respectively. If the demonstration at IIT-Delhi is to scale, the government cannot simply 'clip on' scientific talent and technological and economic opportunity to existing infrastructure. Administrative reform is essential.

Issues with National Quantum Mission

Administrative Issues

Import dependencies

Outlay Quite low in comparison to US & China

Why Centre wants QR codes on PMGSY roads?

EARLIER THIS month, the Union Ministry of Rural Development (MoRD) asked states to attach QR codes on all maintenance information display boards for roads built under the Pradhan Mantri Gram Sadak Yojana (PMGSY).

Road-building scheme

The first phase of PMGSY was launched on December 25, 2000, by the government of Prime Minister Atal Bihari Vajpayee to improve rural infrastructure by building roads. The second phase was launched in 2013.

Another component, the Road Connectivity Project for Left Wing Extremism Affected Areas, was launched in 2016 for the construction of rural roads in LWE-affected areas.

The third phase was launched in 2019. Then, on September 11 last year, phase IV was approved to provide all-weather road connectivity to 25,000 unconnected habitations of population sizes 500+ to 100+, as per Census 2011.

PMGSY started as a fully centrally sponsored scheme, but the funding pattern was modified in 2015-16 to 60:40 between the Centre and states (except for Northeastern and Himalayan states).

A total 62,500 km of road length is proposed to be constructed for Rs 70,125 crore from 2024-25 to 2028-29. Since the scheme was launched, 8,36,850 km of roads have been sanctioned, of which 7,81,209 km have been completed, says the scheme's dashboard.

The QR code plan

The National Rural Infrastructure Development Agency (NRIDA) under the MoRD, which provides technical support for implementing the PMGSY, has written to all states about the QR codes. The intention is to get public feedback about the quality and maintenance of the roads.

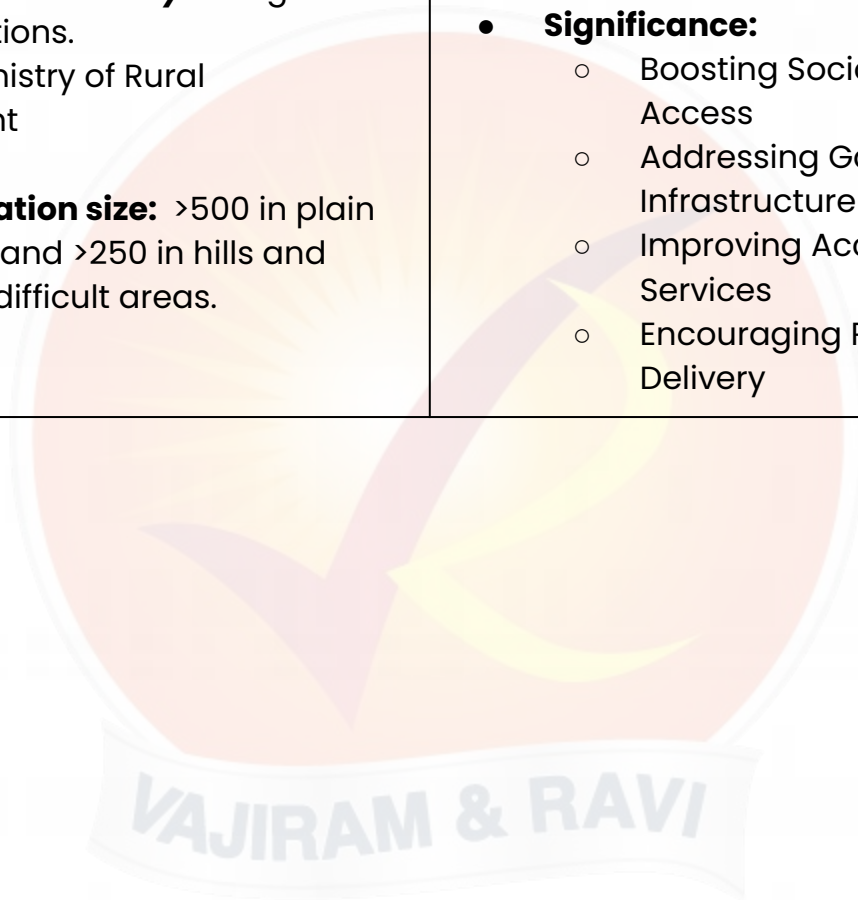Under PMGSY, roads are maintained by the contractor for five years after they are built. After the contractor submits bills on a mobile-cum-web-based platform called eMARG, or electronic Maintenance of Rural Roads, field engineering staff carry out routine inspections to verify the maintenance.

Based on geo-tagged photographs captured during the inspection, performance is evaluated on the basis of 12 parameters of routine maintenance activities, according to NRIDA.

NRIDA also deploys national level monitors to check the quality of roads. These reports have flagged substandard works under PMGSY in the past.

However, there was no mechanism to capture feedback from ordinary people about the quality of maintenance.

Under the new system, a utility has been created in eMARG. A QR code will be generated for each road, to be displayed on the maintenance information display board on the road. The board can contain instructions for registering feedback in English and the local language.

"Any road user/ public can scan the QR code using a mobile phone and will get all details of the road. Users can click photographs on the road and can flag any maintenance related issue in the feedback window," according to the NRIDA.

Citizens' feedback photos will be integrated with the relevant routine inspection. Artificial Intelligence and machine learning will be employed to analyse these pictures to advise on performance evaluation marks.

Why Centre wants QR codes on PMGSY roads?

About PMGSY

- **Phase I:** started as a **100 % centrally sponsored scheme** launched in the **year 2000** to provide *all-weather rural road connectivity* to eligible rural habitations.
- **Ministry:** Ministry of Rural Development
- **Eligibility:**
  - **Population size:** >500 in plain areas and >250 in hills and other difficult areas.

- **Funding Pattern:**
  - revised to a **60:40 ratio** in **2015-16**
  - **90:10 ratio** for Northeastern States and Himalayan States.
- **Significance:**
  - Boosting Socio-Economic Access
  - Addressing Gaps in Rural Infrastructure
  - Improving Access to Essential Services
  - Encouraging Rural Service Delivery

IAEA

Agence France-Presse
NEW YORK

West Asia risks a nuclear catastrophe if Israel strikes Iran's southern nuclear plant of Bushehr, the head of the UN atomic watchdog warned on Friday.

Rafael Grossi, director of the International Atomic Energy Agency (IAEA), told the UN Security Council that he has not yet detected radiation resulting from Israel's week-long military campaign against Iran, including attacks on nuclear sites.

But he said that a strike on Bushehr – West Asia's first civilian nuclear reactor, which so far appears to have been spared – would spell the most serious consequences as it contains thousands of kilograms of nuclear material.

Dire consequences

Mr. Grossi warned of equally dire consequences even if Israel strikes the lines that supply electricity to Bushehr, saying such disabling of power could trigger a meltdown.

In a worst case scenario, evacuations and orders to take shelter would need to be issued for areas within several hundred kilometres of Bushehr, which would include population centres in Gulf Arab monarchies, a major artery of the global economy.

The population would also need to take iodine and may see restrictions in food supply, Mr. Grossi said.

Construction on Bushehr began in the 1970s as the pro-Western shah sought to develop civilian nuclear power.

German scientists initially worked on the plant but since the 1990s the Islamic republic has worked with Russia to develop and maintain Bushehr.

Mr. Grossi appealed for a diplomatic solution and repeated his willingness to travel to negotiate a deal.

"The IAEA can guarantee through a watertight inspection system that nuclear weapons will not be developed in Iran," he said.

IAEA

About IAEA

➜ An *autonomous organization* within the United Nations system.

➜ **Purpose:** to promote the **peaceful use of nuclear energy** and to inhibit its use for any military purpose, including nuclear weapons.

➜ **Established** - **1957** as the *world's "Atoms for Peace"* organisation **within the UN**.

➜ **Governed** by its own founding treaty - the *Statute of the IAEA.*

➜ **Reporting authority:** UNGA and the UNSC

➜ **Headquarters:** Vienna, Austria

➜ **2005 –** it was awarded the *Nobel Peace Prize* for its work for a safe and peaceful world.

➜ **Members:** 180 (as of 15 November 2024)
  ◆ **India** being one of the founding members of it.

➜ **Functions:** It applies comprehensive nuclear safeguards, including:
  ◆ Monitoring, On-site inspections & Information analysis.

NASA has put off Sunday's launch of the Axiom-4 mission carrying Indian astronaut Group Captain Shubhanshu Shukla and three others to the International Space Station, saying it required additional time to evaluate operations on the orbital lab after the recent repairs in its Russian section.

The Axiom-4 mission was targeting a June 22 launch after being put off multiple times due to a leak in the boosters of SpaceX's Falcon-9 rocket, inclement weather in the ascent trajectory and leaks in the aft-most section of Zvezda service module.
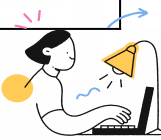
Because of the space station's interconnected and interdependent systems, NASA wants to ensure the station is ready for additional crew members, and the agency is taking the time necessary to review data, Axiom Space said in a statement.

The 14-day mission will "realise the return" to human spaceflight for India, Poland and Hungary.

The astronauts were originally scheduled for lift-off on May 29, which was put off to June 8, June 10 and June 11, when SpaceX, the providers of the launch rocket and the space capsule, detected a liquid oxygen leak in the Falcon-9 rocket. At a pre-launch press conference on June 10, SpaceX vice-president William Gerstenmaier said engineers had detected a liquid oxygen leak on the Falcon-9 booster during the re-entry phase of its previous mission that was not fully repaired during refurbishment.

About Axiom-4 Mission

- expected to be a *short-duration mission*, lasting approximately **14 days**.
- **Long-term vision:** building the *world's first commercial space station* (transition from the ISS to their own independent orbital outpost)
- It is being operated by private US space company **Axiom Space, in partnership with NASA & SpaceX.**
- **Astronauts:** Shubhanshu Shukla and three other astronauts, one each from **US, Poland and Hungary.**

Axiom-4 Mission

- The astronauts will travel in a **new Dragon spacecraft** built by **SpaceX.**
- It will be launched by **Falcon rocket,** also of SpaceX.
- **Mission Objectives**
  - **Commercial Space Endeavours:**
    - like **space tourism in Low Earth Orbit**
    - It aims to demonstrate the feasibility of commercial space stations as platforms for business and research.
- **International Collaboration:**
  - Axiom-4 is set to carry a diverse crew of astronauts from different countries, reflecting the growing international interest in space exploration.
- **Research and Development:**
  - technological tests in the **unique microgravity environment** of space.
  - Areas include materials science, biology, Earth observation etc
- **Significance for India:**
  - Marks a pivotal **collaboration between the ISRO and NASA**, highlighting India's growing presence in space exploration.
  - This mission will facilitate Indian astronauts' participation in activities aboard the ISS, **enhancing India's capabilities in human spaceflight** and international cooperation in space science.

Q1. Regarding Electric Vehicles (EVs), consider the following statements:

1. India's EV industry is nascent, with less than 1% share in total vehicle sales.
2. India imports 25% of lithium-ion batteries from China.
3. Due to battery losses, EV efficiency is generally lower than that of internal combustion engine vehicles.

Which of the statements given above is/are correct?
a) 1 and 3 only
b) 1 only
c) 2 only
d) 2 and 3 only

Answer: b

Q2. Consider the following statements regarding the Monetary Policy Committee (MPC):

1. All members of the MPC are appointed by the Government of India.
2. The MPC is mandated to meet at least once in two months.

Which of the statements given above is/are NOT correct?
a) 1 Only
b) 2 Only
c) Both 1 and 2
d) Neither 1 nor 2

Answer: c

Q3. Regarding India's National Quantum Mission, consider the following statements:

1. It aims to develop intermediate-scale quantum computers with 2 to 110 qubits.
2. The Mission includes the indigenous development of quantum communication over a satellite-based platform.
3. The Ministry of Science and Technology will implement it through a public-private partnership model.

How many of the statements given above is/are correct?
a) Only One
b) Only Two
c) All Three
d) None

Answer: a

Q4. Regarding Axiom-4 Mission, consider the following statements:

1. It was launched aboard a SpaceX Falcon 9 rocket to the Lunar Gateway station.
2. It is a fully private mission with no involvement from national space agencies.
3. It carried astronauts from both European and Turkish space programs.
4. The mission is part of efforts to develop a commercial low Earth orbit outpost.

How many of the statements given above are correct?
a) Only Two
b) Only Three
c) All Four
d) None

Answer: a

Q5. Regarding the International Atomic Energy Agency, consider the following statements:

1. The IAEA's safeguards system is legally binding under the Treaty on the Non-Proliferation of Nuclear Weapons.
2. India is a founding member of the IAEA and has ratified the NPT.
3. IAEA can enforce sanctions on nations violating nuclear safety norms.

Which of the statements given above is/are correct?
a) 1 and 2 only
b) 1 only
c) 3 only
d) 1 and 3 only

Answer: b

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