

# 29 Oct 2020: UPSC Exam Comprehensive News Analysis

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## B. GS 2 Related

### Category: EDUCATION

#### 1. ‘20% rural students lack books’

##### Context:

According to the Annual State of Education Report (ASER) survey, about 20% of rural children have no textbooks at home.

##### **Annual State of Education Report (ASER)**

- ASER is a nationwide survey of rural education and learning outcomes in terms of reading and arithmetic skills.
- It has been conducted by the NGO Pratham for the last 15 years (Since 2005).

- It provides reliable estimates of children's enrolment and basic learning levels for each district and state in India.
- ASER continues to be an important national source of information about children's foundational skills across the country.

**Details:**

- In 2020, the survey was conducted via phone calls, reaching 52,227 rural households with school-age children in 30 States and Union Territories.
- The ASER survey provides a glimpse into the levels of learning loss that students in rural India are suffering, with varying levels of access to technology, school and family resources, resulting in a digital divide in education.

**Key Findings:**

- In Andhra Pradesh, less than 35% of children had textbooks, and only 60% had textbooks in Rajasthan.
- More than 98% had textbooks in West Bengal, Nagaland and Assam.
- During the survey week:
  - About one in three rural children had done no learning activity at all.
  - About two in three had no learning material or activity given by their school.
  - Only one in 10 had access to live online classes.
- Despite the levels of smartphone ownership having almost doubled from 2018, a third of children with smartphone access also did not receive any learning materials.

**Category: INTERNATIONAL RELATIONS****1. U.K. to partner for developing GIFT City, funding infra pipeline****Context:**

The United Kingdom has entered into a strategic partnership to develop India's GIFT City.

**GIFT City:**

- GIFT (Gujarat International Finance Tec-City) is India's first international financial services centre.
- It is located in Gandhinagar, Gujarat.

**Details:**

- At the 10th Economic and Financial Dialogue between the two countries, India and the U.K. also signed off on a new infrastructure finance and policy partnership to help India execute its National Infrastructure Pipeline that envisages investments worth \$1.4 trillion.
- The UK has agreed to set up a new Fund of Funds to be managed by the State Bank of India (SBI) group in order to route the U.K.'s future capital investments into India.
- It provides an opportunity to drive international capital flow from London to India.

**Note:**

- Bilateral trade between India and the U.K. stood at £24 billion in 2019.
- India is now the second-largest project investment source for the U.K.
- To help combat the pandemic, the U.K. and India announced a joint investment of £8 million for research to understand and address the factors leading to the severity of the novel coronavirus in South Asian populations in the U.K. and in India.

## 2. India, Central Asian republics call for destruction of terror 'safe havens'

### Context:

- The second meeting of the India-Central Asia Dialogue was held virtually where the leaders reviewed the relations between India and Central Asian countries.
- The meeting was attended by India's External Affairs Minister and his counterparts from Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan and First Deputy Foreign Minister of the Kyrgyz Republic.

### Details:

- The Central Asian republics joined India in demanding the destruction of safe havens of [terrorism](#).
  - It condemned terrorism while reaffirming to fight it by destroying their networks and funding channels.
  - They underlined the need for every country to ensure that its territory is not used to launch terrorist attacks against other countries.
- Support was expressed for the peace negotiations in Afghanistan.

### Key points:

- India announced an additional \$1 billion Line of Credit for the Central Asian countries.
  - It is expected that the money will be spent on major infrastructural and connectivity projects.
- India also announced grant financing for high-impact community development projects in the countries.
- The meeting led to the establishment of working groups by India Central Asia Business Council comprising the key chambers of all participating countries.

## C. GS 3 Related

### Category: SCIENCE AND TECHNOLOGY

#### 1. ISRO to launch satellite EOS-01 on November 7

### Context:

ISRO has announced that India would launch EOS-01 and nine international customer spacecraft.

- The customer satellites are being launched under a commercial agreement with NewSpace India Limited (NSIL), Department of Space.
- The launch would be made onboard Polar rocket PSLV-C49 from the spaceport of Sriharikota in Andhra Pradesh.

- This will be the 51st mission of ISRO's Polar Satellite Launch Vehicle.
- This is the first launch by [ISRO](#) since the COVID-19 lockdown.

### EOS-1:

- EOS-1 is India's latest earth observation satellite.
- It is intended for applications in agriculture, forestry and disaster management support.

## 2. Countering deepfakes, the most serious AI threat

### Context:

- The article discusses the threats posed by the use of deepfakes and analyzes possible solutions.

### Background:

#### What is deepfake?

- Deepfakes are the **synthetic digital media content** (video, audio, and images) manipulated using [Artificial Intelligence](#).
  - Deepfakes use a **form of artificial intelligence called deep learning** to make videos/images of fake events, hence the name deepfake.
- Deepfakes leverage powerful techniques from machine learning and artificial intelligence to manipulate or generate visual and audio content.
  - The main machine learning methods used to create deepfakes are based on deep learning and involve training generative neural network architectures, such as **autoencoders or generative adversarial networks (GANs)**.
- Apart from doctoring existing videos, deepfake technology can create entirely fictional photos from scratch. Audio can also be deepfaked too, to create "voice skins" or "voice clones" of public figures.

#### Increasing use of deepfakes:

- As per the available reports, the number of deepfake videos online is increasing at an exponential pace.
- **With the increasing access to synthetic media technology**, AI-generated fake videos are becoming more common (and convincing).
  - Access to **cloud computing, algorithms, and abundant data** has created an ideal scenario for the creation of deepfakes.
- Plenty of tools are now available to help people make deepfakes. Several companies offer this as a service. There are even mobile phone apps that let users add their faces to a list of TV and movie characters on which the system has trained.
- The advent of new techniques allows even unskilled people to make deepfakes with only a handful of photos.

#### Legal position:

- Deepfakes are not illegal per se, but depending on the content, a deepfake may infringe copyright, breach data protection law, and be defamatory if it exposes the victim to ridicule.

### Concerns:

- As with any new innovative technology, **deepfakes can be and have been weaponised to inflict harm**. Deepfakes can inflict damage to individuals, institutions, businesses and democracy.

#### Targeting women:

- The very first use case of malicious use of a deepfake was seen in pornography, inflicting emotional, reputational violence upon women.

#### Spread of false news:

- Deepfakes being hyper-realistic digital falsification, it becomes very hard to differentiate them from authentic media.
- Deepfakes are being used to **spread propaganda and disinformation with ease and unprecedented speed and scale**. Such disinformation and hoaxes can have undesirable consequences.

#### Potential for malicious use:

##### *Amplifying division in society:*

- Deepfakes can be used to sow the seeds of **polarisation and amplifying division in society**.
  - Deepfakes can be used by insurgent groups and terrorist organizations to represent their adversaries as making inflammatory speeches or engaging in provocative actions to stir up anti-state sentiments among people.
  - A deepfake of a community leader denigrating a religious site of another community has the potential to cause riots.

##### *Harming an individual's reputation:*

- Deepfakes can depict a person indulging in antisocial behaviours or saying inappropriate things. These can have severe implications on his/her reputation, sabotaging their professional and personal life.

##### *Economic fraud:*

- Deepfakes can also pose a **personal security risk: deepfakes can mimic biometric data, and can potentially trick systems that rely on face or voice recognition**.
- Malicious actors can take advantage of unwitting individuals to defraud them for financial gains using audio and video deepfakes. Deepfakes can be deployed to extract money or confidential information.

##### *As a weapon:*

- A deepfake could be used as a tool by a nation-state to **undermine public safety and create uncertainty and chaos in the target country**. This provides an opportunity to harm a country without the resort to traditional aspects of warfare.

##### *Undermining democracy:*

- Nation-state actors with geopolitical aspirations and ideological believers can use deepfakes to their advantage by using deepfakes to alter the democratic discourse and undermine trust in democratic institutions. False information about institutions, public policy, and politicians powered by a deepfake can be used to **influence election outcomes**.

- A deepfake of a political candidate can sabotage their image and reputation and thus damage their election campaign. Voters can be confused and elections can be disrupted.
- Deepfakes can be used to cast a shadow of illegitimacy over the voting process and election results.

#### *False evidences:*

- As the technology becomes more accessible, deepfakes could also mean trouble for the courts, particularly in child custody battles and employment tribunals, where faked events could be entered as evidence. Deepfakes can be used to **fabricate false evidence**.

#### **Long term harm:**

##### *Loss of trust:*

- Apart from the short term harm caused by deepfakes, they are capable of also inflicting long-term social harm by accelerating the already declining trust in news media. Such erosion in trust can contribute to a **culture of factual relativism**. This would lead to the **creation of a zero-trust society**, where people cannot, or no longer bother to, distinguish truth from falsehood. And when trust is eroded, it is easier to raise doubts about specific events.
- Combined with distrust, the existing biases amplified due to the **echo chamber and filter bubble effects** would lead to discord in society.
  - The echo chamber effect is a situation in which beliefs are amplified or reinforced by communication and repetition inside a closed system and insulates them from rebuttal. People are able to seek out information that reinforces their existing views, potentially as an unconscious exercise of confirmation bias.
  - A filter bubble is a state of intellectual isolation that allegedly results from personalized searches when a website algorithm selectively guesses what information a user would like to see based on information about the user, his/her location, past click-behaviour and search history. As a result, users become separated from information that disagrees with their viewpoints, effectively isolating them in their own cultural or ideological bubbles.

##### *Liar's dividend:*

- It would also lead to what is often referred to as a liar's dividend, wherein an undesirable truth is dismissed as deepfake or fake news and people may start providing an alternative-facts narrative to replace the truth.

#### **Are deepfakes always malicious?**

- Not all deepfakes are malicious. Many are entertaining and some are helpful.
  - Deepfake videos can enliven galleries and museums. For the entertainment industry, technology can be used to improve the dubbing on foreign-language films, and more controversially, resurrect dead actors.
  - Voice-cloning deepfakes can restore people's voices when they lose them to disease.

#### **Way forward:**

- To counter the grave threat posed by deepfakes there is the need for a **multi-stakeholder and multi-modal approach**.

#### **Media literacy:**



- **Media literacy for consumers and journalists** is the most effective tool to combat disinformation and deepfakes.
  - Media literacy is the ability to identify and understand the messages of the media. The people should be aware of the fact that media have embedded values and points of view and that most media messages are organized to gain profit and/or power. This understanding would enable them to decipher, understand, translate, and use the information that they encounter.
- Media literacy efforts must be enhanced to **cultivate an alert public**. This can lessen the damage posed by fake news.

### Responsible digital behaviour:

- The general citizenry has a critical role to play in countering the challenge posed by deepfakes. The people must take the responsibility to be a critical consumer of media on the Internet and think and evaluate the authenticity of a message before sharing it on social media. This could prove to be the most effective solution to the deepfake driven infodemic.

### Regulations:

- For effective regulation of deepfakes there is a need for collaboration between the technology industry, civil society, and policymakers. These regulations must be aimed at **disincentivising the creation and distribution of malicious deepfakes**.
  - Twitter is taking active measures to handle synthetic and manipulated media on its platform. In order to prevent disinformation from spreading, Twitter is placing a notice on tweets that contain manipulated media and/or deepfakes that signal to viewers that the media is manipulated. There will also be a warning that appears to users who plan on retweeting, liking, or engaging with the tweet.

### Technology intervention:

- There is a need for **easy-to-use and accessible technology solutions to detect deepfakes**.
  - **Artificial intelligence can help spot fake videos**. Tech firms are now working on detection systems that aim to flag up fakes whenever they appear.
  - Another technology-led strategy focuses on the provenance of the media. A **blockchain online ledger system** could hold a tamper-proof record of videos, pictures and audio so their origins and any manipulations can always be checked.
- Governments, universities and tech firms are all funding research to detect deepfakes. Recently a **Deepfake Detection Challenge** was kicked off, backed by Microsoft, Facebook and Amazon. It will include research teams around the globe competing for supremacy in the deepfake detection game.

### Amplifying authoritative sources:

- **Authentic and authoritative sources must be made more visible** to help inform people. This will help negate the effects of false news.
- The government has an important role to play in this regard.

### Additional information:

#### Shallowfakes:

- Shallowfakes are videos that are either presented out of context or are doctored with simple editing tools. They are crude but still impactful.

## Category: ENVIRONMENT AND ECOLOGY

### 1. 'Green' crackers to make full-fledged Delhi debut

#### Context:

Delhi is set for its first full-fledged debut with 'green' crackers for Deepavali.

#### Details:

- The development comes amid growing sentiment against not deepening the air pollution crisis the capital countenances every winter.
- A ban on fireworks was imposed in 2018 and in 2019 only 'green' crackers were allowed.
- However, it could not be implemented on a large scale as the permission had come too late for manufacturers to ensure their availability on time.

#### Green Crackers:

- Firework is a device that contains gunpowder and other combustible chemicals which causes striking effects and when ignited they explode. They are mostly used in celebrations, festivals, etc.
- Green crackers are those crackers that do not contain harmful chemicals that would cause air pollution. They are environmentally friendly.
- Green crackers are less harmful as compared to conventional firecrackers and less pollution emission will result in reduced air pollution.
- In green crackers, the commonly used polluting chemicals like aluminium, barium, potassium nitrate and carbon have either been removed or sharply reduced to slow down the emissions by 15 to 30%.

Read more on Green Crackers covered in [6<sup>th</sup> October 2019 Comprehensive News Analysis](#).

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

## Category: INTERNATIONAL RELATIONS

### 1. The challenges of walking the Indo-Pacific talk

#### Context:

- The article analyzes the ongoing conversation in India on the [Quadrilateral Security Dialogue \(Quad\)](#) and the Indo-Pacific strategy.

#### Background:



- India is being propped up as a strategic counter to the growing Chinese assertiveness in the region. The article analyzes India's ability to fulfil these expectations.

### Comparing the Quad and Indo-Pacific strategy:

#### Similarity:

- The Quad members are also major states in the Indo-Pacific region, and both the Quad and the Indo-Pacific constructs are focused on China.
- Both the Quad and the Indo-Pacific strategy are in some ways **centred around India's geographic location and its policies.**

#### Differences:

- While the **Indo-Pacific is a politico-economic vision, the Quad is a forum for strategic and military consultations** among India, the U.S., Australia and Japan.
- Though both the Indo-Pacific and the Quad pitch China as a strategic challenge, the Indo-Pacific strategy through its political and economic picture has a subtle anti-China undertone, while the Quad is inherently more anti-China in character and intent.

### Challenges for India:

#### Grand BRI:

- It is difficult to say whether the Indo-Pacific as an economic construct will be able to pose an alternative to China's [Belt and Road Initiative \(BRI\)](#).
- The BRI involves substantial investments and has the economic might of the Chinese state behind it.

#### Hurdles in India's strategy

- There are doubts being cast on the possible effectiveness of India's Indo-Pacific strategy.

#### *Economic weakness:*

- For a politico-economic construct such as the Indo-Pacific to survive, there must be strong economic partnerships and linkages among its members. India's economic engagement of the Indo-Pacific does not compare well with that of the Chinese.
  - **India's recent decision not to join the [Regional Comprehensive Economic Partnership \(RCEP\)](#)** does not augur well for its future engagements in the region.
  - There is a **huge gap between India and China on trade with almost every Indo-Pacific country.** This growing trade gap that India and China have with these countries will be a major determining factor in shaping the region's strategic realities.
  - While China has bilateral free trade agreements with almost all the countries in the region or is in the process of negotiations, India does not have FTAs with Australia, New Zealand, the U.S., Bangladesh and the Maldives.

#### *China's larger military reach:*

- India's strategic and military engagements in the region also fall short of the Chinese.
- **China is a major defence supplier to several of the region's states** including Bangladesh, Myanmar, Sri Lanka, Indonesia, Malaysia, the Philippines, and Thailand as against India's minimal sales, defence dialogues and occasional joint military exercises in the region.

**Conclusion:**

- In countering China, India must note that strategic talk alone cannot trump overriding economic realities. India's role in the Indo-Pacific will remain limited if it does not prove to be a major economic player in the region.
- Despite the unavoidable 'realist' turn in India's foreign policy of issue-based aligning with the US, there needs to be a thorough evaluation of India's ability to meet the Chinese challenge and policies should be based on this assessment.

## F. Prelims Facts

### 1. IT Ministry working to comply with CIC orders on Aarogya Setu

**What's in News?**

The IT Ministry has said that it is taking steps to comply with the Central Information Commission's orders. It also said that the app had been developed by the National Informatics Centre (NIC) in collaboration with volunteers from industry and academia.

**Background:**

- The clarification came following a show-cause notice issued over the government's response to an [RTI \(Right to Information\)](#) query related to the Aarogya Setu application which was termed absurd.
- The Ministry and NIC were slammed by the CIC over their reply to an RTI stating that they do not have any information about the creation of the Aarogya Setu application.

**Aarogya Setu:**

- Aarogya Setu is a COVID-19 tracking app.
- It uses GPS and Bluetooth features of smartphones to track the infection.
- It helps in determining whether the person has been in close contact with any other infected person or not.

Read more about [Aarogya Setu](#).

## G. Tidbits

### 1. Parliamentary panel asks Twitter for affidavit on geo-tagging glitch

- The Joint Committee of Parliament on the Data Protection Bill has sought an affidavit from Twitter Inc., asking them to explain why it had shown Ladakh as a part of China.
- The representatives of Twitter India apologised and claimed it to be a mistake as the app's geo-tagging had suffered a technical glitch.
- The Chairperson of the panel said that displaying Indian map improperly and incorrectly is an offence of treason and attracts imprisonment of seven years.

## H. UPSC Prelims Practice Questions

**Q1. Consider the following statements with respect to Green Crackers:**

1. Green Crackers are manufactured using pyrotechnic to ensure that the emission of sulphur dioxide and nitrogen oxide does not occur.
2. They have a chemical formulation that produces water molecules.
3. They are made of chemicals such as lithium, arsenic, barium and lead.

**Which of the given statement/s is/are correct?**

- a. 1 and 2 only
- b. 1, 2 and 3
- c. 2 and 3 only
- d. 1 and 3 only

**CHECK ANSWERS:-**

**Answer: a**

**Explanation:**

- Green Crackers are manufactured using pyrotechnic to ensure that the emission of sulphur dioxide and nitrogen oxide does not occur.
- They are known as 'green' firecrackers because they have a chemical formulation that produces water molecules, which substantially reduces emission levels and absorbs dust.
- Green crackers don't contain banned chemicals such as lithium, arsenic, barium and lead. They are called Safe Water Releaser (SWAS), Safe Thermite Cracker (STAR) and Safe Minimal Aluminium (SAFAL) crackers. Green crackers release water vapour and don't allow the dust particles to rise.

**Q2. Petroleum and Explosives Safety Organisation (PESO) was formed under which of the following ministries?**

- a. Ministry of Commerce and Industry
- b. Ministry of Chemicals and Fertilizers
- c. Ministry of Petroleum and Natural Gas
- d. Ministry of Earth Sciences

**CHECK ANSWERS:-**

**Answer: a**

**Explanation:**

- Petroleum and Explosives Safety Organisation (PESO) is a department formed by the Government of India under the Department for the Promotion of Industry and Internal Trade, under the Ministry of Commerce and Industry.
- It was established to administer Explosives Act 1884, Explosive Substance Act, Petroleum (Production) Act 1934, Inflammable substance Act 1952 and Environment Protection Act 1986 to control the import, export, transport, storage and usage of explosive materials, flammable materials, pressure vessels, cryogenic vessels, design and installation of all necessary and relevant infrastructure, etc.
- PESO is a regulatory authority with autonomous status.

**Q3. Where was India's first International Financial Service Centre (IFSC) set up?**

- a. Maharashtra
- b. Gujarat
- c. West Bengal
- d. Karnataka

**CHECK ANSWERS:-**

**Answer: b**

**Explanation:**

India's first International Financial Service Centre (IFSC) was commissioned at the Gujarat International Financial Tec (GIFT) City, Gandhinagar, Gujarat.

**Q4. Which of the following tiger reserves are located in Tamil Nadu?**

- 1. Mudumalai Tiger Reserve
- 2. Kalakad Mundanthurai Tiger Reserve
- 3. Kawal Tiger Reserve
- 4. Sathyamangalam Tiger Reserve

**Choose the correct option:**

- a. 1 and 4 only
- b. 2 and 3 only
- c. 1, 2 and 4 only
- d. 1, 2, 3 and 4

**CHECK ANSWERS:-**

**Answer: c**

**Explanation:**

Mudumalai Tiger Reserve, Kalakad Mundanthurai Tiger Reserve, Sathyamangalam Tiger Reserve are located in Tamil Nadu. Kawal Tiger Reserve is located in Telangana.

## I. UPSC Mains Practice Questions

- 1. Analyze the threats posed by the use of deepfakes and suggest suitable counter-measures. (15 marks, 250 words)(GS Paper 3/Science and Technology)
- 2. Analyze the major hurdles to India's emerging Indo-Pacific strategy. (10 marks, 150 words)(GS Paper 2/International Relations)

