DEEPFAKES - GS II AND III MAINS

Q. How do new emerging technologies, such as AI and deep fake, pose a challenge to fair and free elections? Comment (15 marks, 250 words)

News: *The search for balance in regulating deepfakes*

What's in the news?

- Recently, deepfake poses a significant threat to democracy and social institutions globally, Propagation of deepfake content via social media platforms has aggravated this challenge.

Deepfake:

- Deepfake refers to synthetic media digitally manipulated to convincingly replace one person's likeness with another's. Utilising advanced techniques from machine learning and AI, such as deep learning and Generative Adversarial Networks (GANs), deepfakes are created.
- Deepfake technology serves various purposes like entertainment, education, art, and activism. However, it presents ethical and social challenges, including generating fake news, spreading misinformation, violating privacy, and damaging reputation.

Uses of Deepfake Technology:

1. Film Dubbing:

- Deepfake tech enables realistic lip-syncing for actors speaking different languages, enhancing global accessibility and immersion in films.
- Example: A video petition to end malaria featured celebrities like David Beckham, Hugh Jackman, and Bill Gates speaking different languages using deepfake technology.

2. Education:

- Teachers use deepfakes to bring historical figures to life or simulate scenarios for engaging lessons.
- Example: A deepfake video of Abraham Lincoln delivering his Gettysburg Address could teach students about the American Civil War.

3. Art:

- Artists leverage deepfakes for creative expression and collaboration, as seen in Salvador Dali's interactive museum promotion.
- Example: A deepfake video of Salvador Dali interacting with visitors and commenting on his artworks was created to promote his museum in Florida.

4. Autonomy and Expression:

- Deepfakes empower individuals to control their digital identity and explore new forms of self-expression.

- Example: The Reface app allows users to swap their faces with celebrities or characters in videos or gifs for fun or personalization.

5. Amplification of Messages:
- Deepfakes amplify voices of marginalised individuals, enabling them to share important messages.
- Example: A deepfake video was created to deliver the final message of a journalist killed by the Saudi government, calling for justice.

6. Digital Reconstruction:
- Deepfakes aid in restoring old photos, enhancing low-quality footage, and creating realistic training materials for public safety.
- Example: A deepfake video of a school shooting was developed to train teachers on emergency response tactics.

7. Innovation:
- Deepfake technology drives innovation in entertainment, gaming, and marketing, enabling new forms of storytelling and interaction.
- Example: A deepfake video of Mark Zuckerberg was created to showcase the potential of synthetic media and its societal implications.

Challenges of Deepfake Technology:
1. Spreading False Information:
- Deepfakes can purposefully spread misinformation, influencing public opinion or elections.
- Example: Deepfake videos of politicians or celebrities can manipulate viewers and create confusion about important issues.

2. Harassment and Intimidation:
- Deepfakes can fuel harassment, especially targeting the women, and lead to psychological distress.
- Example: Deepfake technology facilitates the creation of revenge porn, violating privacy and causing harm.

3. Fabricating Evidence:
- Deepfakes can fabricate evidence, influencing legal proceedings or defrauding the public.
- Example: Deepfake audio or video impersonates individuals to make false claims or accusations.

4. Reputation Tarnishing:
- Deepfakes can damage reputations by creating false media of individuals.
- Example: Synthesised media can tarnish credibility and cause reputational or financial losses.

5. Financial Frauds:

- Deepfake technology enables impersonation for financial frauds, tricking individuals into revealing sensitive information.
- Example: A deepfake audio of a CEO led to fraudulent money transfers totaling USD 243,000.

Rules to Curb Deepfakes:

1. IT Act, 2000 and IT Rules, 2021 - These regulations require social media intermediaries to promptly remove deepfake content. Failure to do so may result in imprisonment or fines.

2. Section 66D of IT Act - This section penalises individuals for cheating through personation using communication devices or computer resources.
- Punishment includes imprisonment for up to three years and a fine of up to one lakh rupees.

3. IT Rule 3(1)(b)(vii) - This rule mandates that social media intermediaries prevent the hosting of content impersonating others.

4. IT Rule 3(2)(b) - This rule requires social media platforms to remove such content within 24 hours of receiving a complaint.

Global Measures:

- The **'Bletchley Park Declaration'** at the summit acknowledged the risks of intentional misuse and the loss of control over AI technologies.
- The **Global Partnership on Artificial Intelligence (GPAI) summit** was held in New Delhi in December 2023. The summit concluded with the adoption of the New Delhi Declaration on artificial intelligence.
- The **European Union's Code of Practice on Disinformation** requires tech companies to counter deep fakes and fake accounts within six months of signing up to the Code.
- **China** introduced comprehensive regulation on deep synthesis, effective from 2023.
- The U.S. introduced the **Bipartisan Deepfake Task Force Act** to assist the Department of Homeland Security in countering deepfake technology.
- **Big tech companies** like Meta and Google have announced measures to address the issue of deep fake content.

Measures to Address the Menace of Deepfakes:

1. Learning from Other Countries:
- Countries like China mandates consent from individuals featured in deepfake videos and verifies user identities, while Canada focuses on public awareness and potential legislation against malicious deepfake creation.

2. Adding Watermarks:
- Incorporate visible watermarks in AI-generated videos for effective detection and attribution.
- Watermarks reveal origin and ownership, deter unauthorised use, and support accountability in copyright enforcement.

3. Deterring Inappropriate Content Uploads:
- Online platforms should educate users on content policies and implement deterrent measures against inappropriate content uploads.

4. Developing Detection Technologies:
- Enhance deepfake detection algorithms and methods to identify deepfakes based on context, metadata, or other factors.

5. Strengthening Digital Governance:
- Establish clear laws and policies to define and prohibit malicious deepfake use, with effective remedies and sanctions for victims and perpetrators.

6. Enhancing Media Literacy:
- Educate the public and media about deepfake existence and impact, providing skills to verify and report suspicious content.

7. Promoting Ethical Use:
- Establish codes of conduct and standards for deepfake creators and users, encouraging positive and beneficial applications.

Prelims Questions

1. Consider the following statements about the ideas of Rabindranath Tagore.

1. He was a humanist and rationalist in nature.
2. He condemned Gandhiji for taking recourse to superstitious beliefs.
3. He criticised the ideas of Nationalism.

Select the correct answer using the code given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

2. Consider the following statements:

1. Chloropicrin serves dual roles as a warfare agent and pesticide.
2. According to the Chemical Weapons Convention, India has banned the use of chloropicrin in all forms.

Select the correct answer using the code given below:

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

3. With reference to the Choline, consider the following statements:

1. It is an essential nutrient crucial for supporting various bodily functions, including cellular growth and metabolism.
2. It exists in both water-soluble and fat-soluble forms.
3. Our body doesn't have the capacity to synthesis choline on its own and depends on outside sources.
How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) All three
(d) None

4. Consider the following statements:

1. Venus is the hottest planet in the Earth owing to its extreme greenhouse gas effect.
2. The atmosphere of Venus predominantly consists of nitrogen and is dubbed as the sister planet of Earth.
3. Venus rotates in the opposite direction to most planets and has a day longer than its year.
4. Venus is the only planet in the solar universe presented without any moon.

How many of the statements given above are correct?
(a) Only one
(b) Only two
(c) Only three
(d) All four

5. Consider the following countries:

1. Vietnam
2. China
3. Russia
4. Bangladesh
5. India
6. North Korea

How many of the above countries were classified as a Non-Market Economy (NME) country by the U.S?

(a) Only two
(b) Only three
(c) Only four
(d) Only five

6. With reference to Shinkun La Tunnel and Border Roads Organisation consider the following statements.

1. The Shinkun La Tunnel is an upcoming motorable passage situated beneath the 16,580 feet high Shinku-La pass, linking Himachal's Lahaul valley and Ladakh's Shyok valley.
2. BRO was established by the Ministry of Defence to secure India's borders and develop infrastructure in remote regions of the northern and northeastern states.

Select the correct answer using the code given below:
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Answers: 1.(d), 2.(a), 3.(b), 4.(b), 5.(b), 6.(b)

Mainstreaming

1. Climate migration is an emerging disaster in the present global scenario. Discuss the measures needed to be taken to address the challenges faced by the climate migrants. (15 marks, 250 words)

2. How do new emerging technologies, such as AI and deep fake, pose a challenge to fair and free elections? Comment (15 marks, 250 words)