

Q1. Consider the following statements regarding AI Squatting:

1. AI Squatting is a cyberattack technique that exploits the predictable hallucinations generated by Artificial Intelligence models.
2. The primary objective of AI Squatting is to manipulate the system prompts of Large Language Models (LLMs).

Which of the statements given above is/are **incorrect**?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: B

Explanation

Statement 1 is correct:

AI Squatting is an emerging cyberattack technique that exploits the predictable hallucinations of Large Language Models (LLMs). AI systems may repeatedly generate non-existent domains, software packages, repositories, or APIs. Cybercriminals register these hallucinated digital assets and host malware or phishing content on them. When users or autonomous AI agents access these fabricated resources, systems can be compromised. Thus, AI Squatting exploits the statistical behaviour of AI models rather than software vulnerabilities.

Statement 2 is incorrect:

AI Squatting does not seek to manipulate an AI model's system prompt. That attack vector is known as **prompt injection**, where malicious instructions are inserted into prompts or retrieved content to alter an AI model's behaviour. AI Squatting instead exploits AI-generated hallucinated outputs, such as fake domains or package names.

Q2. With reference to the White Rabbit Technology Demonstration Network, consider the following statements:

1. It is India's first high-precision, Ethernet-based time distribution network.
2. The network depends on foreign GPS systems for calibrating its atomic clocks.
3. The project was implemented under the Ministry of Electronics and Information Technology.

Which of the statements given above is/are **correct**?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: A

Explanation

Statement 1 is correct:

The White Rabbit Technology Demonstration Network is India's first high-precision Ethernet-based time dissemination facility established under the '**One Nation, One Time**' initiative. It distributes Indian Standard Time (IST) with sub-nanosecond accuracy, benefiting sectors such as banking, telecommunications, defence, and power transmission.

Statement 2 is incorrect:

The initiative has been developed specifically to reduce India's dependence on foreign GPS-based timing systems. It disseminates IST generated from indigenous reference standards instead of relying on foreign GPS frameworks.

Statement 3 is incorrect:

The project was led by the **Legal Metrology Division** under the **Ministry of Consumer Affairs**, in collaboration with the National Physical Laboratory (NPL), ISRO, BSNL, and SEBI, and not under the Ministry of Electronics and Information Technology.

Q3. Consider the following statements regarding the Falkland Islands (Islas Malvinas):

1. The Falkland Islands are an internally self-governing British Overseas Territory situated in the South Atlantic Ocean.
2. The islands are located west of the Strait of Magellan near the Chilean coastline.
3. Stanley is the capital and largest settlement of the archipelago.

Which of the statements given above are **correct**?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

Answer: C

Explanation

Statement 1 is correct:

The Falkland Islands are an internally self-governing British Overseas Territory. While the United Kingdom manages defence and foreign affairs, the islands possess their own elected government. Argentina continues to claim sovereignty over the islands.

Statement 2 is incorrect:

The Falkland Islands lie approximately 500 km **east** of the Patagonian coast of Argentina and east of the Strait of Magellan. They are not situated west of the strait or near the Chilean coastline.

Statement 3 is correct:

Stanley, located on East Falkland Island, serves as the capital, administrative centre, commercial hub, and largest settlement of the archipelago.

Q4. Consider the following statements regarding the newly identified monkey species *Colobus congoensis*:

1. The species exhibits an evolutionary reduction or virtual absence of thumbs.
2. It is primarily a terrestrial primate that spends most of its life on the forest floor.

Which of the statements given above is/are **correct**?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

Answer: A

Explanation

Statement 1 is correct:

Colobus congoensis belongs to the colobus monkey group, whose members are distinguished by an evolutionary reduction or near absence of thumbs. This adaptation enhances movement through the forest canopy.

Statement 2 is incorrect:

The species is predominantly **arboreal**, inhabiting dense tropical forests and spending most of its time in the upper canopy for feeding, resting, and movement. It is not a terrestrial primate.

Q5. Match the following cyber threats with their primary operational targets:

Column I (Cyber Threat) Column II (Primary Operational Target)

- | | |
|----------------------|--|
| 1. Phantom Squatting | A. AI-generated fake software libraries recommended by coding assistants |
| 2. HalluSquatting | B. System memory architectures vulnerable to prompt injection |
| | C. Hallucinated website domains generated by conversational AI tools |

Select the correct answer using the code given below:

- A. 1–A and 2–B
- B. 1–C and 2–A
- C. 1–C and 2–B
- D. 1–B and 2–A

Answer: B

Explanation

1. Phantom Squatting → C. Hallucinated website domains generated by conversational AI tools

Phantom Squatting occurs when attackers register website domains that AI chatbots frequently hallucinate. Users or autonomous AI agents attempting to access these fabricated domains may be redirected to attacker-controlled websites hosting malware, phishing pages, or fraudulent content.

2. HalluSquatting → A. AI-generated fake software libraries recommended by coding assistants

HalluSquatting targets AI-powered coding assistants that hallucinate non-existent software packages or libraries. Attackers publish malicious packages under these fabricated names, increasing the risk of software supply-chain attacks when developers unknowingly install them.

Option B is incorrect:

Neither Phantom Squatting nor HalluSquatting primarily targets system memory architectures or relies on prompt injection attacks. Those are distinct cybersecurity concepts.

Q6. With reference to the institutional framework under the Insolvency and Bankruptcy Code (IBC), consider the following pairs:

Institutional Component	Primary Statutory/Operational Function
1. Insolvency and Bankruptcy Board of India (IBBI)	Regulates and supervises Information Utilities and Insolvency Professionals.
2. Information Utilities (IUs)	Maintain centralized digital records of financial information and authenticate evidence of debt and default.
3. Committee of Creditors (CoC)	Frames national legislative guidelines for debt recovery and insolvency resolution.

How many of the pairs given above are correctly matched?

- A. Only one pair
- B. Only two pairs
- C. All three pairs
- D. None of the pairs

Answer: B

Explanation

Pair 1 is correctly matched:

The Insolvency and Bankruptcy Board of India (IBBI) is the apex statutory regulator established under the Insolvency and Bankruptcy Code. It oversees Insolvency Professional Agencies (IPAs), Insolvency Professionals (IPs), and Information Utilities (IUs).

Pair 2 is correctly matched:

Information Utilities (IUs) are specialized digital repositories that collect, authenticate, store, and disseminate financial information relating to debt, liabilities, and default. Their authenticated records facilitate quicker admission of insolvency proceedings before adjudicating authorities.

Pair 3 is incorrectly matched:

The Committee of Creditors (CoC) does not formulate national policies or legislative guidelines. It is constituted for an individual Corporate Insolvency Resolution Process (CIRP) and consists of financial creditors who evaluate and approve or reject resolution plans for the concerned corporate debtor.

Q7. Consider the following components of the 'Nirbhay Raho' framework:

1. **Nirbhay Netri** – Leadership development, legal awareness, and capacity building of Elected Women Representatives (EWRs) to strengthen gender-responsive governance.
2. **Nirbhay Chetna** – Installation of network-enabled CCTV surveillance systems at vulnerable locations within Gram Panchayats.
3. **Nirbhay Drishti** – Gender sensitization programmes for Male Elected Representatives to address patriarchal attitudes within local governance.

Which of the components given above is/are correctly matched?

- A. 1 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 1, 2 and 3

Answer: A

Explanation

The '**Nirbhay Raho**' framework is a gender-responsive governance initiative launched by the Ministry of Panchayati Raj under the **Nirbhaya Fund**, in collaboration with the Ministry of Women and Child Development and the National Law School of India University (NLSIU), Bengaluru.

Component 1 is correctly matched:

Nirbhay Netri focuses on empowering nearly 14.5 lakh Elected Women Representatives through leadership training, legal literacy, and institutional capacity building to enhance women's safety and local governance.

Component 2 is incorrectly matched:

Nirbhay Chetna is not related to CCTV installation. It focuses on sensitizing approximately 17.5 lakh Male Elected Representatives to challenge patriarchal attitudes and promote gender-equitable governance.

Component 3 is incorrectly matched:

Nirbhay Drishti is the technological component of the initiative that supports the installation of CCTV cameras and related safety infrastructure at vulnerable locations within Gram Panchayats.

Q8. Consider the following statements regarding the constitutional position and executive powers of the Chief Minister of a State:

1. The Chief Minister is the nominal executive authority of the State, whereas the Governor functions as the real executive head.
2. Under Article 164 of the Constitution, the Council of Ministers is collectively responsible to the State Legislative Assembly, and the resignation of the Chief Minister results in the dissolution of the entire Council of Ministers.
3. The advice of the Chief Minister to the Governor regarding the summoning or proroguing of the State Legislature is binding in all circumstances without exception.

Which of the statements given above is/are **correct**?

- A. 1, 2 and 3
- B. 1 and 3 only
- C. 2 and 3 only
- D. 2 only

Answer: D

Explanation

Statement 1 is incorrect:

The Governor is the **nominal (de jure) executive head** of the State, while the Chief Minister is the **real (de facto) executive head** who exercises actual executive authority through the Council of Ministers.

Statement 2 is correct:

Article 164 establishes the principle of collective responsibility of the Council of Ministers to the State Legislative Assembly. Since the Chief Minister is the head of the Council, his or her resignation results in the resignation of the entire Council of Ministers.

Statement 3 is incorrect:

Although the Governor generally acts on the advice of the Chief Minister regarding the summoning, proroguing, or dissolution of the Legislative Assembly, this advice is not binding in every situation. In exceptional constitutional circumstances—such as when the Chief Minister has lost the confidence of the House—the Governor may exercise limited discretionary powers to ensure that the constitutional process is upheld.

Q9. Consider the following statements:

Statement I: The unilateral enforcement of maritime blockades on commercial energy exports by a country may create diplomatic tensions with neutral trading nations.

Statement II: The United Nations Convention on the Law of the Sea (UNCLOS) recognizes the right of innocent passage for neutral commercial vessels through international waters and key maritime straits.

Which one of the following is correct in respect of the above statements?

- A. Both Statement I and Statement II are correct, and Statement II is the correct explanation for Statement I.

- B. Both Statement I and Statement II are correct, but Statement II is not the correct explanation for Statement I.
C. Statement I is correct, but Statement II is incorrect.
D. Statement I is incorrect, but Statement II is correct.

Answer: A

Explanation

Statement I is correct:

The unilateral enforcement of maritime blockades, such as restrictions on commercial energy exports, can generate diplomatic friction with neutral trading countries. Actions targeting neutral commercial vessels may strain bilateral relations and complicate international maritime trade.

Statement II is correct:

UNCLOS recognizes the principle of innocent passage and protects the freedom of navigation for commercial vessels through international waters and important maritime straits.

Statement II correctly explains Statement I:

Diplomatic disputes arise because unilateral maritime blockades may conflict with internationally recognized navigation rights guaranteed under UNCLOS, leading to protests from affected trading nations.

Q10. Consider the following statements regarding the Varya AI Model:

1. It is India's first indigenous foundation AI video model developed using machine learning distillation.
2. The model compresses large AI models into lightweight versions, enabling video generation in significantly fewer computational steps than conventional models.
3. It incorporates Indian cultural context to accurately represent regional festivals, food habits, attire, and traditions.

Which one of the following conclusions based on the above statements is correct?

- A. There is only one correct statement.
B. None of the statements are correct.
C. There are two correct statements, including Statement 3.
D. All three statements are correct.

Answer: D

Explanation

Statement 1 is correct:

Varya is India's first indigenous distilled AI video generation model developed by Avataar and unveiled under the Ministry of Electronics and Information Technology (MeitY).

Statement 2 is correct:

The model uses machine learning distillation to compress large foundation models into lightweight

architectures capable of generating high-quality videos in only a few computational steps, significantly improving efficiency.

Statement 3 is correct:

Varya has been trained on Indian datasets, enabling it to accurately represent regional languages, attire, food habits, festivals, and cultural diversity.

Q11. How does an El Niño event typically modify oceanic and atmospheric conditions over the equatorial Pacific Ocean?

- A. It strengthens the easterly trade winds, resulting in intense cold-water upwelling along the South American coast.
- B. It weakens or reverses the trade winds, allowing warm surface waters to move eastward and suppressing coastal upwelling.
- C. It shifts the main zone of convection westward towards Indonesia and lowers global average temperatures.
- D. It deepens the thermocline in the western Pacific and strengthens the normal Walker Circulation.

Answer: B

Explanation

During an El Niño event, the easterly trade winds weaken or reverse, allowing warm surface water to migrate eastward across the equatorial Pacific.

This suppresses the normal upwelling of cold, nutrient-rich water off the coasts of Peru and Ecuador by deepening the thermocline in the eastern Pacific.

The Walker Circulation weakens, and the main zone of convection shifts eastward into the central and eastern Pacific, contributing to temporary increases in global temperatures.

Q12. Consider the following statements regarding Paraquat:

Statement I: Even small quantities of ingested Paraquat can cause irreversible cellular damage and progressive pulmonary fibrosis.

Statement II: Administration of supplemental oxygen through mechanical ventilation reduces lung damage in patients suffering from Paraquat poisoning.

Statement III: Paraquat is a selective contact herbicide that destroys only specific monocotyledonous weeds.

Which one of the following is correct in respect of the above statements?

- A. Both Statement II and Statement III are correct, and both explain Statement I.
- B. Both Statement II and Statement III are correct, but only one explains Statement I.
- C. Only one of Statements II and III is correct, and it explains Statement I.

D. Neither Statement II nor Statement III is correct.

Answer: D

Explanation

Statement I is correct:

Paraquat is an extremely toxic herbicide. Even small quantities can cause severe cellular injury, pulmonary fibrosis, multi-organ failure, and death.

Statement II is incorrect:

Supplemental oxygen may actually worsen Paraquat poisoning because the herbicide generates reactive oxygen species. Increased oxygen availability accelerates oxidative damage in lung tissue.

Statement III is incorrect:

Paraquat is a **non-selective contact herbicide**, destroying virtually all green plant tissue upon contact rather than targeting specific weed groups.

Q13. Consider the following pairs of flagship launch vehicles and their corresponding space organizations:

Launch Vehicle Space Agency / Nation

1. H3 Rocket European Space Agency (ESA)
2. Ariane 6 Japan Aerospace Exploration Agency (JAXA)
3. LVM3 Indian Space Research Organisation (ISRO)
4. Long March 5 China National Space Administration (CNSA)

How many of the above pairs are correctly matched?

- A. Only one pair
- B. Only two pairs
- C. Only three pairs
- D. All four pairs

Answer: B

Explanation

Pair 1 is incorrectly matched:

The H3 Rocket is Japan's flagship launch vehicle developed by JAXA and Mitsubishi Heavy Industries, not ESA.

Pair 2 is incorrectly matched:

Ariane 6 is Europe's flagship launch vehicle developed under the European Space Agency (ESA), not JAXA.

Pair 3 is correctly matched:

LVM3 is ISRO's operational heavy-lift launch vehicle used for commercial launches and deep-space missions.

Pair 4 is correctly matched:

Long March 5 is China's flagship heavy-lift launch vehicle operated under the China National Space Administration (CNSA).

Q14. Consider the following statements:

Statement I: Generative AI models developed through machine learning distillation require lower computational resources and offer faster processing speeds.

Statement II: Model distillation compresses a large foundation model into a lightweight version capable of producing high-quality outputs using fewer computational steps.

Which one of the following is correct in respect of the above statements?

- A. Both Statement I and Statement II are correct, and Statement II is the correct explanation for Statement I.
- B. Both Statement I and Statement II are correct, but Statement II is not the correct explanation for Statement I.
- C. Statement I is correct, but Statement II is incorrect.
- D. Statement I is incorrect, but Statement II is correct.

Answer: A

Explanation

Statement I is correct:

Distilled AI models significantly reduce computational costs while improving inference speed, making advanced AI applications more affordable and efficient.

Statement II is correct:

Machine learning distillation transfers knowledge from a large foundation model into a smaller, optimized model that performs similar tasks using substantially fewer computational steps.

Statement II correctly explains Statement I:

The reduced model size and computational complexity achieved through distillation directly result in faster processing speeds and lower computing costs.

Q15. Consider the following statements regarding normal climatic conditions over the equatorial Pacific Ocean:

1. Strong westerly winds continuously push warm surface waters towards South America.
2. The coastal waters of Peru and Ecuador experience persistent downwelling that suppresses cold-water upwelling.

3. Under normal Walker Circulation, air rises over South America and descends over Indonesia.

Which one of the following conclusions based on the above statements is correct?

- A. All three statements are correct.
- B. None of the statements are correct.
- C. There are two correct statements, including Statement 3.
- D. Only one statement is correct.

Answer: B

Explanation

Statement 1 is incorrect:

Under normal conditions, strong **easterly trade winds** blow from east to west, pushing warm surface waters towards the western Pacific.

Statement 2 is incorrect:

The eastern Pacific experiences **upwelling**, not downwelling, bringing cold, nutrient-rich water to the surface.

Statement 3 is incorrect:

The normal Walker Circulation features rising air over the warm western Pacific near Indonesia and sinking air over the cooler eastern Pacific near South America.

Q16. With reference to the technologies employed in Airborne Early Warning and Control (AEW&C) systems such as Netra, consider the following statements:

- 1. The platform integrates Electronic Support Measures (ESM) and Communication Support Measures (CSM) to detect and map hostile radar and communication networks.
- 2. The system relies entirely on manual voice communication for transmitting target information and does not employ automated data links.
- 3. The aircraft is equipped with an integrated electronic warfare suite capable of countering incoming missile threats.

Which one of the following conclusions based on the above statements is correct?

- A. All three statements are correct.
- B. None of the statements are correct.
- C. There are two correct statements, including Statement 3.
- D. Only one statement is correct.

Answer: C

Explanation

Statement 1 is correct:

Netra integrates Electronic Support Measures (ESM) and Communication Support Measures (CSM) to intercept, identify, and map enemy radar systems and communication networks.

Statement 2 is incorrect:

The platform operates through secure, automated, jam-resistant data links that transmit real-time target information to aircraft and ground command centres. It does not depend solely on manual voice communication.

Statement 3 is correct:

Netra is equipped with a self-protection electronic warfare suite capable of detecting and countering hostile missile threats, thereby improving aircraft survivability.
