

AFCAT Memory Based Paper - 10 Aug 2024 (Shift 2)

General Awareness

- Q1** What is the name of India's first indigenous bomber unmanned aerial vehicle (UAV) unveiled recently?
(A) FWD-200B (B) Nagastra
(C) Chetak- 100 (D) Akshayteer
- Q2** What was the code name for the Indian Air Force operations during the Kargil Conflict of 1999 ?
(A) Operation Vijay
(B) Operation Meghdoot
(C) Operation Indradhanush
(D) Operation Safed Sagar
- Q3** In which of the following cities has the Weapon Systems School (WSS), a newly established training facility for the Indian Air Force (IAF) inaugurated?
(A) New Delhi (B) Kolkata
(C) Hyderabad (D) Patna
- Q4** Which of the following is a type of athletics?
(A) Handball (B) Shot put
(C) Throw ball (D) Basketball
- Q5** What was the name of the first atomic bomb used in warfare?
(A) Fat Man (B) Little Boy
(C) The Gadget (D) Trinity
- Q6** Consider the following statements with reference to International Arms Transfers Report by The SIPRI:
1. As per the report, India was the world's top arms importer between 2019-2023.
2. China was the largest exporter of arms with primary arms supplier to Pakistan.
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
- Q7** The 9th Schedule is related to which article of the Indian Constitution?
(A) Article 19 (B) Article 31B
(C) Article 91 (D) Article 119
- Q8** Which of the following is **not** a naturally occurring greenhouse gas?
(A) Carbon monoxide (CO)
(B) Carbon dioxide (CO₂)
(C) Ozone (O₃)
(D) Methane (CH₄)
- Q9** What was the location of the Gagan Shakti-2024 exercise?
(A) Kalaikunda Air Base, West Bengal
(B) Pokhran Field Firing Range, Jaisalmer
(C) Thanjavur Air Base, Tamil Nadu
(D) Siachen Glacier
- Q10** Dogri folk dance form belongs to which state/UTs?
(A) Himachal Pradesh
(B) Jammu
(C) Uttarakhand
(D) Assam
- Q11** Recently seen in news, Sela tunnel is located in which among the following state?
(A) Tripura
(B) Arunachal Pradesh
(C) Meghalaya
(D) Himachal Pradesh
- Q12** Who was the first Indian to score first ever test century?
(A) Sachin Tendulkar
(B) Sunil Gavaskar
(C) Kapil Dev
(D) Lala Amarnath



- Q13** Which of the following is the name of the woman robot astronaut that will fly into space ahead of ISRO's "Gaganyaan" mission?
(A) Vyomnaut (B) Gaganyaatri
(C) Vyommitra (D) Astronautila
- Q14** Which fighter jet of the Indian Air Force successfully test-fired the BrahMos supersonic cruise missile?
(A) Tejas (B) Mirage 2000
(C) MiG-21 (D) Sukhoi-30 MKI
- Q15** Recently seen in the news, Khalubar War Memorial museum is located in which region?
(A) Rajasthan
(B) Jammu and Kashmir
(C) Sikkim
(D) Ladakh
- Q16** Which Indian brand sponsored the Netherlands men's cricket team for the ICC Men's T20 World Cup 2024?
(A) Amul (B) HCLTech
(C) Tata (D) Mother Dairy
- Q17** Which of the following is the name of the first indigenous loiter munition received by the Indian Army?
(A) Agni- 1 (B) Prithvi- 2
(C) Nagastra- 1 (D) Astra- 1
- Q18** The first foreigner to receive Bharat Ratna Award was?
(A) Khan Abdul Gaffar Khan
(B) Dalai Lama
(C) Nelson Mandela
(D) Annie Besant
- Q19** Which one of the following is a renewable source of energy?
(A) Coal
(B) Solar Energy
(C) Petroleum
(D) All of the above
- Q20** Land revenue comes under which list in the Indian Constitution?
(A) Union List
(B) State List
(C) Concurrent List
(D) None of the above
- Q21** When a lake freezes, how do aquatic animals manage to survive?
(A) They hibernate in the ice
(B) They live in the water beneath the ice, which remains liquid
(C) They develop antifreeze proteins in their bodies
(D) They migrate to warmer areas
- Q22** Which Indian was removed from the Indian Civil Services (ICS) by the British?
(A) Satyendranath Tagore
(B) Surendranath Banerjee
(C) Dadabhai Naoroji
(D) Bipin Chandra Pal
- Q23** The shape of a liquid droplet is spherical due to which one of the following given below?
(A) Gravitational force
(B) Atmospheric pressure
(C) Surface tension
(D) Viscosity
- Q24** Which gases are released upon burning of crop/ biomass residue?
(A) Carbon dioxide (CO₂)
(B) Methane (CH₄)
(C) Nitrogen oxides (NO_x)
(D) All of the above
- Q25** Where is the headquarters of International Committee of the Red Cross located?
(A) New York (B) Geneva
(C) Paris (D) New Delhi



Answer Key

Q1 (A)
Q2 (D)
Q3 (C)
Q4 (B)
Q5 (B)
Q6 (C)
Q7 (B)
Q8 (A)
Q9 (B)
Q10 (B)
Q11 (B)
Q12 (D)
Q13 (C)

Q14 (D)
Q15 (D)
Q16 (A)
Q17 (C)
Q18 (A)
Q19 (B)
Q20 (B)
Q21 (B)
Q22 (B)
Q23 (C)
Q24 (D)
Q25 (B)



Hints & Solutions

Q1 Text Solution:**Explanation:**

- Flying Wedge Defence, a city based defence and aerospace technology firm on Friday unveiled the FWD-200B unmanned aircraft.
- The firm claimed that it is India's first indigenous bomber unmanned aircraft.
- It is a medium-altitude, long-endurance (MALE) unmanned combat aerial vehicle designed and manufactured entirely in India.
- With a payload capacity of 100 kgs, it can carry optical surveillance payloads as well as precision air-strike weapons.
- With a 12-20 hour endurance, 200 kts/370 kmph max speed, and 200 km ground control station range, the FWD-200B is envisioned as the "nation's eagle eye" and an aerial shield against threats.

Hence, the correct answer is Option A i.e. FWD-200B.

Q2 Text Solution:**Key Concept:**

- The air division of the Indian Armed Forces is known as the **Indian Air Force**.
- The **Kargil War**, also known as the Kargil war, took place between India and Pakistan in the Kargil district of Jammu and Kashmir from May to July 1999.

Explanation:

- The Indian Air Force's cooperation with ground forces during the 1999 Kargil war was known by the code name "**Operation Safed Sagar**."



It had the objective of driving regular and irregular Pakistani Army soldiers away from abandoned Indian positions along the Line of Control in the Kargil area.

Hence, the Correct option is D' i.e. **Operation Safed Sagar**

Additional Information:

- The invasion started a **two-month long** period of fierce battle between the two sides.
- The official death toll on the Indian side was **527**, compared to between **357 to 453** on the Pakistani side.

Q3 Text Solution:**Key Concept: Defence and Security****Explanation:**

The Weapon Systems School (WSS) is a newly established training facility for the Indian Air Force (IAF), inaugurated at the **Begumpet station in Hyderabad**.

- The WSS is designed to provide effect-based, contemporary training for officers in the newly formed Weapon Systems (WS) Branch of the IAF.
- This initiative aims to enhance the combat training capabilities of the IAF by consolidating operators of ground-based and specialist weapon systems under one umbrella.
- **Training Structure:** The school will cater to various streams within the WS Branch, including:
 - **Flying Stream:** Training to operate weapons and systems in twin and multi-crew aircraft, such as the Sukhoi-30 MKI and C-130J.
 - **Remote Stream:** Focused on operating remotely piloted aircraft.
 - **Mission Commanders and Operators:** Handling surface-to-air and surface-to-surface weapon systems.
 - **Intelligence Stream:** Managing space-based intelligence and imagery.

Hence, the correct answer is c.

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Explanation:

- **Shot put** is a track and field event that falls under the category of athletics.
- In this event, athletes "put" or throw a heavy spherical object (shot) as far as possible.
- The other options (Handball, Throw ball, and Basketball) are team sports and not considered athletics events.

Hence, the correct answer is option (B).

Q5 Text Solution:**Explanation:**

- **Little Boy** was a gun-type uranium bomb dropped by the **United States on Hiroshima, Japan on August 6, 1945** during **World War II**.
- It had the explosive force of around 15,000 tons of TNT and instantly devastated a large part of the city, killing an estimated 70,000 people with many more dying later from injuries and radiation exposure.
- The other options are incorrect:
- **A) Fat Man** was the name of the plutonium implosion-type bomb dropped on **Nagasaki**, not the first bomb used.
- **C) The Gadget** was the name of the prototype plutonium bomb tested in the **Trinity test in New Mexico**, not the bomb used on Hiroshima.
- **D) Trinity** was the name of the test site in New Mexico where the first atomic bomb was tested, not the name of the bomb itself.

Hence, the correct answer is option (B).

Q6 Text Solution:**Key Concept: Reports and Index****Explanation:**

- According to the latest data from the **Stockholm International Peace Research Institute (SIPRI)**, India was the **world's top arms importer** for the period **2019-2023**, with a **4.7%** increase compared to the previous period.

- Global Arms Trade: **Top importers: India is followed by Saudi Arabia, Qatar, Ukraine, Pakistan, Japan, Egypt, Australia, South Korea, and China.**
- **Top exporters: United States leads with a 42% share, followed by France and Russia**
- **China plays a pivotal role as the primary arms supplier to Pakistan**, with a substantial 61% of its exports directed towards Islamabad. **However, United States is the largest exporter of arms around the world.**

Hence, the correct answer is option (C).

Q7 Text Solution:**Key Concept: Schedules****Explanation:**

- The **Ninth Schedule of the Indian Constitution** is related to **Article 31B**.
- **Article 31B was introduced by the First Amendment Act of 1951.**
- It grants **protection to laws that are placed in the Ninth Schedule** from being **challenged in courts** on the grounds that they may violate the fundamental rights guaranteed under Part III of the Constitution.
- **Article 31B provides for the validation of certain laws and acts that were included in the Ninth Schedule** by various constitutional amendments.

Hence, the correct answer is b.

Q8 Text Solution:**Correct Answer: A) Carbon monoxide (CO)****Explanation:**

- **Carbon dioxide (CO₂), Ozone (O₃), and Methane (CH₄)** are naturally occurring greenhouse gases that contribute to the greenhouse effect, trapping heat in the Earth's atmosphere.
- **Carbon monoxide (CO)**, however, is not considered a greenhouse gas in the same way as the others. It is primarily a byproduct of


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incomplete combustion and doesn't have the same heat-trapping capabilities as CO₂, O₃, or CH₄.

Q9 Text Solution:**Explanation:**

- The Indian Air Force (IAF) was set to commence a 10-day exercise to test its capabilities and preparedness for high-intensity operations.
- During the exercise, known as 'Gagan Shakti-2024,' the IAF will mobilize all its bases and assets across the country.
- The Indian Army will provide logistics support for the mega exercise, facilitating a comprehensive pan-India movement of approximately 10,000 IAF personnel and ammunition in order to validate the Operational Rail Mobilisation Plan (ORMP) aspects of the IAF.
- **The exercise was conducted at the Pokhran Field Firing Range in Jaisalmer.**
- It was last held in 2018, during which the IAF completed over 11,000 sorties during the two-phase air manoeuvres.

Hence, **the correct answer is Option B i.e. Pokhran Field Firing Range, Jaisalmer.**

Q10 Text Solution:**Explanation:**

- **Jammu's Dogri folk dancer Romalo Ram** was recently honored with the **Padma Shri** award by the Indian government.
- **Dogri is a dance** performed in **Duggar region of Jammu.**
- It is generally performed by a group of artists whose **main leader sings the song** as well as **dances** while others are in the sitting position providing beats of Drums and Chimta.
- It is performed in **functions and social gatherings.**
- There are other **varieties of this dance with the men and women** or only women performing dance in groups to the

music of some famous folk song in colourful traditional dresses.

- Dogra folk-dances have an important role as a **part of worship, ceremonies and a pastime** but the main force behind the folk-dances is the celebratory mood.
- **Hence, the correct answer is b.**

Q11 Text Solution:**Explanation:**

- Prime Minister Narendra Modi began his weekend with a jungle safari in Assam's Kaziranga National Park and the **inauguration of the world's longest bi-lane tunnel (Sela Tunnel) in Arunachal Pradesh.**
- He dedicated the world's longest bi-lane tunnel, Sela Tunnel, to the nation at the 'Viksit Bharat Viksit North East' programme in Arunachal Pradesh's Itanagar.
- The tunnel is a part of the **Balipara-Chariduar-Tawang (BCT) road**, one of the key strategic projects near the Chinese border.
- The project comprises two tunnels: Tunnel 1 which is a 980 m long single tube tunnel and Tunnel 2, which is a 1555 m long twin-tube tunnel. Tunnel 2 has one bi-lane tube for traffic and one escape tube for emergencies.
- Once completed, the tunnel will be the longest twin-lane tunnel above 13,000 feet in the world and will provide all-weather connectivity to Tawang.
- Moreover, the project will also allow faster deployment of weapons and soldiers to forward areas in the Tawang sector.

Hence, the correct answer is **Option B i.e. Arunachal Pradesh.**

Q12 Text Solution:**Explanation:**

- **Lala Amarnath Bhardwaj** was an Indian cricketer.

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- He is considered to be the **father figure of Indian cricket**.
- He scored the **first ever century** for India in **Test Cricket in 1933**.
- He was independent India's first cricket captain and captained India in their first Test series win against Pakistan in 1952.
- He played only three Test Matches before World War II (India played no official Test matches during the war).
- During this time he amassed around 10,000 runs with 30 hundreds in first-class cricket which included teams from Australia and England.

Hence, the correct answer is Option (D).

Q13 Text Solution:

Explanation:

- The **name of the female humanoid robot** that will fly into space ahead of ISRO's "**Gaganyaan**" mission is **Vyommitra**.
- **What is Vyommitra?**
- Vyommitra is a female robot designed for space travel by the Indian Space Research Organisation (ISRO). Her name comes from the Sanskrit words Vyōma meaning "space" and Mitra meaning "friend".
- **What will Vyommitra do?**
- Vyommitra will accompany Indian astronauts on space missions and participate in uncrewed experimental missions before the crewed flights. She will also test spacecraft safety.
- **When will Vyommitra fly?**
- Vyommitra will take her first flight on the Gaganyaan G-2 unmanned mission in 2025.
- **Where was Vyommitra designed?**
- Vyommitra was designed at the Vikram Sarabhai Space Center in Thiruvananthapuram, Kerala.
- **What is Gaganyaan?**
- Gaganyaan is India's first human manned space flight, carrying Indian astronauts into space.

Hence, the correct answer is option (C).

Q14 Text Solution:

Explanation:

- The **Sukhoi-30 MKI** has been equipped to launch the **BrahMos missile**, specifically the air-launched variant known as BrahMos-A, allowing for long-range precision strikes against land and sea targets.
- The BrahMos missile, noted for its supersonic speed and precision, was fired from a **Sukhoi fighter jet**, demonstrating the IAF's capacity to deploy long-range BrahMos cruise missiles.

Hence, the correct answer is option (D).

Q15 Text Solution:

Key Concept: Places in news

Explanation:

- **In Ladakh, as a tribute to the heroes of the Kargil War, the Indian Army has opened the Khalubar War Memorial to tourists.**
- This opening ceremony was part of the 'Forever in Operations' Division's Pre-Kargil Vijay Diwas celebrations as this year, the country will celebrate the 25th anniversary of Kargil Vijay Diwas on 26 July.
- Located in the renowned **Aryan Valley** this memorial commemorates the bravery and sacrifices of soldiers who fought to reclaim the valley during the war.
- Khalubar, a **serene valley near the border, became a focal point during the Kargil War** when enemy forces captured it.
- **Hence, the correct answer is d.**

Q16 Text Solution:

Explanation:

- The Indian brand that sponsored the Netherlands men's cricket team for the ICC Men's T20 World Cup 2024 is **Amul**.
- Amul has a history of sponsoring cricket teams during ICC tournaments, including previous



collaborations with the Netherlands national side.

Hence, the correct answer is option (A).

Q17 Text Solution:

Explanation:

- Indian Army has received the first batch **Nagastra-1**, the country's **first indigenous loiter munition made by Solar Industries in Nagpur**.
- The Indian Army has placed an order to supply **480 Loiter Munitions under Emergency Procurement Powers, with Solar Industries subsidiary Economics Explosives Ltd (EEL)**.
- The UAV-based system Nagastra operates similarly to an aerial ambush.
- In contrast to other weapons, Solar's Nagastra may be safely retrieved and can abort an attack if needed.
- **Nagastra-1** has the ability to hover over the target, and that is why it is known as loitering munition.
- **Nagastra-1** can neutralise any hostile threat using a GPS-enabled precision strike when it is in the Kamikaze mode, with achieving an accuracy of 2 metres.
- Mounted atop a UAV capable of reaching altitudes above 4,500 metres, the remotely operated weapon remains undetectable to radar technology.

Hence, the correct answer is Option (C).

Q18 Text Solution:

Explanation:

- **Khan Abdul Ghaffar Khan** was the **first non-Indian** to receive the Bharat Ratna, **India's highest civilian award, in 1987**.
- **Who he was:**
- A prominent political figure and leader of the Pashtuns, a Muslim ethnic group. He was a follower of Mahatma Gandhi and his ideals of non-violence.

• **Why he received the award:**

- For his contributions to the Indian independence movement and his lifelong commitment to nonviolence.
- **Nelson Mandela** was the **second non-Indian** to receive the **Bharat Ratna in 1990**.
- There is no written provision that Bharat Ratna should be awarded to Indian citizens only.
- **Mother Teresa**, a naturalized Indian citizen, was also awarded the Bharat Ratna in 1980.

Hence, the correct answer is option (A).

Q19 Text Solution:

Explanation:

- **Solar energy** is a renewable source of energy, while coal, petroleum, and natural gas are non-renewable.
- Other examples of **renewable energy** sources include **wind energy, biomass energy, geothermal energy, and hydro energy**.
- **Solar energy:**
- This energy comes from the sun's light and heat and can be converted into electrical or thermal energy.
- Solar energy is a clean, abundant, and inexhaustible source of energy.
- **Coal:**
- Coal is a **non-renewable energy** source because it takes millions of years to form.
- Coal contains energy from plants that lived millions of years ago in swampy forests.
- **Petroleum:**
- Petroleum is a **non-renewable energy** source that is limited in quantity. Petroleum is a mixture of hydrocarbons, which can exist as a liquid (crude oil) or a vapor (natural gas).

Hence, the correct answer is option (B).

Q20 Text Solution:

Explanation:

- Land revenue is a subject that falls under the State List in the Seventh Schedule of the Indian Constitution.



- The State List includes subjects on which only the state governments have the exclusive power to legislate.
- Land revenue, being related to land and agriculture, is managed by the respective state governments
- Some examples of subjects in the State List include tolls, taxes on professions, and stamp duty.

Hence, **the correct answer is Option B i.e. State List.**

Q21 Text Solution:

Explanation:

- The top layer of the lake freezes, but the **water beneath it stays in a liquid state due to the unique properties of water.**
- Specifically, **water reaches its maximum density at 4°C**, allowing it to remain liquid even when the surface freezes.
- This creates a habitat for fish and other aquatic animals to survive during winter months.
- Additionally, oxygen is trapped beneath the ice, further supporting aquatic life.

Hence, **the correct answer is option (B).**

Q22 Text Solution:

Explanation:

- **Surendranath Banerjee**, one of the earliest Indians to join the Indian Civil Services, was removed from his position by the British in 1874.
- The removal was based on a procedural error concerning his age, which many considered an act of racial discrimination.
- Banerjee later became a prominent leader in the Indian independence movement.

Hence, **the correct answer is option (B).**

Q23 Text Solution:

Key Concept: Surface Tension and its Application

Explanation:

- The shape of a liquid droplet is spherical primarily due to surface tension.
- Surface tension is the cohesive force between liquid molecules that minimizes the surface area of a liquid.
- A sphere has the smallest possible surface area for a given volume, which is why droplets adopt this shape.
- This minimization reduces the potential energy, creating a stable configuration.
- While gravitational force, atmospheric pressure, and viscosity can influence the droplet's shape under certain conditions, surface tension is the dominant factor in forming the spherical shape of small droplets.

Hence, **the correct answer is Option C.**

Q24 Text Solution:

Correct option: d) All of the above

Explanation:

When crop or biomass residue is burned, the following gases are commonly released:

- Carbon dioxide (CO₂): A significant greenhouse gas contributing to global warming.
- Methane (CH₄): Another potent greenhouse gas, although released in smaller amounts.
- Nitrogen oxides (NO_x): These gases contribute to air pollution and can lead to the formation of smog and acid rain.

In addition to these gases, burning biomass can also release carbon monoxide (CO), volatile organic compounds (VOCs), and particulate matter, all of which have harmful environmental and health impacts.

Q25 Text Solution:

Explanation:

- The headquarters of the **International Committee of the Red Cross (ICRC)** is located in **Geneva, Switzerland.**
- The ICRC is an independent humanitarian organization that was established in **1863.**
- Its goals include: **Helping victims of war, Ensuring that all parties in conflict follow humanitarian law, Developing rules of war, and Promoting humanitarian norms.**



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- The ICRC has won the **Nobel Prize three times.**

Hence, the correct answer is **Option (B).**



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