

# OFFICERS IAS ACADEMY

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DAILY MCQS- 8th October 2020

**1. Consider the following statements with respect to the National Investigation Agency (NIA)**

- 1) National Investigation Agency (NIA) was constituted as a statutory body
- 2) The officers of NIA don't have the power to investigate offences committed outside India.

**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**

## National Investigation Agency

- The National Investigation Agency (NIA) is a **central agency** established by the Indian Government to **combat terror** in India.
- NIA was constituted under the NIA Act, 2008. Thus, it is called a "**Statutory Body(Any body created by law or an act of Parliament)**". Hence statement 1 is correct.
- It was **established after the 2008 Mumbai terror** attacks as a central agency to combat terrorism

## National Investigation Agency (Amendment) Act,2019

- It amended the National Investigation Agency(NIA) Act,2008

**The Amendment act provides for**

- A national-level agency to investigate and prosecute offences listed in a schedule (scheduled offences).
- Allows for **creation of Special Courts** for the trial of scheduled offences.

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## Jurisdiction of the NIA

- The officers of the NIA have the same powers as other police officers in relation to investigation of Scheduled offences, across India.
- In addition, officers of the NIA will have the **power to investigate scheduled offences committed outside India**, subject to international treaties and domestic laws of other countries. **Hence statement 2 is incorrect.**
- The central government may direct the NIA to investigate such cases, as if the offence has been committed in India.
- The Special Court in New Delhi will have jurisdiction over these cases.

## Scheduled Offences

- The schedule to the Act **specifies a list of offences** which are to be investigated and prosecuted by the agency. These include offences under Acts such as the
  - Atomic Energy Act, 1962,
  - the Unlawful Activities Prevention Act, 1967.

The Act will allow the NIA to investigate additional offences such as

- **human trafficking**
- offences related to **counterfeit currency** or bank notes
- manufacture or sale of prohibited arms,
- cyber-terrorism,
- offences under the Explosive Substances Act, 1908.

<https://prsindia.org/billtrack/national-investigation-agency-amendment-bill-2019>

<https://www.businesstoday.in/current/economy-politics/lok-sabha-passes-nia-amendment-bill-to-give-more-power-to-anti-terror-agency-here-all-you-need-to-know/story/364609.html>

<http://www.yourarticlrary.com/essay/national-investigation-agency-nia-of-india/24999>

**2. Nobel prize in physics for the year 2020 is been awarded to Roger Penrose, Reinhard Genzel and Andrea Ghez for**

- a) Studies that established the existence of black holes.
- b) For the discovery of neutrino oscillations
- c) For the invention of efficient blue light-emitting diodes
- d) For groundbreaking inventions in the field of laser physics

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**Answer: A**

## Explanation

- The 2020 Nobel Prize in physics is awarded to Roger Penrose, Reinhard Genzel and Andrea Ghez for furthering the understanding of black holes, the most “enigmatic” objects in the universe.

## What are black holes?

- A black hole is formed when stars collapse and can be defined as a **space in the universe with an escape velocity so strong** that even light cannot escape it.
- Escape velocity is the speed at which an object must travel to override a planet or an object's gravitational force. For instance, for a spacecraft to leave the surface of the Earth, it needs to be travelling at a speed of about 40,000 km per hour.
- Since light cannot get out, black holes are invisible and can only be tracked with the help of a space telescope or other special tools. And the reason light cannot escape is mainly that the gravity inside a black hole is very strong as a result of a lot of matter being squeezed into a small space.

<https://indianexpress.com/article/explained/nobel-prize-physics-2020-roger-penrose-6705621/>

## 3. Which of the following about Indian Meteorological Department is incorrect?

- 1) The India Meteorological Department (IMD) issues meteorological or weather forecasts and also issues flood forecasts at various river points.
- 2) It is an agency of the Ministry of Earth Sciences of the Government of India.

Select the correct answer using the codes given below

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

**Answer: A**

## Explanation

- Indian Meteorological Department was established in **1875**.

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- It is the **National Meteorological Service** of the country and the principal government agency in all matters relating to meteorology and allied subjects.
- It is an agency of the **Ministry of Earth Sciences** of the Government of India. Hence **statement 2 is correct.**

#### Mandate of IMD

- To take meteorological observations and to provide current and forecast meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc.
- To warn against severe weather phenomena like tropical cyclones, norwesters, duststorms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property.
- To provide meteorological statistics required for agriculture, water resource management, industries, oil exploration and other nation-building activities.
- To conduct and promote research in meteorology and allied disciplines.
- It issues meteorological or weather forecasts but **flood forecasts at various river points are issued by the Central Water Commission.** Hence **statement 1 is incorrect.**

#### 4. With reference to 'Gene Editing', Consider the following statements

1. It is a technique precisely used to modify DNA within a cell.
2. Modifications can be done by addition, removal or altering the DNA of the genome.
3. Crispr-Cas9 is a gene editing tool that uses natural defence mechanism of bacteria to alter an organism's genetic code.

#### Select the correct answer using the given codes

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

Answer:D

**Explanation**

- **Statement 1 and 2 is correct:** Genome editing (also called gene editing) is a group of technologies that **give scientists the ability to change an organism's DNA** (or a technique used to precisely and efficiently modify DNA within a cell).
  - These technologies **allow genetic material to be added, removed, or altered** at particular locations in the genome.
- Several approaches to genome editing have been developed. A recent one is known as CRISPR-Cas9, which is short for **clustered regularly interspaced short palindromic repeats** and CRISPR-associated protein 9 (Cas9)
- **Statement 3 is correct:** CRISPR-Cas9 was adapted from a **naturally occurring genome editing system in bacteria**.
  - The bacteria capture snippets of DNA from invading viruses and use them to create DNA segments known as **CRISPR arrays**
  - The CRISPR arrays allow the bacteria to "remember" the viruses (or closely related ones). If the viruses attack again, the **bacteria produce RNA segments from the CRISPR arrays to target the viruses' DNA**. The bacteria then use Cas9 or a similar enzyme to cut the DNA apart, which **disables the virus**.
- The **CRISPR-Cas9 system works similarly** in the lab. As in bacteria, the modified RNA is used to recognize the DNA sequence, and the Cas9 enzyme cuts the DNA at the targeted location.
- Once the DNA is cut, researchers use the cell's own DNA repair machinery to add or delete pieces of genetic material, or to make changes to the DNA by replacing an existing segment with a customized DNA sequence.
- Genome editing is of great interest in the prevention and **treatment of human diseases**. It **holds promise** for the treatment and **prevention** of more complex **diseases such as cancer, heart disease, mental illness, and human immunodeficiency virus (HIV) infection**.

**5. RAISE 2020 seen in news recently is related to**

- a) Marine pollution
- b) Artificial Intelligence
- c) Fight against COVID-19
- d) Space warfare exercise

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**Answer: B**

## Explanation

- RAISE 2020 is **India's first Artificial Intelligence summit** organized by the Government in partnership with Industry & Academia.
- The RAISE 2020 summit (**Responsible AI for Social Empowerment**) has brought issues around artificial intelligence (AI) to the centre of policy discussions.
- The summit is a global meeting of minds to exchange ideas to use AI for social empowerment, inclusion and transformation in key areas like Healthcare, Agriculture, Education and Smart Mobility amongst other sectors.
- It is being organised by **Ministry of Electronics & IT**

## What is Artificial Intelligence?

- AI is the branch of computer science concerned with developing machines that can complete tasks that typically require human intelligence.

