

INTERNATIONAL ORGANISATION❖ **International Atomic Energy Agency (IAEA)**

❖ **CONTEXT:** Inspectors of the International Atomic Energy Agency (IAEA) continued their survey on the safety situation at the Zaporizhzhia nuclear power plant (NPP) on the banks of the Dnieper River near the Ukrainian town of Enerhodar. Europe's largest nuclear plant was seized by Russian forces in March but continues to be operated by Ukrainian staff. It has recently become a subject of concern as the war spilt over into its premises, with both Russia and Ukraine blaming each other for the shelling and warning of a possible Chernobyl-type radiation disaster.

❖ **What is the IAEA and what does it do?**

- The IAEA is an autonomous intergovernmental body to promote safe, secure and peaceful nuclear technologies and has a relationship agreement with the United Nations.
- It was born on July 29, 1957, after the IAEA statute was approved by 81 countries in late 1956, at the height of the Cold War between the United States and the Soviet Union. Its creation was inspired by the "Atoms for Peace" speech made by former U.S. President Dwight Eisenhower at the U.N. General Assembly in 1953 when he envisioned an organisation to promote peaceful and unifying uses of nuclear energy.
- The IAEA is entrusted with the task of upholding the principles of the Nuclear Non-Proliferation Treaty (NPT) of 1970.
- According to its statute, the IAEA's objectives include controlling and promoting the atom, meaning the promotion of nuclear technology, nuclear security and safety, and of peaceful uses of nuclear energy in areas such as agriculture and health.
- The atomic watchdog and its former Director General Mohamed ElBaradei were awarded the Nobel Peace Prize in 2005 for the agency's work of "incalculable importance", at a time when disarmament efforts appeared "deadlocked" and when there was a danger that nuclear arms would "spread both to states and to terrorist groups".
- The Vienna-headquartered agency currently has 175 member states and functions through two policy-making organs- the Board of Governors and the General Conference.
- The General Conference of IAEA, which has representatives from all member states, is its main governing body that approves the agency's program and budget and makes decisions on matters brought to its attention by the Board of Governors.
- The Board of Governors has Governors from 35 member states, designated and elected by the General Conference. As per the U.S. Congressional Research Service, "the board's roles include making recommendations to the IAEA General Conference regarding the agency's program and budget, as well as appointing the IAEA Director General, with the approval of the General Conference".
- The watchdog carries out its functions in two main ways- verification and technical assistance. As a part of its task of upholding the NPT, the IAEA was made the verification agency for the Treaty. "Each non-nuclear-weapon State party is required under Article III of the NPT to conclude a comprehensive safeguards agreement (CSA) with the IAEA to enable the IAEA to verify the fulfilment of their obligation under the Treaty". It currently has these Agreements with more than 180 countries.
- Essentially, safeguards are activities to ensure that countries are living up to their pledges of not using nuclear energy for nuclear-weapons purposes. Each member country and non-members who voluntarily wish to do so sign CSAs with the IAEA, where they declare their nuclear material and activities, which the IAEA inspectors then verify through on-site visits, inspections, testing techniques, tallying of declared project designs with nuclear facilities, and "containment and surveillance techniques, such as tamper-proof seals and cameras that the IAEA installs at facilities".
- In 1997, the agency added another layer of scrutiny to its verification process by giving countries the option of including an "additional protocol" to their CSAs, enabling the watchdog to not only verify the non-division of declared nuclear material by countries but also to make them accountable for the absence of undeclared nuclear material and activities.

❖ **What are some of its prominent international engagements?**

- In the 1970s and 80s, the IAEA was quick to respond to severe nuclear disasters like the Three Mile Island in the United States in 1979 and Chernobyl in the Soviet Union. IAEA helped the Soviet Union decommission the Chernobyl nuclear plant and safely dispose of radioactive waste.
- After Iraq's withdrawal from Kuwait, the U.N. requested the IAEA's services in inspecting Iraq's nuclear capabilities and in destroying and rendering harmless all assets relevant to the design and production of nuclear weapons.
- The agency has since played a key role in Iraq by securing declarations from it and looking into its possible clandestine nuclear weapons programme. It is also credited for standing its ground under pressure from the George W. Bush administration to back the American claim that the Saddam Hussein regime of Iraq was pursuing nuclear weapons.
- The agency's then Director General, Mr. El Baradei maintained that he would not rush into a judgment on this matter without incontrovertible evidence that could prove that Hussein had committed a gross violation of

non-proliferation. The cautious approach later proved to be in the watchdog's favour when the U.S. invasion of Iraq failed to yield the necessary proof of Hussein's pursuit of nuclear weapons.

- In Iran, the agency has played a key role in enforcing the original nuclear deal or the 2015 Joint Comprehensive Plan of Action (JCPOA), from which Donald Trump withdrew in 2018. Since then, the agency is pursuing a safeguards investigation into whether Iran failed to declare traces of uranium found at three undeclared sites and has become essential for a potential Iran deal as the country demands that the investigation be wrapped up for a deal to see the light of day.
- The IAEA probe relates to mainly old sites that apparently existed before or around 2003, which is when the IAEA and U.S. intelligence believe Iran halted a coordinated nuclear arms program. Iran denies this, but the IAEA was provided intel from Israeli intelligence about such material from the Iranian archives, which the country did not declare in its CSA, the agency says.
- In North Korea, the IAEA was the first to announce that the country's nuclear programme was not peaceful. North Korea in turn expelled all of IAEA's inspectors in 2009, after which it has not been able to conduct an on-site visit there. The world is now reliant on ground sensors and satellite imagery to observe North Korea's nuclear actions.
- As for India, while it is not a signatory to the NPT, it is a 'designated Member' of the IAEA and has served on its Board of Governors. India signed a CSA with IAEA in 2009 and also subscribed to more scrutiny by the body entering into an "Additional Protocol" for the Application of Safeguards to Civilian Nuclear Facilities in 2014.

❖ **What are some of the criticisms of the IAEA?**

- For years, there have been questions about the Agency's ability to work independently, without being drawn into big power rivalries. The most recent case in point is Iran's criticism of the body for relying on Israeli intelligence at the beginning of its 2018 undeclared material investigation.
- When Pakistan pursued a nuclear weapons programme in the 1980s, despite overwhelming evidence in possession of the American authorities, they did not pursue the case effectively through the IAEA because of the cooperation between the U.S. and Pakistan on the Afghan front.
- Another issue is the IAEA's lack of enforcement capability, which was hinted by Mr. El Baradei who had observed that it had "uneven authority" as it does not have any power to override the sovereign rights of any member nation of the UN.
- One major criticism of the IAEA is that it has not been able to challenge the nuclear dominance of the five permanent members of the UN Security Council, who themselves hold some of the biggest nuclear arsenals in the world. According to experts, the biggest difficulty facing the IAEA is with the U.S. and Russia. Although the two countries cut down their nuclear arsenals since the Cold War, both still have a worrying 7,000 weapons.

❖ **What has the current mission said about the Zaporizhzhia NPP?**

- As the site came in the line of military activity the plant and the physical integrity of the plant has been violated.
- In March, after a fire broke out due to alleged shelling near the Zaporizhzhia NPP, IAEA had outlined the seven "indispensable pillars of nuclear safety and security" at a nuclear facility, warning that "several of them had already been put at risk during events overnight at the Zaporizhzhia NPP".
- The pillars relate to maintaining structural integrity, the ability of the operating staff to make decisions free of undue pressure, and securing an alternate off-site power supply from the grid, among others.
- The NPP for the second time on, September 2 2022, lost the connection to its last remaining main 750 kV external power line, followed by renewed shelling in the area. The plant then had to resort to using a reserve line to continue supplying electricity through the grid, per an IAEA statement.

SCIENCE AND TECHNOLOGY

❖ **Dark Sky Reserve**

❖ **CONTEXT:** By the end of 2022, India will establish the country's first Dark Sky Reserve in the cold desert regions of Ladakh, Dr Jitendra Singh, Minister of State (Independent charge) for Science and Technology, announced recently. This facility will also promote astronomy-tourism.

❖ **What is a Dark Sky Reserve?**

- A Dark Sky Reserve is public or private land with a distinguished nocturnal environment and starry nights that has been developed responsibly to prevent light pollution.
- According to the International Dark Sky Association (IDSA), these reserves "consist of a

core area meeting minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core."

- These reserves, are formed through a "partnership of multiple land managers who have recognized the value of the natural nighttime environment through regulations and long-term planning".

❖ **How does a site become a 'Dark Sky Reserve'?**

- Individuals or groups can nominate a site for certification to the International Dark Sky Association (IDSA). There are five designated categories, namely International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.

- The certification process is similar to that of a site being awarded the UNESCO World Heritage Site tag or getting recognised as a Biosphere Reserve. Between 2001 and January 2022, there have been 195 sites recognised as International Dark Sky Places globally.
- The IDSA considers a piece of land suitable for dark sky place only if it is either publicly or privately owned; is accessible to the public partially or entirely during the year; the land is legally protected for scientific, natural, educational, cultural, heritage and/or public enjoyment purposes; the core area of the land provides an exceptional dark sky resource relative to the communities and cities that surround it and the land offers prescribed night sky brightness either for a reserve, park or sanctuary.
- India is still in the process of filing its nomination to IDSA.
- ❖ **Who is developing India's first Dark Sky Reserve?**
- The Ladakh Union Territory administration is leading the efforts in establishing the country's first Dark Sky Reserve.
- To be situated at a height of 4,500 metres above sea level, the Hanle Dark Sky Reserve (HDSR) will come up within the Changthang Wildlife Sanctuary.
- The Department of Science and Technology and experts from the Indian Institute of Astrophysics (IIA), Bengaluru, are providing scientific and technological support in developing this first-of-its-kind facility. The IIA already manages the Indian Astronomical Observatory (IAO) complex at Hanle, Ladakh.
- Here, scientists have been carrying out astronomical observations using the existing gamma ray, an infrared and an optical telescope to study exoplanets, galaxies and stars through the pristine skies of Hanle.
- The formal decision to set up this Dark Sky Reserve was made through a Memorandum of Understanding (MoU) signed between officials from the IIA, Bengaluru, the Ladakh UT and the Ladakh Autonomous Hill Development Council in June this year.
- ❖ **Why was Ladakh chosen for the project?**
- Ladakh is a unique cold desert located about 3,000 metres above sea level with high mountainous terrains. Long and harsh winters with minimum temperatures dropping to minus 40 degrees Celsius make large parts of the UT highly inhabitable.
- This aridity, limited vegetation, high elevation and large areas with sparse populations – all make it the perfect setting for long-term astronomical observatories and dark sky places.
- But the primary objective of the proposed Dark Sky Reserve is to promote astronomy tourism in a sustainable and environment-friendly manner. Scientific methods will be used here to preserve the night sky from ever-increasing light pollution.

- With metros, cities and peripheral areas experiencing light pollution and remaining constantly lit up, there are diminishing areas that offer a view of clear skies on cloudless nights.

The Indian EXPRESS

DARK SKY RESERVES AROUND THE WORLD

Country	Name	Year, area (sq kms)
France	Alpes Azur Mercantour	2019, 2,250
	Cévennes National Park	2018, 3,600
	Pic du Midi	2013, 3,112
	Regional Natural Park of Millevaches in Limousin	2021, 3,350
United Kingdom	Cranborne Chase	2019, 981
	Exmoor National Park	2011, 181
	Moore's Reserve	2016, 1,627
	North York Moors National Park	2020, 1,440
Wales	Yorkshire Dales National Park	2020, 2,180
	Brecon Beacons National Park	2013, 1,347
Australia	Snowdonia National Park	2015, 2,132
	River Murray	2019, 3,200
New Zealand	Aoraki Mackenzie	2012, 4,367
Germany	Rhön	2014, 1,720
	Westhavelland	2014, 1,529
US / Mexico	Greater Big Bend International Dark Sky Reserve	2022, 38,850
US	Central Idaho	2017, 3,668
Canada	Mont-Mégantic	2007, 5,300
Ireland	Kerry	2014, 700
Namibia	NabimRand Nature Reserve	2010, 2,022

- ❖ **Will this help boost tourism in Ladakh?**
- After it became a UT, tourism in Ladakh has seen an uptick during favourable months. However, its fragile environment is vulnerable to rising carbon footprint and in-coming vehicles. The Ladakh Tourism Vision Document 2022 underlined the need for efforts to increase the use of green fuels and boost carbon-neutral activities.
- In the pilot phase, the IIA has procured ten small and easy-to-handle telescopes and light-reflecting shields. IIA's scientists and outreach experts will identify locals and train them to use these telescopes. This will include basic sky gazing, identification of constellations, and locating the pole star, among others. These telescopes will be installed at the homestays, which is a popular option for tourist accommodation in Ladakh.
- The 22-km radius around the Hanle observatory, where the core Dark Sky Reserve will stand, will have restrictions imposed on outdoor lighting. All vehicles will be barred from using high-beam headlights. Houses here will be encouraged to use curtains of darker shades, install light reflecting shields and switch off all unwanted illumination.

1. PM SHRI Yojna

❖ **CONTEXT: On the occasion of National Teachers' Day, the Prime Minister Shri Narendra Modi announced a new initiative - PM SHRI Schools (PM ScHools for Rising India).**

- This will be a new centrally sponsored scheme for upgradation and development of more than 14500 Schools across the country by strengthening the selected existing schools from amongst schools managed by Central Government/ State/ UT Government/ local bodies.
- PM SHRI Schools will showcase all components of the National Education Policy 2020 and act as exemplar schools and also offer mentorship to other schools in their vicinity.
- The aim of these schools will not only be qualitative teaching, learning and cognitive development, but also creating holistic and well-rounded individuals equipped with key 21st century skills.
- Pedagogy adopted in these schools will be more experiential, holistic, integrated, play/toy-based (particularly, in the foundational years) inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible and enjoyable.
- Focus will be on achieving proficiency in learning outcomes of every child in every grade. Assessment at all levels will be based on conceptual understanding and application of knowledge to real life situations and will be competency-based.
- These schools will be equipped with modern infrastructure including labs, smart classrooms, libraries, sports equipment, art room etc. which is inclusive and accessible.
- These schools shall also be developed as green schools with water conservation, waste recycling, energy-efficient infrastructure and integration of organic lifestyle in curriculum.
- They will provide leadership in their respective regions in providing high-quality education in an equitable, inclusive and joyful school environment that takes care of the diverse background, multilingual needs, and different academic abilities of children and makes them active participants in their own learning process as per the vision of NEP 2020.

2. Indian scientist wins award for fortifying millet

❖ **CONTEXT: Telangana-based agriculture scientist Mahalingam Govindaraj has won the coveted 2022 Norman E. Borlaug Award for Field Research and Application.**

❖ **Norman Borlaug Field Award:**

- The Norman E. Borlaug Award for Field Research and Application, endowed by the Rockefeller Foundation, is presented every October in Des Moines, Iowa, USA, by the World Food Prize Foundation.
- This \$10,000 award recognizes exceptional, science-based achievement in international agriculture and food production by an individual under the age of 40.
- Awardees emulate the same intellectual courage, stamina and determination in the fight to eliminate global hunger and poverty demonstrated by Dr. Norman Borlaug as a young scientist working in Mexico in the 1940s and '50s.

❖ **2022 Recipient**

- Mahalingam Govindaraj, Senior Scientist for Crop Development at HarvestPlus and the Alliance of Bioversity International and CIAT, has been named the 2022 recipient of the Norman E. Borlaug Award for Field Research and Application, Endowed by The Rockefeller Foundation.
- He is recognized for his outstanding leadership in mainstreaming biofortified crops, particularly pearl millet, in India and Africa.
- For more than a decade, he has directed the development and dissemination of high-yielding, high-iron and high-zinc pearl millet varieties which have contributed to better nutrition for thousands of farmers and their communities.
- As a scientist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) starting in 2011, Govindaraj defined a strategy for biofortification of pearl millet with high iron and zinc content and dissemination of these high-yielding, drought-tolerant varieties to farmers.
- Biofortification is the process of increasing the micronutrient content of a crop through selective breeding, and has become a keystone strategy for reducing vitamin and mineral deficiencies in low- and middle-income countries.
- In 2014, Govindaraj released Dhanashakti, the world's first biofortified pearl millet.
- Independent clinical studies showed that 200 grams of Dhanashakti provided women with more than 80 percent of their recommended daily allowance of iron, compared to only 20 percent in regular pearl millet varieties.
- Govindaraj's active collaboration with the Indian Council of Agricultural Research led to India becoming the first country in the world to commit to iron and zinc standards as core traits in their national cultivar release policy.
- Pearl millet became the first crop in which minimum levels of these essential micronutrients were mandated in 2018.

3. How Pakistan floods have imperilled Mohenjo-daro's world heritage tag

❖ **CONTEXT: The recent spell of heavy rains and floods that ravaged large parts of Pakistan's Sindh province has also taken a heavy toll on the archaeological site of Mohenjo-daro. In fact, the calamity has pushed the archeological site – situated on the bank of the Indus river – to the “brink of extinction”. Pakistan's Department of Archaeology has said that Mohenjo-daro might be removed from the world heritage list, if urgent attention towards its conservation and restoration is not given. Consequently, the administration has banned the entry of tourists to the place.**

❖ **Importance of Mohenjo-daro**

- Mohenjo-daro, a group of mounds and ruins, is a 5000-year-old archaeological site located about 80-km off the city of Sukkur. It comprises the remnants of one of two main centres of the ancient Indus Valley Civilisation, the other one

being Harappa, located 640 km to the northwest, in Punjab province. Mohenjo-daro, which means 'mound of the dead', was one of the oldest cities of the world.

- Known to be a model planned city of the ancient civilisation, the houses here had bathrooms, toilets and drainage system. The sheer size of the city, and its provision of public buildings and facilities, suggests a high level of social organisation. Though in ruins, the walls and brick pavements in the streets are still in a preserved condition.

- The ruins of the city remained undocumented for around 3,700 years, until 1920, when archaeologist RD Banerji visited the site. Its excavation started in 1921 and continued in phases till 1964-65. The site went to Pakistan during Partition.

❖ **Other Indus Valley sites**

- The Indus Valley Civilisation spanned much of what is now Pakistan and the northern states of India (Gujarat, Haryana and Rajasthan), even extending towards the Iranian border.

- Its major urban centres included Harappa and Mohenjo-daro in Pakistan, and Lothal, Kalibangan, Dholavira and Rakhigarhi in India.

- Mohenjo-daro is considered the most advanced city of its time, with sophisticated civil engineering and urban planning. When the Indus Valley Civilisation went into sudden decline around 19th century BC, Mohenjo-Daro was abandoned.

❖ **What next for the site**

- Many streets and sewerage drains of the historical ruins have been badly damaged due to the floods. However, the work of removing the sediments deposited due the flooding is still underway. But if this kind of flooding happens again, the heritage site may once again get buried under the ground, archaeologists say.

- It is expected that UN Secretary General Antonio Guterres will visit the site during his visit to Pakistan on September 11. The visit might provide some clarity on if the site has lost some of its attributes that are necessary for it to retain its prestigious world heritage tag.

❖ **Losing world heritage tag**

- There are around 1,100 UNESCO listed sites across its 167 member countries.

- In 2021, the World Heritage Committee, holding its 44th session in China, decided to delete the property 'Liverpool – Maritime Mercantile City' (UK) from the World Heritage List, due to "the irreversible loss of attributes conveying the outstanding universal value of the property,".

- Liverpool was added to the World Heritage List in 2004 in recognition of its role as one of the world's major trading centres in the 18th and 19th centuries – and its pioneering dock technology, transport systems and port management.

- Before that, the first venue to be delisted by the UNESCO panel was the Arabian Oryx Sanctuary in Oman, in 2007, after concerns over poaching and habitat degradation. Another site to be removed from the World Heritage list in 2009 was Elbe Valley in Dresden, Germany, after the construction of the Waldschloesschen road bridge across the Elbe river.

ANSWER WRITING

Q. The jurisdiction of the Central Bureau of Investigation (CBI) regarding lodging an FIR and conducting probe within a particular State is being questioned by various States. However, the power of the States to withhold consent to the CBI is not absolute. Explain with special reference to the federal character of India.

Federalism is a system of government in which the power is divided between a central authority and various constituent units of the country. The Constitution clearly provided a threefold distribution of powers between the Union Government and the State Governments.

Known as India's premier investigation agency, Central Bureau of Investigation (CBI) deals with matters of corruption and major criminal matter. It investigates cases connected to infringement of economic and fiscal laws. The CBI derives its power from the Delhi Special Police Establishment (DSPE) Act, 1946.

According to Section 6 of the DSPE Act, the State's consent is required to extend CBI investigation beyond Union Territories. There are two types of consent for a probe by the CBI:

- General Consent: When a State gives a general consent to the CBI, the agency is not required to seek fresh permission every time it enters that State in connection with investigation.
- Specific Consent: When a general consent is withdrawn, CBI needs to seek case-wise consent for investigation from the concerned State government. If specific consent is not granted, the CBI officials will not have the power of police personnel when they enter that State.

However, the power of the States to withhold consent to the CBI is not absolute. The CBI can be ordered by the Supreme Court and the high court to investigate a crime without the consent of the State. Moreover, the withdrawal of general consent does not affect pending investigation (Kazi Lendhup *Dorji* case, 1994) or the cases registered in another State in relation to which investigation leads into the territory of the State which has withdrawn general consent.

In context of federal structure, Police is exclusively a State subject. However, the establishment of CBI under the DSPE Act is an exception as it encroaches upon the State jurisdiction. Federal issues are caused recurrently with the jurisdiction of CBI often coming into direct confrontation with the State police. The existence of different political parties at the State and Central level often leads to a more prominent conflict between the State and Centre over CBI.

MCQs

1. Consider the following statements about UNESCO World Heritage List.
 1. Once a site is inscribed on the World Heritage List it is considered in the interest of the international community to protect the site for future generations.
 2. A site can be proposed for inscription only by the country in which the property is located.
 3. It is obligatory for state parties to submit regular reports regarding the status of conservation of their World Heritage Properties
 4. It protects both cultural and natural heritage.
 5. Khangchendzonga National Park is the first and only mixed Heritage site in India till now.

Which of the statements given above is/are true?

- a) All except 1 and 2
- b) 3,4 and 5 only
- c) All except 5
- d) All of the above**

2. Consider the following statements:

- 1. The Nuclear Security Summits are periodically held under the aegis of the United Nations.
- 2. The International Panel on Fissile Materials is an organ of the International Atomic Energy Agency.

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**

3. Which of the following country has highest mixed world heritage sites?

- a) Australia
- b) USA
- c) China
- d) Both a and c**

4. Consider the following

- 1. Iron
- 2. Folic Acid
- 3. Vitamin B12

Which of the above is a part of fortified rice in India?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) All of the above**

5. With reference to Biofortification of crop, consider the following statements:

- 1. It aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops.
- 2. It includes iron-biofortification of wheat, rice and maize
- 3. It is recognized as a nutrition-sensitive- agriculture intervention that can reduce vitamin and mineral deficiency.

Which of the statements given above is/are correct?

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

6. With reference to PM SHRI Yojna consider the following statements

- 1. It is a centrally sponsored scheme
- 2. It was announced under National Education Policy 2020

Which of the above statement/s is or are correct?

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

7. Which one among the following statements correctly defines the term Bio-fortification?

- a) Enrichment of the nutrient quality of the soil using biological agents
- b) Breeding crops to increase their nutritional values**
- c) Increase of organo-metallic compounds in the organism through energy flow in an ecosystem
- d) Adoption of genetic variable plants for breeding of high yielding varieties

8. Global Financial Stability Report (GFSR) is published by

- a) International Investment Bank
- b) World Bank
- c) Asian Development Bank
- d) International Monetary Fund**

9. In which of the following cases, the court declared transgenders as the 'Third Gender' in India?

- a) Navtej Singh Johar vs Union of India
- b) Suresh Kumar Koushal Case
- c) National Legal Services Authority vs Union of India**
- d) Naz Foundation vs. Govt. of NCT of Delhi

10. River Kushiyara often mentioned in news recently it forms border between India and which of the following countries?

- a) Nepal
- b) Bhutan
- c) Bangladesh**
- d) Afghanistan

11. Arrange the following Harappan Sites from North to South:

- 1. Rakhigarhi
- 2. Kalibangan
- 3. Dholavira
- 4. Mohenjo Daro

Select the correct answer using the codes given below.

- a) 1-2-4-3**
- b) 2-1-4-3
- c) 1-2-3-4
- d) 2-1-3-4