



General Studies-1

Taj Mahal turning green:

The Supreme Court on Tuesday expressed concern over the change of colour of the iconic Taj Mahal at Agra and said the monument had become yellowish earlier and was now turning brownish and greenish. The apex court suggested that the Centre take the assistance of experts from India and abroad to first assess the damage and then take steps to restore the historic monument.

Dangers to Taj Mahal:

1. Use of coal fired chulhas by petha makers.
2. Unregulated number of tourists, as constant trading wears down the floor.
3. Due to high temperature, mineral impurities present in the marble gets oxidized and creates brown stains.
4. Rain also has weathering effect on the marble and can cause chipping and cracking.
5. Iron dowels used to fix the marble slabs get rusted and rust flows down with rain getting deposited on marble.
6. Hot dusty wind had abrasive effect on marble too.
7. In recent weeks, activists in Agra have complained that the structure was developing greenish-black patches on several parts as a result of the release of faeces and dirt by an insect identified as the Geoldichironomus (Chironomus calligraphus).
8. Activists attributed it to the rising pollution levels of the Yamuna, saying it led to an explosive breeding of the insect in the river, on whose banks stands the 17th century monument.
9. Dumping of waste in the Yamuna led to the stagnation of the river and the consequent "explosive breeding" of the insect, which is a "biological indicator of water quality and localised water pollution."

Solutions:--

Increasing green cover and water bodies.

Regulating number of tourists per day.

Mandating user of gas powered chulhas by hotel.

Controlling vehicular pollution



General Studies-2

POCSO Act:

Why in News?

Shocked by the high rate of pendency of child sexual assault cases, the Supreme Court directed High Courts to set up panels of its judges to regulate and monitor [trials](#) under the Protection of Children from Sexual Offences (POCSO) Act.

The Bench, also comprising Justices A.M. Khanwilkar and D.Y. Chandrachud, issued a series of directions which supplement the ordinance.

These include:

the State police chiefs should constitute special task forces to investigate cases, High Courts should ensure that they are tried and disposed of by the designated Special Courts under the Act;

POCSO judges will give no adjournments and make every effort to fast-track trial, witnesses should be produced in court on the day of the hearing and high courts should make every effort to provide a child-friendly atmosphere in tune with the spirit of the Act.

About POCSO:

POCSO or The Protection of Children from Sexual Offences Act (POCSO Act) 2012 was established to protect the children against offences like sexual abuse, sexual harassment and pornography.

It was formed to provide a child-friendly system for trial underneath which the perpetrators could be punished.

The Act defines a child as any person below eighteen years of age. It also makes provisions for avoiding the re-victimisation of the child at the hands of the judicial system.

The Act defines different forms of sexual abuse which includes penetrative and non-penetrative assault. It also involves sexual harassment, pornography, etc.

Under certain specific circumstances POCSO states a sexual assault is to be considered "aggravated if the abused child is mentally ill or when the abuse is committed by a member of the armed forces or security forces or a public servant or a person in a position of trust or authority of the child, like a family member, police



officer, teacher, or doctor or a person-management or staff of a hospital — whether Government or private.”

The Act also makes it mandatory to report such cases. It makes it the legal duty of a person aware of the offence to report the sexual abuse. In case he fails to do so, the person can be punished with six months’ imprisonment or fine.

The Act further states that the evidence of the child should be recorded within a period of thirty days.

The Special Court taking cognizance of the matter should be able to complete the trial within the period of one year from the date of taking cognizance of the abuse.

It provides that the Special Court proceedings should be recorded in camera and the trial should take place in the presence of parents or any other person in whom the child has trust or confidence.

WHO recognises air pollution is a critical risk factor for non-communicable diseases

Delhi and Varanasi are among the 14 Indian cities that figure in a list of 20 most polluted cities in the world in terms of PM2.5 levels in 2016, data released by the WHO showed.

Other Observations:

The WHO data also said that nine out of 10 people in the world breathe air containing high levels of pollutants.

The World Health Organisation has called upon member-countries in its Southeast Asia region to aggressively address the double burden of household and ambient (outdoor) **air pollution**, saying the region, which comprises India, accounts for 34% or 2.4 million of the seven million premature deaths caused by household and ambient air pollution together globally every year.

Of the 3.8 million deaths caused by household air pollution globally, the region accounts for 1.5 million or 40% deaths, and of the 4.2 million global deaths due to ambient air pollution, 1.3 million or 30% are reported from the region, it said.

The PM2.5 includes pollutants like sulfate, nitrate and black carbon, which pose the greatest risk to human health.



इशोरइशा
I A S A C A D E M Y
Your Dreams, Our Mission!

“WHO estimates that around 7 million people die every year from exposure to fine particles in polluted air that penetrate deep into the lungs and cardiovascular system, causing diseases including stroke, heart disease, lung cancer, chronic obstructive pulmonary diseases and respiratory infections, including pneumonia,” the report said.

According to the report, more than 90% of air pollution-related deaths occur in low- and middle-income countries (including India), mainly in Asia and Africa, followed by low- and middle-income countries of the Eastern Mediterranean region, Europe and the Americas.

“Around 3 billion people — more than 40% of the world’s population — still do not have access to clean cooking fuels and technologies in their homes, the main source of household air pollution,” it said.

It said the WHO recognises air pollution is a critical risk factor for non-communicable diseases (NCDs), causing an estimated 24% of all adult deaths from heart disease, 25% from stroke, 43% from chronic obstructive pulmonary disease and 29% from lung cancer.

.

Major sources of air pollution from particulate matter include inefficient use of energy by households, industry, agriculture and transport sectors, and coal-fired power plants. In some regions, sand and desert dust, waste burning and deforestation are additional sources of air pollution.

InSight Explorer:

Six years after last landing on Mars, NASA is sending a robotic geologist to dig deeper than ever before to take the planet’s temperature.

The Mars InSight spacecraft, set to launch this weekend, will also take the planet’s pulse by making the first measurements of “marsquakes.” And to check its reflexes, scientists will track the wobbly rotation of Mars on its axis to better understand the size and makeup of its core.

About the Mission:

The lander’s instruments will allow scientists “to stare down deep into the planet.



The \$1 billion U.S.-European mission is the first dedicated to studying the innards of Mars.

By probing Mars' insides, scientists hope to better understand how the red planet — any rocky planet, including our own — formed 4.5 billion years ago.

Mars is smaller and geologically less active than its neighbour Earth, where plate tectonics and other processes have obscured our planet's original makeup. As a result, Mars has retained the "fingerprints" of early evolution.

In another first for the mission, a pair of briefcase-size satellites will launch aboard InSight, break free after liftoff, then follow the spacecraft for six months all the way to Mars. They won't stop at Mars, just fly past.

The point is to test the two CubeSats as a potential communication link with InSight as it descends to the red planet on November 26.

WALL-E and Eve

These Mars-bound cubes are nicknamed WALL-E and EVE after the animated movie characters.

It will be NASA's first interplanetary mission launched from somewhere other than Florida's Cape Canaveral

Once on the surface, InSight will take interplanetary excavation to a "whole new level," according to NASA's science mission director Thomas Zurbuchen.

A slender cylindrical probe dubbed the mole is designed to tunnel nearly 16 feet into the Martian soil.

A quake-measuring seismometer, meanwhile, will be removed from the lander by a mechanical arm and placed directly on the surface for better vibration monitoring.

About InSight:

The 1,530-pound (694-kilogram) InSight builds on the design of the Phoenix lander and, before that, the Viking landers.

They're all stationary three-legged landers; no roaming around. InSight stands for "Interior Exploration using Seismic Investigations, Geodesy and Heat Transport." InSight's science objectives, however, are reminiscent of NASA's Apollo program.



Back in the late 1960s and early 1970s, the Apollo moonwalkers drilled up to 8 feet (2.5 metres) into the lunar surface so scientists back home could measure the underground flow of lunar heat. The moon still holds seismometers left behind by the 12 moonmen.

Previous Mars missions have focused on surface or close-to-the-surface rocks and mineral. Phoenix, for instance, dug just several inches down for samples. The Martian atmosphere and magnetic field also have been examined in detail over the decades.

Exercise VIJAY PRAHAR

Formations of South Western Command are carrying out Exercise VIJAY PRAHAR employing more than 20000 troops, cutting edge equipment and state of the art force multipliers in the Mahajan Field Firing Ranges close to Suratgarh in Rajasthan.

The exercise is aimed to orchestrate wide spectrum of threats which are planned to be tackled through high tempo joint air and land operation involving hundreds of aircrafts, thousands of tanks and artillery pieces supported by real time intelligence, surveillance, reconnaissance and just in time logistic support.

The month-long exercise is essentially to practice the troops in penetrative manoeuvres across the obstacle ridden terrain under a nuclear umbrella.

During the exercise, the formations of South Western Command are practising and operationalising certain innovative concepts of operating in the network centric environment, integrated employment of modern day sensors with the weapon platforms, employment of attack helicopters in the air cavalry role and bold offensive of application of the Special Forces.

The formations will refine their drills and procedures for fighting in the nuclear environment during the course of the exercise.