

**INDIAN HERITAGE****Bhaskarabda: A Luni-Solar Calendar**

Recently, the Assam Government has announced that Bhaskarabda, a Luni-Solar Calendar will be used as an official calendar. Presently, the official calendar of Assam government makes use of the Saka calendar and the Gregorian calendar.

However, the Bhaskarabda calendar will also be used from now onwards.

**Key Points****About:**

- Bhaskarabda, an era counted from the date of the ascension of a 7th-century local ruler Bhaskar Varman.
- It is based on both the phases of the moon and the solar year.
- It began when Bhaskaravarman was crowned ruler of the Kamarupa kingdom. He was a contemporary and political ally of northern Indian ruler Harshavardhana.
- The gap between Bhaskarabda and Gregorian is 593 years.

**Type of Calendars:**

- **Solar:** Any dating system based on the seasonal year of approximately 365 1/4 days, the time it takes the Earth to revolve once around the Sun.
- **Lunar:** Any dating system based on a year consisting of synodic months—i.e., complete cycles of phases of the Moon.
- **Luni-Solar:** In the lunisolar calendar months are lunar but years are solar, it was used in the early civilizations of the whole Middle East and in Greece.

**Bhaskarvarman (600–650):**

- He belonged to the Varman dynasty and was the ruler of Kamarupa Kingdom. Kamarupa was one of the most advanced kingdoms in India under Bhaskaravarman. Kamarupa was the first historical kingdom of Assam.
- His name has been immortalised in the accounts of the Chinese Buddhist pilgrim, Xuanzang, who visited Kamarupa during his reign.
- He is known for his alliance with Harshavardhana against Shashanka, the first major ruler of Bengal (Karnasuvarna).

**Classification of calendars in India****Vikram Samvat (Hindu lunar calendar)**

- It dates back to 57 B.C where 57 B.C. is the zero year.
- Introduced by King Vikramaditya to mark his victory over the Saka rulers.
- It is a lunar calendar as it is based on the movement of the moon.
- Every year is divided into 12 months and each month is divided into two phases.
  1. The bright half is called the Shuklapaksha (15 days). It starts with the new moon and ends with a full moon.
  2. The dark half is called the Krishnapaksha (15 days). It starts with the full moon and ends with a new moon.
- The month begins with the dark half. There are 354 days in a year.
- Hence every third and fifth year in a cycle of five years has 13 months (the 13th month is called Adhik Mass).

**Saka Samvat (Hindu Solar calendar)**

- The zero year of Saka Samvat is 78 A.D.
- It was started by Saka rulers to mark their victory over Kushanas.
- It is a solar calendar, any dating system based on the seasonal year of approximately 365 1/4 days, the time it takes the Earth to revolve once around the Sun.
- It was adopted by the Government of India as the official calendar in the year 1957.
- Every year has 365 days.

**Hijri calendar (Islamic lunar calendar)**

- The zero year is 622 A.D.
- It was initially started and followed in Saudi Arabia.
- Every year has 12 months and 354 days.

- The first month is called Muharram.
- Ninth month is called Ramzaan. During this month, Muslims observe a fast for the purification of souls. The morning breakfast is called Shehri and evening food is called Iftar.

**Gregorian calendar (Scientific solar calendar)**

- The Gregorian calendar is used as the civil calendar.
- It began to be used from 1582.
- It is named after Pope Gregory XIII, who introduced the calendar.
- It substituted the earlier Julian calendar because the Julian calendar had a miscalculation regarding leap year. The Julian year had 365.25 days.

**ECONOMY**

**Economic Slowdown in China**

Recently, China's National Bureau of Statistics has reported that third-quarter Gross Domestic Product (GDP) growth has slowed to 4.9%. There are concerns that a slowing Chinese economy could impact the incipient global recovery and regional economies like India as well.

**Key Points**

**Reasons for Slowdown in Growth:**

- **Base Effect:** China did well in reviving economic growth after the Covid-19 pandemic. Therefore, the reference point of higher levels of growth rate in the previous quarter is resulting in a lower growth rate.
  1. China is going through a 'mature' stage of economic development i.e. an economy which has witnessed a double digit growth for two decades is bound to face a slowdown.
  2. The base effect refers to the effect that the choice of a basis of comparison or reference can have on the result of the comparison between data points.
- **Fuel/Power Crisis:** A surge in coal prices and a resultant electricity shortage prompted provincial governments to cut power supplies. This fuel/power crisis in China continues to affect factories and units across the country's industrial heartland in its south east have had to curtail output.
- **Turmoil in the Real Estate Sector:** The Real Estate Sector which accounts for about a quarter of China's GDP, is now beginning to show signs of perceptible slowdown.
  1. The reason for this slowdown can be primarily attributed to the Evergrande fiasco.
  2. Evergrande Group is a real estate giant in China, which is struggling to avoid defaulting on billions of dollars owed to bond holders.

**Impact on Global Economy:**

- **Impending Global Recovery:** China's control of pandemic and restarting its industries has played an instrumental role in the post-pandemic global economic recovery. The Chinese economy falling into systemic risks could lead to overall loss of momentum to the global post-pandemic economic recovery.
- **Impact of Trade War:** US-China trade war, has resulted in slowdown in Chinese exports resulting in losses for the countries (especially South Asian Countries) that depend on China for 'Supply Value Chain' for producing components and other finished goods.

**Impact on India:**

- **Imports:** India's bilateral trade with China has grown nearly 50% in the first nine months of 2021.
  1. Further, India depends majorly on imports from China including smartphones and automobile components, telecom equipment, active pharmaceutical ingredients, and other chemicals.
  2. Thus, slowing the Indian economy will have an impact on India's consumer market and infrastructure development.
- **Exports:** Further, India's buoyant iron ore exports, much of which is headed to China, could also see an impact if the twin crises in China triggers an extended slowdown in the Chinese real estate market.

- **Investments:** Slowing Chinese economy can trigger an investment outflow from India. If India can expedite the economic reforms, it can become the next global manufacturing hub.

#### **Recent Economic Reforms in India**

1. PM Gati Shakti Scheme
2. National Monetisation Pipeline
3. Labour Codes
4. Atma Nirbhar Bharat Scheme

#### **Way Forward**

Apart from carrying out economic reforms, India should go for import diversification from China, develop export competitiveness, and become part of global supply chains.

### **BIODIVERSITY & ENVIRONMENT**

#### **Decreasing Ice and Its Impact: Arctic**

According to a recent study, if carbon emissions continue at current levels, summer ice in the arctic will disappear by 2100 and, along with it, creatures such as seals and polar bears. The Arctic sea ice reached its minimum extent, coming in at 4.72 million square miles. It is the 12th lowest on record and the record minimum melting of the ice occurred in 2012.

#### **Key Points**

##### **About the Study:**

- **Coverage:** The study covers a 1 million-sq km region north of Greenland and the coasts of the Canadian Archipelago, where sea ice has traditionally been thickest round the year, and thus likely to be most resilient.
- **Two Scenarios:**
  1. **Optimistic/Low Emissions** (if carbon emissions are brought in check): Under this scenario, some summer ice could persist indefinitely.
  2. **Pessimistic/High Emissions** (if emissions continue as they are): Under this scenario, summer ice would disappear by the end of the century.
- ✓ Ice from even the central Arctic will decrease by mid-century, and will no longer endure through the year.
- ✓ Locally formed summer ice will persist in what is known as the Last Ice Area, but will now be only a metre thick.

##### **Implications:**

- **Low-emissions Scenario:** At least some seals, bears and other creatures may survive. These species currently exist under similar summer conditions along western Alaska and parts of Hudson Bay.
- **Higher-Emissions Scenario:** By 2100, even the locally formed ice will disappear in summer. With no summer ice anywhere, there will be no ice-dependent ecosystems.

### **IMPORTANT FACTS FOR PRELIM**

#### **PM's 60-Point Action Plan**

Recently, the Centre has prepared a comprehensive 60-point action plan. The action plan is targeted at specific ministries and departments, but a closer analysis suggests they fall under broadly three buckets: leveraging IT and technology for governance, improving business climate, and upgrading the civil services.

#### **Key Points**

##### **Leveraging IT and Technology for Governance:**

- There are several actionable inputs for the Ministry of Electronics and Information Technology from streamlining disbursement of scholarships to bridging digital divide for underprivileged students by developing indigenous tablets and laptops.
- Digitising all land records by 2023 under the central database called 'Matribhumi.' Integration with e-Courts system will provide transparency on title/possession related issues.
- Citizenship may be linked to birth certificates through technology and mainstreamed.

**Improving Business Climate:**

- It includes doing away completely with certain permissions, reducing the cost of starting a business in 10 sectors and bringing it on a par with Vietnam and Indonesia, automatic notification of clearances, single-point access to all government services.
- Incentives to states for timely land acquisition and forest clearances, one comprehensive Environment Management Act that subsumes various laws in the sector.
- Mentoring platform for start-ups and skilling programmes for emerging sectors.
- Using Geographic Information System (GIS) mapping for decision making to increase the country's GDP (Gross Domestic Product).
- Pushing for jobs while negotiating trade pacts.

**Upgrading the Civil Services:**

- Capacity building (Mission Karamyogi) - training of officers on various aspects of infrastructure in both the Centre and states, infusion of expertise and exposure to latest technologies for higher civil services.
- Performance-based working, clear and specific targets for ministries and departments just like that for public sector undertakings, institutional mechanisms for addressing issues of states given their limited capacities and restructuring of departments through Government Process Re-engineering (GPR) every 10 years. GPR is undertaken to address 'problems' or 'needs' of the organization or its customers with an objective to improve the overall quality of the services.
- Appointment of more Chief Information Officers (CIOs) and Chief Technology Officers (CTOs) as data is not being used efficiently. All government data should be made accessible to all ministries.

**Other Agendas:**

- NITI Aayog has also been asked to target poverty eradication within five years.
- Asks the Ministry of Housing and Urban Affairs to ab initio plan residential facilities for service staff engaged in construction to prevent formation of slums.
- Using Aadhaar for "bringing together beneficiary oriented schemes of different ministries" and also adds that a 'family database design' has been developed by the Ministry of Social Justice and Empowerment and "may be promoted like Aadhaar."
- Directs the culture and tourism ministries to identify and develop 100-200 iconic structures and sites.
- "Centres of excellence" may be set up in rural areas through PPP (Public Private Partnership), taking a cue from such centres in Singapore.

**DAILY ANSWER WRITING PRACTICE**

**Qns. We need to slow the flow of plastic at its source, but we also need to improve the way we manage our plastic waste. Examine. (250 words)**

**Ans:**

**Introduction**

In 2019, the Union government in a bid to free India of single-use plastics by 2022, had laid out a multi-ministerial plan to discourage the use of single-use plastics across the country. In this direction, the Environment Ministry recently issued draft rules that mandate producers of plastic packaging material to collect all of their produce by 2024 and ensure that a minimum percentage of it be recycled as well as used in subsequent supply.

**Body****Plastic waste scenario in India**

- As of 2019, about 660,787.85 tonnes of plastic waste is produced in India annually, of which around 60% is reportedly recycled. Nearly 43% is packaging material and most are single use plastic.
- Per capita consumption of plastic is projected to go up from 11 kg in 2014-15 to 20 kg by 2022 (Federation of Indian Chambers of Commerce and Industry data); about 43% is single use packaging with poor rates of recovery.

- In spite of the notification of the Plastic Waste Management (PWM) Rules, 2016, and amendments made two years later, most cities and towns are not prepared to implement its provisions.
- Even the biggest Municipal Corporations shouldering a staggering waste burden have failed to implement segregation of waste: collecting recyclable plastic, non-recyclable plastic and other waste separately for processing by material recovery facilities.

#### **Steps taken so far to tackle plastic pollution**

- In 2019, the Union government in a bid to free India of single-use plastics by 2022, had laid out a multi-ministerial plan to discourage the use of single-use plastics across the country.
- Currently, the Plastic Waste Management Rules, 2016, prohibits manufacture, import, stocking, distribution, sale and use of carry bags and plastic sheets less than 50 microns in thickness in the country.
- The Environment Ministry has notified the Plastic Waste Management Amendment Rules, 2021.
- These rules prohibit specific single-use plastic items which have “low utility and high littering potential” by 2022.
- The permitted thickness of the plastic bags, currently 50 microns, will be increased to 75 microns from 30th September, 2021, and to 120 microns from the 31st December, 2022.
- At the policy level, the concept of Extended Producer Responsibility (EPR), already mentioned under the 2016 Rules, has to be promoted.
- The Central Pollution Control Board, along with state pollution bodies, will monitor the ban, identify violations, and impose penalties already prescribed under the Environmental Protection Act, 1986.
- The Central Pollution Control Board has reported that 22 States have, in the past, announced a ban on single-use plastic, but this has had little impact on the crisis of waste choking wetlands and waterways and being transported to the oceans to turn into micro plastic.
- So far, 22 States and Union Territories have joined the fight to beat the plastic pollution, announcing a ban on single-use plastics such as carry bags, cups, plates, cutlery, straws and thermocol products.
- India has also won global acclaim for its “Beat Plastic Pollution” resolve declared on World Environment Day last year, under which it pledged to eliminate single-use plastic by 2022.

#### **Way forward**

- As consumers, we should ensure that all plastic waste leaving our homes is segregated and is not contaminated with food waste.
- Managing plastic waste requires effective knowledge, not only among those who produce the plastic but also among those who handle it.
- The brand owner and manufacturer should try and understand the fates a plastic packaging material would meet after its purpose of packaging has been served.
- Citizens have to bring behavioural change and contribute by not littering and helping in waste segregation and waste management.
- To encourage innovation in development of alternatives to identified single use plastic items and digital solutions to plastic waste management, the India Plastic Challenge – Hackathon 2021, has been organized for students of Higher Educational Institutions and start-ups recognized under Start-up India Initiative.

#### **Conclusion**

Packaging is projected to grow into a \$72.6 billion industry in India by 2020 from about \$31 billion in 2015, with a proportionate rise in waste volumes. The pressure on producers to streamline the collection, recycling and processing of all forms of plastic is bound to grow. Individuals and organizations should now actively remove plastic waste from their surroundings

and municipal bodies must arrange to collect these articles. Startups and industries should think of newer ways of recycling.

**DAILY QUIZ**

Q1. Consider the following statements:

1. The Global Hunger Index (GHI) is published annually as part of a partnership between United Nations Development Programme (UNDP) and Oxfam India.
2. The first GHI report was published in 2006.
3. The GHI is intended to be “a tool designed to comprehensively measure and track hunger at global, regional, and national levels”.

Which of the statements given above is/are correct?

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

Q2. Consider the following statements:

1. Tuberculosis (TB) is caused by a fungus that most often affect the lungs.
2. TB is spread from person to person through the air.

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

Q3. The Global Tuberculosis (TB) report has been released by the

- a. Welthungerhilfe
- b. Amnesty International
- c. World Health Organization**
- d. Doctors Without Borders

Q4. Consider the following statements about Ebola virus disease (EVD):

1. It was first discovered in 2006 near the Ebola River.
2. The Ebola virus is often transmitted to people from wild animals and then it can pass on human to human.

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

Q5. Consider the following statements about the International Finance Corporation (IFC):

1. It is the largest global development institution focused on the private sector in developing countries.
2. It is a member of the International Monetary Fund (IMF).
3. It is owned and governed by its member countries.

Which of the statements given above is/are correct?

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