

**DAILY  
CURRENT  
AFFAIRS  
ANALYSIS**



LAKSHYA ACADEMY®

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# 1 – Government Securities:

## GS III

### Indian Economy

- **Context:**

- For the current fiscal year 2023–24, the government has finished borrowing money for Government Securities (G-Sec), and it anticipates receiving a dividend from the Reserve Bank of India (RBI) in Financial Year 25 (FR 25), which is comparable to FY 24.
- The government continues to take a cautious approach to borrowing, emphasising responsible fiscal management and making sure borrowing is in line with actual needs.
- The completion of G-Sec borrowing and the RBI's projected dividend income are indications of the efforts made to uphold fiscal stability and fulfil spending goals.

- **What are the guidelines under which the RBI gives the government its surplus?**

- In compliance with Reserve Bank of India Act, 1934, Section 47 (Allocation of Surplus Profits), the RBI gives its excess to the government.
- A larger transfer to the government was suggested by a technical committee of the RBI Board led by Y H Malegam (2013), which examined the sufficiency of reserves and the mechanism for distributing surplus.
- This part states that the RBI gives the government the surplus after allocating funds for reserves and retained earnings.
- The RBI receives income from a number of sources, including interest on its holdings of both international and domestic securities, fees and commissions from its services, earnings from foreign currency operations, and returns from subsidiaries and partners, all of which are used to determine the amount remitted.
- The RBI's expenses include printing currency notes, paying interest on loans and deposits, paying employee salaries and pensions, running costs for offices and branches, making provisions for unforeseen events, and depreciation.

- **Government Securities (G-Sec): What are they?**

- An exchangeable security issued by the federal government or state governments is known as a G-Sec.
- The government can borrow money from the public through the issuance of G-Secs, a sort of debt instrument, to cover its fiscal deficit.

- A debt instrument is a financial instrument that symbolises a contractual duty on the part of the issuer to reimburse the holder for a predetermined sum of money, also referred to as face value or principle, on a given date.
- The Government's debt commitment is acknowledged.
- These securities can be long-term (typically called government bonds or dated securities with original maturity of one year or more) or short-term (called treasury bills, with original maturities of less than one year; now issued in three tenors, 91-day, 182 days, and 364 days).
- In India, state governments solely issue bonds or dated securities known as State Development Loans (SDLs), while the central government issues both treasury bills and bonds or dated securities.
- G-Secs are referred to as risk-free gilt-edged instruments since there is almost no default risk associated with them.
- High-grade investment bonds known as gilt-edged securities are made available to governments and big businesses as a way to borrow money.

- **G-Sec Types:**

- **T-bills, or Treasury Bills:**

- Treasury bills have no interest and are zero coupon instruments. Rather, they are issued at a discount and, upon maturity, are redeemed at face value.
- Bills for Cash Management (CMBs):
- To address the brief inconsistencies in the government's cash flow, the RBI and the Indian government collaborated to launch CMBs, a new short-term instrument.
- The CMBs are issued for maturities of less than 91 days, although they have the same generic character as T-bills.

- **G-Sec dates:**

- Dated G-Securities are securities with a set or variable coupon rate, or interest rate, that is paid every six months on the face value. Dated securities typically have tenors of five to forty years.
- State governments also obtain what are known as SDLs from the market. Dated securities known as SDLs are sold at regular auctions, just like dated securities sold by the Central Government.

- **Mechanism of Issue:**

- In order to modify the conditions of the money supply, the RBI engages in Open Market Operations (OMOs) for the selling or purchase of G-secs.
- The market is depleted of liquidity when the RBI sells G-secs and replenishes it with purchases.
- On a daily basis, these activities are frequently carried out in a way that helps banks maintain their lending while balancing inflation.

- RBI does not deal directly with the public; instead, it uses commercial banks to carry out the OMO.
- To modify the amount and cost of money in the system, the RBI employs OMO in conjunction with other monetary policy instruments including the repo rate, cash reserve ratio, and statutory liquidity ratio.

*Source → The Hindu*

## **2 - Forced Labour of Uyghurs Community:**

### **GS II**

#### **International Issues**

- **Context:**
- Volkswagen (VW), a German automaker with headquarters in China, was recently taken into custody in the US for violating the Uyghur Forced Labour Prevention Act (UFLPA).
- There have been accusations made against a number of well-known US and EU corporations, such as Apple and Zara (Spain), over their connection with forced labour in the Chinese province of Xinjiang.
- Reports from the UN Human Rights Commissioner and the US State Department characterise Uyghur repression as possible crimes against humanity and genocide.
- **About Uyghurs:**
- Originating in Central and East Asia, the Uyghurs are a small Turkic ethnic group that practices Islam.
- Speaking a language resembling Turkish, the Uyghurs consider themselves to be more closely related to Central Asian countries in terms of culture and ethnicity than Han ethnic Chinese people.
- Of the 55 officially recognised ethnic minority communities in China, the Uyghurs are regarded as one of them.
- China, on the other hand, denies that the community is an indigenous one and merely acknowledges them as a regional minority.
- The majority of the Uyghur ethnic community currently resides in China's Xinjiang province.
- In addition, a sizable Uyghur population resides in Kazakhstan, Kyrgyzstan, and Uzbekistan, three bordering Central Asian nations.

- China's largest and most mineral-rich area, Xinjiang is officially an autonomous region. It shares borders with eight other nations, including Afghanistan, Pakistan, Russia, and India's Union Territory of Ladakh.
- **China's Action Against Uyghurs' Human Rights:**
  - UN Report: In Xinjiang, there have been "serious human rights violations" against the Uyghur and other mostly Muslim groups, according to a report by the Office of the UN High Commissioner for Human Rights (OHCHR).
  - Allegations of forced medical treatment, torture, maltreatment, and sexual and gender-based abuse are among these infractions.
  - Arbitrary Detentions: When combined with limitations on basic rights, the severity of arbitrary detentions against Uyghurs and other groups may amount to crimes against humanity.
  - The utilisation of "Vocational Educational and Training Centres" (VETCs) or re-education camps is part of the Chinese government's counter-extremism strategy.
  - Interlocking Patterns of Restrictions: A wide spectrum of human rights have been severely and unjustly restricted as a result of China's actions in Xinjiang. Since 2017, there has been a rise in incarceration and abuse despite the VETC system's reduction due to the continued existence of the underlying laws and regulations.
  - Discrimination: Uyghurs and other minorities are the focus of larger discrimination, which is present in the context of the offences.
  - Serious concerns have been raised by the Chinese government's claim that its counter-extremism tactics are aimed at terrorists.
  - International Condemnation: China's crimes against humanity against Uyghurs and other communities have been denounced by 51 UN member states in a joint statement.
  - China's Reaction to the Claims of Human Rights Violations by Uyghurs:
    - Beijing either flatly rejected such allegations as untrue or denied the existence of the incarceration facilities.
    - According to the government, they are vocational training facilities designed to combat religious and separatist extremism among Uyghur Muslims while also offering economic possibilities.
    - The Chinese government has moved detainees to other parts of the nation and diverted exports from Xinjiang in response to the international accusations.

**Source → The Hindu**

## 3 - Genie from Google DeepMind:

### GS III

#### Science and Technology

- **Context:**
- Genie AI (Artificial Intelligence) is a new model from Google DeepMind that can create interactive video games just by prompting users with text or images.
- A division of Google, Google DeepMind is a British-American AI research facility. With research facilities in the US, Canada, France, and Germany, DeepMind is a London-based company.
- **What is a Genie?**
- A foundation world model called Generative Interactive Environments (Genie) is trained using films that are downloaded from the Internet.
- "An endless variety of playable (action-controllable) worlds from synthetic images, photographs, and even sketches" can be produced by the model.
- It's the first generative interactive environment that was trained from unlabeled movies on the internet without any supervision.
- **Importance:**
- Despite having simply been educated on video data, Genie may be instructed to create a wide range of interactive and programmable environments.
- In addition to determining which aspects of an observation are typically modifiable, Genie deduces a variety of hidden behaviours that are uniform throughout the created environments.
- Genie is revolutionary because it can create playable worlds with just a picture prompt. You can provoke Genie with images that it hasn't seen before. Sketches can be used in the same way.
- This enables users to interact with their envisioned virtual worlds and includes real-world photos and doodles.
- Numerous opportunities arise from this, particularly in terms of developing and entering virtual worlds in new ways.

- A major advancement towards universal AI agents is shown by the model's capacity to learn and create new world models (an autonomous software or entity that interacts with its surroundings by observing its surroundings via sensors).

- **What is artificial intelligence that is generative (GAI)?**

- Growing quickly, the field of general artificial intelligence (GAI) focuses on creating new material (text, audio, image, etc.) using patterns and rules discovered through data analysis.
- The development of sophisticated generative models, such as Variational Autoencoders (VAEs) and Generative Adversarial Networks (GANs), is responsible for the advent of GAI.
- These models can provide fresh outputs that resemble the training data since they have been trained on vast volumes of data. For instance, a GAN trained on facial picture data can produce realistic-looking fresh synthetic face images.
- Although ChatGPT and deep fakes are frequently linked to GAI, the technology was first employed to automate repetitive tasks in digital audio and image restoration.
- It might be argued that deep learning and machine learning are also forms of GAI since they are generative process-oriented by nature.

- **Uses:**

- Art and creativity: They can be combined to create original, cutting-edge new works of art that support experimentation and push the boundaries of established genres.
- An open-source tool called DeepDream Generator use deep learning algorithms to produce bizarre, dreamlike visuals.
- DALL·E2-This OpenAI AI model creates new visuals based on text descriptions.
- Music: It can inspire artists and producers to experiment with new sounds and genres, resulting in a wider variety and interest in their work.
- Amper Music uses pre-recorded samples to produce musical songs.
- AIVA creates original music in a variety of genres and styles using AI algorithms.
- Computer graphics: It helps film studios and game makers produce more realistic and captivating experiences by producing new 3D models, animations, and special effects.
- Healthcare: Increasing the precision and effectiveness of medical diagnosis and therapies through the creation of new medical simulations and imagery.
- Robotics and manufacturing: It can help optimise production processes, enhancing their effectiveness and calibre.

- **Importance to India:**

- Approximately 416,000 experts are employed in AI in India, according to NASSCOM data.
- The industry is expected to increase at a pace of between 20 and 25 percent. Furthermore, by 2035, AI is predicted to boost India's economy by an additional USD 957 billion.



- **What Concerns Are Associated with GAI?**

- Accuracy: Ensuring the high quality and accuracy of the outputs produced by GAI is one of the main problems.
- To do this, sophisticated generative models that precisely represent the patterns and guidelines gleaned from data must be created.
- Partisan GAI Models: Because GAI models are trained on a lot of data, their results could be biased if the training set contains biased data.
- This may exacerbate preexisting societal biases and result in discrimination.
- Privacy: Access to vast volumes of data, which may contain sensitive and personal information, is necessary for training GAI models.
- There is a chance that this information will be utilised for immoral activities, such political influence or targeted advertising.
- Accountability for Misinformation: Since GAI models can produce fresh text, audio, or image content, they could be used to produce harmful or fraudulent news without anybody knowing who is in charge of the final product.
- This can give rise to moral quandaries regarding accountability.
- Automation and Job Loss: GAI has the ability to automate a lot of procedures, which can cause skilled workers in such fields to lose their jobs.
- This calls into question the morality of employing AI to replace human labour as well as the possible effects on society and the workforce.

- **What Generative AI Initiatives Does India Have?**

- Generative AI Report: To investigate the implications, moral and legal issues, and opportunities that this field offers India, INDIAai, the Government of India's National AI Portal, carried out a number of studies and organised three roundtable discussions with leading figures in the fields of generative AI, AI policy, AI governance and ethics, and academia.
- Jointly Creating the Global Partnership on Artificial Intelligence (GPAI): In 2020, India and fifteen other nations came together to establish the GPAI. Establishing guidelines for the appropriate use of developing technology is the aim of this collaboration.
- Building an AI Ecosystem: The Indian government is committed to building an AI ecosystem in the nation through R&D investments, startup and innovation centre support, policy and strategy development, and the promotion of AI education and skill development.
- National Strategy for Artificial Intelligence: The National Strategy for Artificial Intelligence was released by the government with the aim of creating a supportive environment for AI research and application.
- The Technology Innovation Hubs (TIH) on AI & ML at IIT Kharagpur have been established under the National Mission on Interdisciplinary Cyber-Physical Systems. The purpose of these TIHs is to provide cutting-edge training and capacity building for the development of the next generation of scientists, engineers, technicians, and technocrats in the field of artificial intelligence.



- Artificial Intelligence Research, Analytics, and Knowledge Assimilation Platform: This cloud computing platform aims to alter industries like as education, health, agriculture, urbanisation, and mobility and establish India as a leader in AI among rising economies.
- A potent and promising technology, generative AI has a lot of potential applications. But it also presents a number of risks and difficulties that require sensible and efficient control.
- In order to guarantee the safety, security, and moral application of generative AI, India should take a proactive and impartial approach to its adoption.

*Source → The Hindu*

## **4 - Used Heavy Duty Vehicles and the Environment Report:**

### **GS III**

#### **Environmental Conservation**

- **Context:**
- A report titled "Used Heavy Duty Vehicles and the Environment: A Global Overview of Used Heavy-Duty Vehicles: Flow, Scale and Regulation" was recently released by the Climate and Clean Air Coalition and the United Nations Environment Programme (UNEP) in advance of the 6th session of the UN Environment Assembly (UNEA-6).
- Under the topic of "effective, inclusive and sustainable multilateral actions to tackle the triple planetary crisis: climate change, nature and biodiversity loss, pollution and waste," UNEA-6 will be held in Nairobi from February 26 to March 1, 2024.
- **What is the Environment Assembly of the United Nations?**
- It is the UN Environment Programme's (UNEP) governing body.
- It is the highest-level environmental decision-making body in the world.
- The Assembly, which meets every two years to promote global environmental policy, is composed of the 193 UN Member States.
- During the United Nations Conference on Sustainable Development, popularly known as RIO+20, in June 2012, it was founded.

- **Which aspects of the report stand out the most?**
- **Escalation of Pollution:**
  - Heavy-Duty Vehicles (HDVs) have become increasingly popular, and this has led to a notable rise in pollution, especially since 2000.
  - Emissions of carbon dioxide linked to HDVs have increased by almost 30%.
  - Over 3.5-ton heavy-duty vehicles (HDVs) account for a significant portion of the world's emissions, with truckers being the main source.
  - Heavy-duty jobs like delivering supplies, people, or goods over long distances are the specialty of HDV trucks.
  - They are responsible for more than 40% of the emissions of nitrogen oxides (NO<sub>x</sub>), more than 60% of PM 2.5 (on-road particulate matter), and more than 20% of emissions of black carbon.
- **Growth Estimate:**
  - The need for mobility and economic activity are expected to result in a notable increase in the number of HDVs on the road, according to the report. Historical patterns suggest that global sales of trucks and buses will double between 2000 and 2015.
- **International Trade:**
  - The flow and scope of HDV use worldwide are highlighted by the report, which also draws attention to their reliance on imports in emerging nations.
  - The Republic of Korea, Japan, and the European Union account for around 60% of the world market share for both new and used HDV exports.
  - Global sales of HDVs, both new and used, reached 6.3 million in 2015.
  - It was discovered that 3.4 million of these were freshly produced. According to this data, used HDVs account for around half of overall sales.
- **Law and Order:**
  - In order to expand their fleet, many developing nations rely on the importation of used HDVs; however, the quality of these imports is not regulated or enforced, which exacerbates the negative effects on the environment and human health.
  - Many importing nations lack or have lax laws, which makes enforcement insufficient.
  - Many cars from the Netherlands had their catalytic converters removed before being shipped to Africa. They were also discovered to be devoid of diesel particulate filters due to their advanced age.

- **Which are the report's main recommendations?**

- **Make Sure Used Cars Are Safer and Cleaner:**

- The study emphasised how crucial it is for exporting and importing nations to share accountability in order to guarantee that used cars in developing nations are safer and cleaner on the roads.
- It brought to light the increasing necessity of regional collaboration in establishing and implementing minimal standards.

- **Age restrictions and emission standards:**

- The report recommended age restrictions and emission standards, increasing public awareness of the need for additional environmental and road safety studies.
- It demonstrated how up to 700,000 premature deaths can be prevented by 2030 by taking actions like implementing cleaner fuels and vehicle emission requirements comparable to those of Euro VI.
- Currently, 73% of buses and 97% of newly registered trucks in the EU are powered by diesel.
- **Improved Rules Regarding Used HDVs:**
- In order to encourage emerging nations to adopt more cutting-edge technologies, like electric buses and trucks, the research suggested tighter limits on used HDVs.

- **Global Partnerships for Extreme Pollutants:**

- International cooperation is required to phase out "super pollutants," or short-lived climatic pollutants, like hydrofluorocarbons, black carbon, and methane.
- The word "super" refers to pollutants that have a global warming potential (GWP) that is significantly larger per unit mass than carbon dioxide (CO<sub>2</sub>), the most well-known greenhouse gas.
- Long-term pollutants are those that linger in the atmosphere for a long time and gradually exacerbate environmental problems.
- The globe can take climate action, enhance human health, and improve air quality by addressing short-lived climate pollutants.

*Source → The Hindu*