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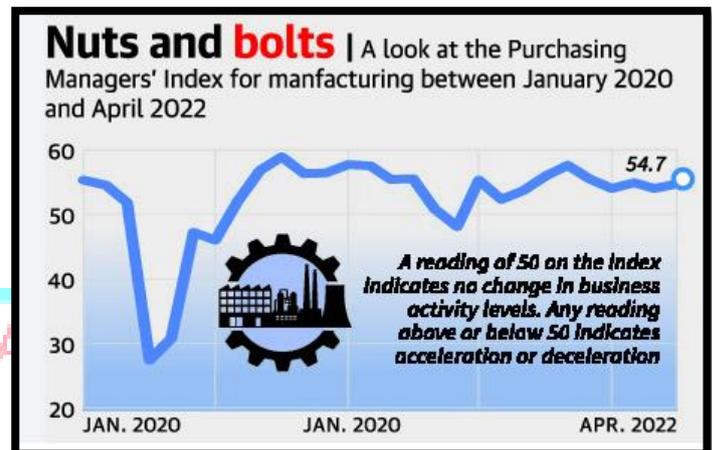
Purchasing Manager Index

Why in Newspapers?

According to the survey data released recently by **Standard & Poor's (S&P) Global**, **India's Purchasing Managers' Index (PMI)** for the services sector has increased from **56.4** in **November** to **58.5** in **December**.

Quick Issue?

- According to the **PMI Business Activity Index**, this is the **17th consecutive month** in which new orders for service firms have increased and these orders have seen the **fastest increase since August 2022**
- This reflects the **strongest pace of overall growth in services** since mid-2022.



Purchasing Managers Index

Historical Background?

- According to the survey, more jobs were created and companies remained strongly upbeat about the outlook for business activity for the coming year.
- In contrast, **the slowest expansion was seen in real estate and professional services.**
- Firms' expenses rose sharply **due to higher energy, food, staff and transportation costs, which in turn led to an increase in fees for services.**
- Input costs in service companies increased, with **companies citing pressure on wages and higher prices for energy, food and transportation.**
- Due to which the **rate of output charge inflation has remained high, as many companies felt the need to pass on the increased cost to the customers.**
- Consumer services were the worst hit by the **rise in inflation**, while **financial and insurance services firms** increased their charges the most for the second month in a row.
- Purchasing Managers' Index (PMI):-** An index of the **prevailing direction of economic trends** in the manufacturing and service sectors.





- It is an **economic indicator**, which is released after **monthly surveys of various companies**.
- It provides information about the **present and future business conditions** of the company to the **decision makers, analysts and investors**.
- **PMIs are of two types- Manufacturing PMI and Services PMI**.
- A composite index is also constructed using both the Manufacturing PMI and the Services PMI.
- **Calculation of PMI:** - It is represented by a **number from 0 to 100**. A PMI score of 50 indicates no change in economic activity from the previous month.
- A score above 50 indicates expansion in the economy while a score **below 50 indicates contraction**. If the PMI of the previous month is higher than the PMI of the current month, it indicates that the economy is contracting.

Other Key Facts?

Importance of PMI

- The PMI provides a **reliable figure of how an economy is performing as a whole**.
- The **central bank also uses the PMI to decide on interest rates**.
- Apart from affecting the volatility of the equity market, PMI releases also affect the bond and currency markets.
- Suppliers can decide on prices based on PMI movement.
- PMI gives an idea about the **direction of the economy** and **helps economists to forecast manufacturing activity in the country**.
- Manufacturers and suppliers use the index to decide their production needs based on new orders in the coming months.
- This index also helps investors **who want to invest in stock markets**, as it helps in **assessing the economic health of the country**.

Expected Questions for Preliminary Exam

Que. What is S&P 500 related to?

- Super computer
- A new technology of e-business
- A new technique of bridge construction
- An index of shares of large companies

Answer: (d) An index of shares of large companies

Que. Choose the correct statement -

- The Purchasing Manager's Index (PMI) is an indicator of business activity in both the manufacturing and service sectors.
- It is released every year before the budget
- A score above 50 indicates low growth in the economy

(a) 1 only

(b) 1 and 2

(c) 3 only

(d) 1, 2 and 3

Answer: (a) 1 only

National Green Hydrogen Mission

Why in Newspapers?

The Union Cabinet chaired by the **Prime Minister Shri Narendra Modi** has approved the **National Green Hydrogen Mission**. The initial outlay for the mission will be **Rs 19,744 crore**, which includes **Rs 17,490 crore for the site programme**, Rs 1,466 crore for pilot projects, Rs 400 crore for R&D and Rs 388 crore for other mission components.

Quick Issue?

- The **objective of the mission is to make India a global hub for production**, use and export of green hydrogen and its by-products.
- The mission will help India become **energy self-sufficient** and **reduce carbon emissions in key sectors of the economy**.



Historical Background?

- **National Hydrogen Energy Mission:-** Emphasis on hydrogen production from green energy resources. Linking India's growing renewable energy potential with the hydrogen economy.
- India's **ambitious target of 175 GW by 2022** has received a boost from the **Union Budget 2021-22**, which has allocated **Rs 1,500 crore for renewable energy development and NHM**.
- The use of hydrogen will not only help India achieve its emissions targets under the Paris Agreement, but it will also reduce India's dependence on fossil fuel imports.
- **Hydrogen :-** Hydrogen is the **first and lightest element on the periodic table**. Since hydrogen weighs less than air, it tends to rise up in the atmosphere and is therefore rarely found in pure form.
- Hydrogen is a **non-toxic, nonmetallic, odorless, tasteless, colorless and highly flammable diatomic gas** at standard temperature and pressure.
- Hydrogen fuel is a **zero-emission fuel** (during combustion with oxygen). It can be used in fuel cells or internal combustion **engines**. It is also used as a **fuel for spacecraft propulsion**.



- **Gray Hydrogen:** - In the hydrogen production in India, maximum gray hydrogen is produced.
 - It is extracted from hydrocarbons (fossil fuels, natural gas).
 - Byproduct: CO₂
- **Blue Hydrogen :-** is obtained from fossil fuels. In its production, the by-product is stored safely, so it is better than gray hydrogen.
 - **Byproducts:** CO, CO₂
- **Green Hydrogen :-** Renewable energy (such as solar or wind) is used in its production. Under this, water (H₂O) is divided into hydrogen (H) and oxygen (O₂) by electricity.
 - **Byproducts:** water, water vapor.
- **GH₂ is not currently commercially viable;** The current cost in India is around **350-400/kg**. The National Hydrogen Energy Mission aims to bring it down to **100/kg**.
- **Development of green hydrogen production capacity** of at least **5 MMT (million metric tonnes) per annum** in the country and an associated renewable energy capacity addition of about 125 GW.
- Total investment of **more than eight lakh crore rupees by 2030,**
- **Creation of more than six lakh employment opportunities**
- Overall reduction in **fossil fuel imports worth over Rs 1 lakh crore**
- **Reduction in annual greenhouse gas emissions by about 50 MMT by the year 2030.**
- Taking strategic action for the Green Hydrogen Transition Program (SIGHT), the mission will target two separate financial incentive mechanisms - **domestic manufacturing of electrolyzers and production of green hydrogen.**
- The mission will facilitate a **Public-Private Partnership for Research and Development (Strategic Hydrogen Innovation Partnership - SHIP).**

Other Key Facts?

Mission Benefits

- According to the Central Government, many types of benefits will be received from the National Green Hydrogen Mission, such as-
- **Export opportunities will be created** for green hydrogen and its by-products.
- **Carbon emissions will decrease** in the industrial, transport and energy sectors.
- **Dependence on imported fossil fuels and its feedstock will be reduced.**
- Indigenous manufacturing capabilities will be developed.
- **Employment opportunities will be created;** And there will be development of state-of-the-art technologies.

Expected Results by the year 2030

- Production of at least **5 MMT (million metric tons) of green hydrogen (GH₂) per year**
- Saving of **more than one lakh crore rupees in import of fossil fuel**

More than six lakh jobs

- **Annual CO₂ emission reduction** of about **50 MMT** → Rs. Total investment of more than 8 lakh crores



Expected Questions for Preliminary Exam

Que. With reference to National Green Hydrogen Mission, consider the following statements:

1. It has been approved with an initial outlay of Rs 19,744 crore.
2. Under the mission, India's green hydrogen production capacity is expected to reach at least 5 MMT per annum.

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

Ans (c) both 1 and 2

