

**1. Discuss the locational factors for the pharmaceutical industry. Examine the challenges posed to the pharmaceutical sector during the COVID pandemic.****Approach**

Candidates are expected to write about location factors related to pharmaceutical industry explain with Indian examples. Also examine the challenges posed to the pharmaceutical sector during COVID pandemic.

**Introduction**

India is the largest provider of generic drugs globally. Indian pharmaceutical sector supplies over 50% of global demand for various vaccines, 40% of generic demand in the US and 25% of all medicine in the UK. India enjoys an important position in the global pharmaceuticals sector.

**Body**

Pharmaceutical industry: The pharmaceutical industry discovers, develops, produces, and markets drugs or pharmaceutical drugs for use as medications to be administered (or self-administered) to patients, with the aim to cure them, vaccinate them, or alleviate the symptoms. Location factors for the pharmaceutical industry –

- Supply of labour: Labour is one of the most important inputs in any industrial enterprise. India has a regular and cheap supply of labour, specifically the skilled labour. Also, as there is adequate supply of local labour/unskilled labour, then naturally it will be available at cheaper rates.
- Suitability of land and climate: Climatic conditions viz humidity, temperature and other atmospheric conditions are favourable for the pharma industry. For example, humid atmosphere is not suitable for the formation of pharmaceuticals.
- Stable growth in domestic market consumption: Despite recent headwinds, the Pharmaceutical industry in India has grown rapidly. India is likely to become one of the top 3 Pharmaceutical industries by 2030.
- Large pool of scientists and engineers with a potential to steer the industry ahead to greater heights. Presently, over 80% of the antiretroviral drugs used globally to combat AIDS (Acquired Immune Deficiency Syndrome) are supplied by Indian pharmaceutical firms.
- And within India, if there is one destination that all of them are making a beeline for it is Hyderabad. The city has the capacity to churn out well over a third of the global vaccine supply. Be it India's first indigenous Covid-19 vaccine candidate Covaxin or Russia's Sputnik V, Johnson & Johnson's Ad26. Cov2.S, FluGen's CoroFlu or even Sanofi's under development vaccine candidates, all have a Hyderabad connect.

- Whether a successful Covid-19 vaccine is developed in India or not, a vaccine developed anywhere in the world will be churned out of Hyderabad and Pune.
- The city-based pharma companies are actively involved in manufacturing lifesaving Covid-19 drugs including Remdesivir, Hydroxychloroquine, Favipiravir, etc Three more pharma companies from Hyderabad are actively engaged in the efforts to develop and manufacture Covid-19 vaccine.
- One of the first ICMR approved RT-PCR kits in India was from Hyderabad and Pune since then, a number of companies have developed PCR kits, rapid test kits, viral transport mediums, reagents, tech-based diagnostics solutions etc.
- There is no doubt that Hyderabad and Pune has played a critical role in the Indian pharmaceutical revolution which made the country not only self-sufficient in the medicine manufacture but also made it as the pharmacy capital of the world.

Challenges to the pharmaceutical industry in COVID pandemic –

- **Disrupted Supply Chain:** Over the globe, supply chains have been broken, disrupted, and some have even come to a grinding halt because of the nation-wide lockdowns, closed borders, and halted air travel.
- **Need for Agility and Transparency:** With the Covid-19 pandemic, there has been immense interest in the Pharma sector's workings by almost all social hierarchies. There is an increased need for faster, accurate, and transparent operations across the board.
- **Workforce optimisation and Controls:** During COVID-19, Pharma manufacturing companies made many adjustments to modus operandi. That includes accommodating remote workforce, social distancing when in person, wearing masks and gloves, and avoiding any possibility of spreading the coronavirus.
- **Humongous Data Collation and Analysis:** The research and clinical trials for potential drug treatments and vaccines for coronavirus worldwide generate unprecedented amounts of data and information. Paramedical experts and scientists in the Pharma industry look at agile tools to collate and manage data while generating insights.

### **Conclusion**

While these changes and concerns are bound to affect the pharmaceutical industry's workings, proper management, technology, and software to navigate these challenging times will enable the pharmaceutical sector to rise to the occasion. The Covid-19 pandemic has brought forward existing and new challenges for the Pharma sector. However, it has given a chance to create opportunities and get transformations that can have a positive impact on the pharmaceutical industry.

**2. Discuss the challenges being faced by India's civil aviation sector. What measures have been taken recently to address those? Discuss.**

### **Approach**

Candidate can give brief facts about aviation industry and its potential in the introduction and state challenges faced by the sector. With the help of new government schemes and initiatives, way ahead can be given.

### **Introduction**

The civil aviation industry in India has emerged as one of the fastest growing industries in the country during the last three years. India has become the third largest domestic aviation market in the world and is expected to overtake UK to become the third largest air passenger market by 2024.

### **Body**

#### **Size of Indian aviation industry –**

- India had the world's third-largest civil aviation market in 2017, with the number of passengers growing at an average annual rate of 16.3% between 2000 and 2015. It recorded an air traffic of 131 million passengers in 2016. Despite this growth, much of the country's aviation potential remains untapped.
- The Ministry of Civil Aviation is responsible for civilian aviation, through regulatory oversight by the Directorate General of Civil Aviation (DGCA).

#### **Challenges faced by the sector –**

- Paramount amongst all issues is the one of air safety. In the past few years, there have been a number of fatal accidents snuffing out hundreds of innocent lives. Many of these accidents could have been avoided if as the planners, managers and regulators had a better understanding of the dynamics of the man-machine interface.
- The airspace in India is going to see an increase in the number of aircraft flying. Hence, flying operations, air space management, arrivals and departures at airports, must be made more efficient for safe operations.
- The next most important issue is one of finance. We at times are hesitant to acknowledge that financial viability is essential for all concerned. Once this is accepted, optimisation of resources will become the normal way of life, as would competence and efficiency.
- Aviation turbine fuel (ATF) is one of the important sections of the industry. Indian government didn't not reduce the jet fuel prices in proportion to the fall in international crude oil prices. But, when there is a rise in crude prices,

it increases in the fuel cost would eventually increase the operation of the airline.

- Frequent government intervention is proving to a great obstacle for the growth of Aviation industry. Several aviation experts have pointed out that India government should follow aviation industry free from policy hurdles like regulating airfares and slash taxes, including jet fuel.
- High Airport (aeronautical) Charges levied by Airport Authority of India are higher. These charges payable at the International airports are higher than those payable at the airports designated as Domestic airports. As a result, the domestic airlines in India are incurring additional costs at the international designated airports without deriving any extra facilities.
- There is a cut throat competition faced by the top airline due to ticket pricing. Established Airlines are threatened by low cost carriers, which are eating up their market share.

#### **Measures taken to address these issues –**

- There is a need to complete the ongoing projects under the UDAN initiative in a time-bound manner. In addition, the existing capacity of international airports should be augmented under the International UDAN initiative.
- Government intention to make India a global hub for Aircraft Maintenance, Repair and Overhaul (MRO) services will result in saving costs and creating liquidity for airline companies.
- National Civil Aviation Policy 2016 and National Civil Aviation programme 2018 can help India to become a major civil aviation market in the world.
- The development of more airports under the PPP model with a view to improving the aviation infrastructure without the government having to pump in additional funds.
- With 100% FDI allowed under automatic route, aviation sector is likely to witness US\$15 billion worth of investment in the next five years.
- New airports like Jewar Airport in Uttar Pradesh are being built under the NABH Nirman initiative based on (1) fair and equitable land acquisition, (2) long-term master plan for airport and regional development and (3) balanced economics for all stakeholders. This leads to growth in housing and real estate sector, construction, building materials, tourism, etc.
- With a new terms and conditions to divest Air India, government is trying to give positive signal making level playing field for small players.

#### **Conclusion**

Pandemic brought the aviation sector worldwide to a standstill. Industry witnessed many big players filing for bankruptcy after hitting a blow. Indian aviation sector is still booming and is expected to be third largest in the world by 2024. India needs relaxation in some harsh regulatory measures and liberalisation policy for exit of an airline. With more private sector investment, tier II and tier III cities will also see new infrastructure development as envisaged in civil aviation policy of 2016.

**3. Why do certain pockets in South India have high concentration of the automobile and ancillary industries? Examine.**

**Approach**

Since the question is asking you to examine so you have to probe deeper into the topic and understand the topic in detail.

**Introduction**

Auto and its ancillary industry is one of the key sectors in the Indian economy. The auto industry can be broadly divided in four sub sectors: (a) Four Wheelers (4W) (b) Two wheelers or 2Ws (c) Commercial vehicles and (d) Three wheelers (3W). The Automobile Industry, due to its very nature, has grown in clusters.

**Body**

**WHY CERTAIN POCKETS IN SOUTH INDIA HAVE HIGH CONCENTRATION OF THE AUTOMOBILE AND ANCILLARY INDUSTRIES:** Out of the registered Original Equipment Manufacturer (OEMs) many are located in the southern states of the country. Almost one third of the concentration of the auto industries in India is in the four Southern states only.

The certain pockets in South India have high concentration of the automobile and ancillary industries due to following reasons –

- The well-developed port facilities in the Tamil Nadu State encourage the industries to tap the export markets.
- The key raw material—rubber—can be sourced from Kerala and Kanyakumari or imported.
- These places offer transparency and good governance for automotive companies, such as during recalls on certain vehicles, etc.
- Availability of reliable and reasonably priced utilities in these areas is another reason.
- These southern state’s Site access confirm acceptable ingress and egress for employees, inbound raw materials and outbound finished product.
- These southern pockets offer Size, shape, topography and room for future expansion.
- These sites act as buffer that provide protection from residential and commercial neighbours.
- Presence of Industrial parks often provide good locations for multiple users with similar buffer and utility requirements.

**Conclusion**

The automobile industry is supported by various factors such as availability of skilled labour at low cost, robust R&D centres, and low-cost steel production. The auto industry was already facing financial headwinds before the pandemic, and the impact of COVID-19 has only accelerated many of those concerns. In the short-term, the automotive companies like those in other industries fear the unforeseen effects of the second wave of COVID-19. The industry will require more government help in the form of reforms and incentives.



**4. With the help of suitable examples, discuss the evolving global trends for the location of tertiary sector?**

**Approach**

Question is straight forward in its approach students are expected to write about evolving global trends for the location of tertiary sector with suitable examples.

**Introduction**

Industrial locations are complex in nature. These are influenced by the availability of many factors. Some of them are: raw material, land, water, labour, capital, power, transport, and market. Tertiary sector refers to the commercial services that support the production and distribution process, e.g. insurance, transport, advertising, warehousing and other services such as teaching and health care. The chain of production shows interdependence: firms rely on other businesses in different sectors for raw materials, components or distribution.

**Body**

**Evolving trends for the location of tertiary sector –**

- Tertiary sector was mainly focussed on Information technology and other services industries like transportation etc. location of the same industries was mainly based on availability of cheap and skilled labour through business process outsourcing e.g. in India Information Technology reached to its peak through the process of business outsourcing.
- Outsourcing has witnessed a massive boom over the past few decades, with the number of service providing companies increasing every year. The year 2018 is going to be no different when it comes to keeping up with this exponential growth in the outsourcing trend. IT outsourcing trends, this year, have seen a constant growth and this trend will continue to grow in the coming years.
- Technological advancement will become a main factor in the location of tertiary sector in coming times. Robotic process automation and intelligent automation will continue to flourish in the coming years. This is expected to disrupt the existing commercial outsourcing model and drive down costs considerably, resulting in supplier margin expansion. Furthermore, enterprise buyers will also have opportunities to save more, as the supplier margins expand.
- With the use of self-service tools and automated chat-bots becoming highly prevalent among many companies, the demand for call centers is expected to decrease drastically. As virtual agents can work on numerous clients at the same time, these automated contact centers will be able to handle higher volumes with less number of agents. Therefore, we will see various tech-

enabled contact centers replacing the traditional call centers, few years down the line.

- Companies are expected to look out for service providers who add value to their business rather than those who just provide services at lower costs. Therefore, outsourcing companies will partner with service providers who offer innovative services, equipped with best infrastructure and thorough industry knowledge. This will become a disrupting factor in the already existing pattern of location of tertiary sector.
- With covid-19 pandemic making a broad based change Telecommuting is one trend which has changed the way outsourcing companies operate over the years and this trend is here to stay. Companies find it very easy to interact with other team members and integrate seamlessly through remote meetings and use different types of real-time monitoring tools to deliver quality services.
- Analysts are predicting that the industry will continue to fight short-term cost pressures, and that there will be pressure on service providers for more flexible pricing contracts. Many small alliances, focused on increased operational efficiencies, better quality control and reduced back office costs, are being set up. This trend is going to continue.
- Brazil and Russia will make their presence felt in the global outsourcing market and China will continue to move ahead.

### **Conclusion**

India continues to be the major destination for outsourcing because it has been able to evolve with changing needs. NASSCOM, (National Association of Software & Service Companies) the apex body of India's premier IT software and service (IT & BPO) companies, reported that India's share in the global outsourcing market rose from 51% in 2009 to 55% in 2010. India still stands out for its customer service and efficiency, so its future is bright. Today, customers are not only looking at cost-effective solutions for their outsourced business but also for skilled staff, enhanced productivity, service quality and business process excellence. India, with its large population and multiple-skilled people, would continue to be preferred for both back-end and front-end outsourcing.

**5. Discuss the factors responsible for the location of agribusinesses. Why is the agribusiness sector underdeveloped in India?****Approach**

The candidate needs to address the question in two parts where the first part discusses the factors responsible for the location of agribusinesses while in the second part, the reasons for agribusiness sector's underdevelopment in India are elaborated upon.

**Introduction**

Agribusiness is a combination of the words "agriculture" and "business" and refers to any business related to farming and farming-related commercial activities where agribusiness involves all the steps required to send an agricultural good to market, namely production, processing, and distribution.

**Body**

Agribusiness involves all the steps required to send an agricultural good to market, namely production, processing, and distribution. This industry is an important component of the economy in countries with arable land since agricultural products can be exported. In this regard, the factors responsible for the location of agribusinesses include –

- **Raw Materials:** The moisture requirements of the plant vary according to the heat received, rich soil in plant food is the chief requirement of successful agriculture, and topography affects agriculture as it relates to soil erosion, difficulty of tillage and poor transportation facilities.
- **Market:** Relation to market generally determines the character of agribusiness, for the cost of transport to the market will generally affect the competitive power of the agribusiness output. Places away from the market will generally grow such things which can afford cost of transport to market.
- **Labour:** Labour supply determines the character of agribusiness. Agribusiness is essentially labour-intensive and exemplifies the human pressure.
- **Capital:** The modern mechanised agribusiness has become capital-intensive to a large extent. The entrepreneur has to invest large amount of capital in agriculture because he has to buy machinery.
- **Social Factors:** Social factors affect farming in a number of ways. The type of agribusiness practiced is always related to regional social structure. Social factors can also affect the type of crops that are grown, thus affecting the raw material supply.
- Changes in consumer taste alter what products are grown and raised. For example, a shift in consumer tastes away from red meat may cause demand—and therefore prices—for beef to fall, while increased demand for produce may shift the mix of fruits and vegetables that farmers raise.

- Climate change has placed intensifying pressure on many companies in the agribusiness industry to remain relevant, and profitable, while adapting to the threats posed by large-scale shifts in weather patterns.

**Reasons for Underdevelopment of Agribusiness sector in India include –**

- **Shortage of material and power:** There is acute shortage of basic raw materials required by agro units. Agro industries are face shortage of power due to this problem; they are unable to make full utilization of plant capacity.
- **Lack of adequate finance:** All business firms require sufficient funds to meet their fixed capital and working capital requirements. Credit facilities for agri business organizations are inadequate.
- **Outdated technology:** Majority of the agro based units uses old techniques of production and outdated machinery or equipment's. They cannot afford new latest and costly machines and equipment's due to lack of poor financial conditions and unknown about technological aspects.
- **Inadequate marketing facilities:** An agri business unit has to face several difficulties in the marketing and distribution of agricultural products because they have not their own marketing network.
- **Weak organization and management:** Agri business firms are generally managed by the owner who does not have professional qualification and required skills for efficient management of enterprises. There is lack of proper division of work and specializations.
- **Lack of trained personnel:** Agro business firms find it too difficult to recruit, retain, and motivate to the managerial and technical skilled personnel in the organization as they look for better opportunities.
- **Research and development:** Lack of research and development in agribusiness sector are a major problem in successful running and development of agro based industries in India. There is also lack of research about consumer habits, demands and what they prefer in consumption.
- **Lack of infrastructure facilities:** Lack of transportation, communication, warehouses and other essentials facilities are common hurdles in the path of development of agribusiness sector in India. Agricultural produce such as fruits and vegetables are wasted about 30 per cent of total production per annum due to perishable nature and lack of proper transportation.
- **Seasonality of products:** Most of agricultural produce are seasonal in nature. Due to this nature there is no continuous and stability in the supply of primary raw materials, which are necessary for industrial production process.

**Conclusion**

Improving agribusiness can increase added value of raw materials, strengthening local rural economies, food security, and improving the quality of life in many homes at risk of exclusion and vulnerability. Policies, incentives and regulatory frameworks that safeguard and promote agro-industries need to be focussed upon for lifting rural populations out of poverty in India.