FOUNDATION COURSE :- GROWTH OF INDUSTRIES

(1) TEXTILES INDUSTRY

Introduction :-

The Indian Textiles Industry has an overwhelming presence in the economic life of the country. Apart from providing one of the basic necessities of life, the textiles industry also plays a vital role through its contribution to industrial output, employment generation, and the export earnings of the country.

The sector contributes about 14 per cent to industrial production, 4 per cent to the gross domestic product (GDP), and 11 per cent to the country's export earnings. It is the second largest provider of employment after agriculture. Thus, the growth and all round development of this industry has a direct bearing on the improvement of the economy of the nation.

Growth of Textiles Industry :-

The textile policy of 1985 and the economic policy of 1991 accelerated the economic growth during 1990s. Textile sector growth has been led by the spinning and the manmade fiber industry. The number cf cotton/ manmade fiber textile mills rose from 1035 in 87-88 to 1741 by December 1997. The number of spinning mills number rose to 1461 in December 1997 from 752 in 87-88. Liberalization led to the installation of open-end rotors and setting up of Export Oriented Units(EOU).

Currently India has the second highest spindle age in the world after China. Aggregate production of cloth during 1996-97 was 34,205 million sq. meters, an increase of nine percent over 1995-96. India's contribution in world production of cotton textiles was about 12 per cent a decade back, while currently it contributes to about 15 per cent of world cotton textiles.

India has the second-largest yarn-spinning capacity in the world (after China), accounting for roughly 20 percent of the world's spindle capacity. India's spinning segment is fairly modernized; approximately 35 to 40 percent of India's spindles are less than 10 years old. During 1989-98, India was the leading buyer of spinning machineiy, accounting for 28 per cent of world shipments. India's production of spun yarn is accounted for almost entirely by the "organized mill sector," which includes 285 large. Man-made fibers, wool and silk segment grew by modest 4.5 per cent per annum during the 5-year period 2000-01 to 2005-06. During the first year of quotafree yiobal trade, production increased leaps and bounds. Textiles production increased 10 per cent over 2004. The growth was fuelled by a 22 per cent rise in production of other textiles (including apparels). Cotton textile also posted an increase of nine per cent.

The Indian textile industry is set for strong growth, buoyed by both strong domestic consumption as well as export demand. Abundant availability of raw materials such as cotton, wool, silk and jute and skilled workforce has made India a sourcing hub.

The most significant change in the Indian textile industry has been the advent of man-made fibers (MMF). India has successfully placed its innovative range of MMF textiles in almost all the countries across the globe. MMF production increased by 9 per cent during June 2013. The production increased by about 3 per cent during the year April-June 2013.

Cotton yarn production increased by 8 per cent during June 13 and by 10 per cent during April- June 2013. Blended and 100 per cent non-cotton yarn production increased by 8 per cent during the year April- June 2013.

Cloth production by handloom, and hosiery, increased by 3 per cent and 12 per cent respectively during June 2013.

The potential size of the Indian textile and apparel industry is expected to reach US\$ 221 billion by 2021, according to Technopak's Textile and Apparel. Compendium 2012.

Major developments and Investments of Textiles Industry :

India is one of the top tourism destinations in Asia, according to a CNN global travel survey. The country has received 3.3 million foreign tourists during the period January to June 2013.

With the emphasis shifting more on unexplored and offbeat destinations and unique experiencebased itineraries, the Indian travellers are seeking to explore the most exquisite travel options. "We expect the luxury domestic travel sector to grow by 2025 per cent. In next 5-10 years, India will see a greater amount of travel spends," said Mr. Sunil Hasija, Executive Director, TUI India.

Hospitality chain Hilton is planning to have 50 hotels in India by 2016. Christopher J Nassetta, President and Global CEO, Hilton Worldwide, said, "India is the best story for the hospitality industry from the fundamentals point of view." The company is getting into the luxury segment with the launch of the 250 room Conrad in Bengaluru shortly.

Taj Group plans to set up two hotels - Taj and Vivanta by Taj - in Kunming, the capital and largest city of the Yunnan province in South-West China.

French Accor Group has become the fastest growing hospitality chain in India. The group currently has 20 hotels operational, apart from two convention centers, and 27 are in advanced stages of construction along with 23 in design stage.

India and Japan plan to strengthen cooperation in tourism sector. Both the countries. will identify areas for working together and explore new opportunities in tourism sector especially in the field of human resource development (HRD) and investment in the tourism sector.

Progress/Achievements of Textiles Industry :

(1) Export Scenario :-

The Indian textiles and clothing industry is one of the largest contributors to the country's exports. The textile products continue to hold an important role in the Indian exports.

(2) Technical Textile Segment :-

Technical textiles are an important part of the textile industry. The Working Group for the Eleventh Five Year Plan has estimated the market size of technical textiles to increase.

(3) Special Economic Zones (SEZ) :-

Along with the increasing export figures in the Indian Apparel sector in the country, Bangladesh is planning to set up two Special Economic Zones (SEZ) for attracting Indian companies and duty free trade between the two countries. Besides this, the four functional SEZs like Tamil Nadu, Gujarat, Andhra Pradesh and Karnataka are approved in India.

(4) Joint venture :-

Italian luxury major Canali has entered into a 51:49 Joint venture with Genesis Luxury Fashion, which currently has distribution rights of Canalibranded products in India. The company will now sell canali branded products in India exclusively.

(5) Technical Textiles :-

The textiles industry complements the growth of several industries and institutions such as the defense forces, railways, and government hospitals, which are the key institutional buyers of technical textiles. The industry includes production of flexible packaging material for industrial, agricultural and consumer goods.

(6) Industrial Production :

With the increase in investments in the Indian textile sector, the subsequent increase in the industrial production, and the positivity observed by the textile sector have resulted in progress and development of the sector. Integrating the sectoral needs with technical advancements will completely modernize the industry chains across the country, along with continued investments assisting in reaping benefits for the Indian textile sector.

Problems of Textiles Industry :

(1) Availability of raw materials :

The Indian textile industry continues to be predominantly cotton based. This would be clear from the fact that cotton accounts for more than 73 percent of the total fiber consumption in the spinning mills and 56 percent of the total fiber consumption in the textile sector.

Naturally in those years when the production of raw cotton is small, the cotton textile industry faces a serious problem.

(2) Poor quality and low productivity of cotton:

Productivity of cotton in India is very low. Cotton cultivation is done in India by small farmers with very small farms and with improper technology and methodology. This poor quality of cotton is creating difficulties for the spinning industry.

(3) Outdated plant and machinery :

Since the cotton textile industry is fairly old in India and a number of mills were set up long back the machinery and equipment have grown old and outdated and need fast replacement. Production with the help of such outdated machinery results in higher costs and poor quality of product.

(4) Interest burden and NPAs:

With steady erosion in their profits most mills find it difficult to repay their loans. Most of these loans date back to early 1990s when interest rates ranged from 16 to 18 percent. Today, the textile industry accounts for a significant portion of the NPAs (Non Performing Assets) of the banking sector in the country.

(5) Labour problems :

The cotton textile industry has been faced with frequent labour problems. While some problems of labour are genuine it is no doubt true that the cotton textile mills have become the playground

for personal rivalries and the testing ground for some political groups. Protests from labour have also come in way of modernization of textile mills due to fear of displacement and unemployment

(6) Eroding cost competitiveness :

India suffers from a competitive disadvantage vis-à-vis its competitors like China, Pakistan and Taiwan. For example, compared with China and Pakistan, Indian salaries and wages are higher by 30 to 60 percent.

(7) Sickness :

Sickness is widespread in the cotton textile industry. After the engineering industry, the cotton textile industry has the highest incidence of sickness. As many as 125 sick units have been taken over by the Central Government. Sickness is caused by various reasons like low profitability, low productivity etc.

(8) Obsolescence :

The plant and machinery and technology employed by a number of units are obsolete. The need today is to make the industry technologically up-to-date rather than expand capacity as such. This need was foreseen quite some time back and schemes for modernization of textile industry had been introduced. The soft loan scheme was introduced a few years back and some units were able to take advantage of the scheme and modernize their equipment. However, the problem has not been fully tackled and it is of almost importance that the whole industry is technologically updated.

(9) Government Regulations :

Government regulations like the obligation to produced controlled cloth are against the interest of the industry. During the last two decades the excessive regulations exercised by the government on the mill sector has promoted inefficiency in both production and management. This has also resulted in a colossal waste of raw materials and productive facilities. For example, the mills are not allowed to use filament yarn in warp in order to protect the interest of art silk and power loom sector which use this yarn to cater to the affluent section of society.

Role of Government in Textiles Industry :

The Government of India has promoted a number of export promotion policies for the Textile sector in the Union Budget 2011-12 and the Foreign Trade Policy 2009-14. It has also allowed 100 per cent FDI in textiles under the automatic route.

Due to policy measures initiated by the Government in the recent past, the Indian textiles industry is in a stronger position than it was in the last six decades. The industry which was growing at 3-4 percent during the last six decades has now accelerated to an annual growth rate of 8-9 per cent in value terms.

Some of initiatives taken by the Government to further promote the industry are as under:

(1) Memorandum of Understanding (MOU) :

Th Government of India and Government of Bangladesh plan to sign a memorandum of understanding (MOU) on cooperation in textiles and jute through exchanging technologies

(2) Welfare Scheme :

The Government has offered health insurance coverage and life insurance coverage to 161.70 million weavers and ancillary workers under the Handloom Weavers' Comprehensive Welfare Scheme, while 733,000 artisans were provided health coverage under the Rajiv Gandhi Shiipi Swasthya Bima Yojna.

(3) E-marketing :

The Central Cottage Industries Corporation of India (CCIC), and the Handicrafts and Handlooms Export Corporation of India (HHEC) have developed a number of E-marketing platforms to simplify marketing issues. Also, a number of marketing initiatives have been taken up to promote niche handloom and handicraft products with the help of 600 events all over the country

(4) Skill Development Scheme :

As per the 12th Five Year Plan, the Integrated Skill Development Scheme aims to train over 2.67 million people within the next 5 years. The scheme will cover all sub sectors of the textile sector such as textiles and apparel, handicrafts, handlooms, jute and sericulture

(5) Credit Guarantee program :

As per the Credit Guarantee program, over 25,000 Artisan Credit Cards have been supplied to artisans, and 16.50 million additional applications for issuing up credit cards have been forwarded to banks for further consideration with regards to the Credit Linkage scheme

(6) Financial Packages :

The Government of India has announced a package of US\$ 604.56 million to waive of overdue loans in the handloom sector

(7) Textiles Parks :

The Indian Government has given approval to 40 new Textiles Parks to be set up and this would be executed over a period of 36 months. The new Textiles Parks would leverage employment to 400,000 textiles workers.

* * *

FOUNDATION COURSE :- GROWTH OF INDUSTRIES (2) PHARMACEUTICAL INDUSTRY

Introduction :-

India is now among the top five pharmaceutical emerging markets globally and is a front runner in a wide range of specialties involving complex drugs' manufacture, development, and technology. The Indian pharmaceutical industry is a highly knowledge based industry which is growing steadily and plays a major role in the Indian economy. As a highly organized sector, the numbers of pharmaceutical companies are increasing their operations in India. The industry is expected to touch US\$ 35.9 billion by 2016.

The Department of Pharmaceuticals has prepared a 'Pharma Vision 2020' document for making India one of the leading destinations for end-to-end drug discovery and innovation. The

department provides requisite support by way of world class infrastructure, internationally competitive scientific manpower for pharma research and development (R&D), venture fund for research in the public and private domain and such other measures.

Growth of Pharmaceutical Industry :-

The Indian pharmaceutical industry would continue to experience strong growth as structural growth drivers continue to remain impervious. The industry is expected to revert a ýrowth of 10-12 percent in 2013-14, according to a study by ICRA. It is also expected that in-organic investments will gain momentum in the medium-term as companies plan to create stronger presence in emerging markets and build expertise in select therapy areas.

Among the top 10 companies, Cipla with total sales of Rs 302 crore (US\$ 49.13 million), Sun Rs 297 crore (US\$ 48.32 million), Alkem Rs. 222 crore (US\$ 36.12 million) and Sanofi Rs 186 crore (US\$ 30.26 million) were the fastest growing corporations for the month of May 2013.

India will see the largest number of merger and acquisitions (M&A) in the pharmaceutical and healthcare sector, according to consulting firm Grant Thornton. A survey conducted across 100 companies has revealed that one-fourth of the respondents were optimistic about acquisitions in the pharmaceutical sector.

The Indian pharmaceutical market is expected to grow at a CAGR of 15.3 percent during 2011-12 to 2013-14, according to a Barclays Capital Equity Research report on India Healthcare and Pharmaceuticals. The growth of Indian pharma companies will also be driven by the fastest growing molecules in the diabetes, skincare and eye care segment.

Development & Investments of Pharmaceutical Industry :-

The domestic pharma market has reported total sales of Rs 6,370 crore (US\$ 1.03 billion) in the month of May 2013, registering a growth of 6.8 per cent, as per IMS Health. The major factors responsible are increasing sales of generic medicines, continued growth in chronic therapies and a greater penetration in rural markets.

The cumulative drugs and pharmaceuticals sector has attracted foreign direct investments (FDI) worth US\$ 11,304.91 million during April 2000 to April 2013, according to the latest data published by Department of Industrial Policy and Promotion (DIPP).

Indian pharmaceutical industry is expected to grow at 19% in 2013. India is now among the top five pharmaceutical emerging markets. There will be new drug launches, new drug filings and phase ll clinic trials throughout the year.

According to the estimates the Indian diagnostics and labs test services in view of its growth potential is expected to reach Rs. 159 billion by 2013. The Indiari market for both therapeutic and diagnostic antibodies is expected to grow exponentially jjin the coming years.

Some of the major Indian pharmaceutical firms including Sun Pharma, Cadilla Healthcare and Piramal Life Sciences had applied for conducting clinical trials on at least 12 new drugs indicating a growing interest in new drug discovery research.

Dr Reddy's Laboratories (DRL) has launched Donepezil Hydrochloride tablets in the US market following the approval by the United States Food and Drug Administration (USFDA)

US-based drug maker MSD has tied up with Mumbai-based Lupin to market MSD's 23- Vaccine in India. Lupin would have a non-exclusive license to market, promote and distribute the vaccine under a different brand name

Aurobindo Pharma, Natco Pharma and Glenmark have received approvals from the US Food and Drug Administration (USFDA) to launch their migraine drugs in the US market

Zydus Group has launched LipaglynTM (Saroglitazar), a rovel drug targeted for treating diabetic dyslipidemia or hypertriglyceridemia in Type II diabetes. The drug has been approved for launch in India by the Drug Controller General of India (DCGI)

Progress / Achievements of Pharmaceutical Industry:

(1) Brand India Pharma Project :-

In spite of some recent adverse developments, with the support of Pharmexcil and the Government in the form of Brand India Pharma project iPHEX; the sector would continue to grow and meet the healthcare requirements of the developing world.

(2) Jan Aushadhi Project :-

The pharma companies such as Cipla, Ranbaxy, Dr Reddy's Labs and Lupin might soon be part of the government's ambitious 'Jan Aushadhi' project. In an attempt to commercialize the project, the Government is likely to rope in the private sector to bulk-procure generic drugs from them.

(3) Consolidation :-

For the first time in many years the international pharmaceutical industry is finding great opportunities in India. The process of consolidation which has become a generalized phenomenon in the world pharmaceutical industry has started taking place in India.

(4) **Exports :-**

Pharmaceutical exports from the country during 2012-13 stood at US\$14.6 billion, up from US\$13.2 billion the previous year, as per PV Appaji, Director General, and Pharmexcil.

The Ministry of Commerce has targeted Indian pharma sector exports at US\$ 25 billion by 2016. The Government has also planned a 'Pharma India' brand promotion action plan spanning over a three-year period to give an impetus to generic exports.

In order to boost the export capability, Export-Import Bank of India (Exim Bank), has decided to expand the scope of its finance to pharmaceutical companies for extended repayment periods. Eligible export oriented companies can avail finance from Exim Bank for a maximum repayment period of 10 years with a moratoriuni of up to 36 months.

"Of the export markets. Indian pharma will focus on the US market which presents significant opportunities for the next two years for generics, due to patent cliffs and recent changes in healthcare policies," said the India Ratings report on outlook for Indian pharmaceuticals for 2013.

(5) Diagnostics Outsourcing/ Clinical Trials :-

India is fast becoming the preferred destination for high-end pathology and diagnostic services. The highly fragmented diagnostics and pathology labs market in India is pegged at US\$ 3.4 billion, according to a report by Pricewaterhouse Coopers.

An increasing number of hospitals from the UK, US, Middle East and neighbouring countries are tying up with Indian diagnostic centers to conduct laboratory tests. The Indian diagnostic services market is expected to grow at a compound annual growth rate (CAGR) of around 26 per cent during 20122015 on back of huge investments, fast expansion into tier 11 & Ill cities, and strong government support strengthening the healthcare infrastructure in the country.

According to RNCOs research report "Booming Clinical Trials Market in India", the number of clinical studies by domestic and global players has sharply risen. India, over the last decade, has developed significant capabilities in clinical trials, along with certain capabilities in project management and data management. According to RNCOs research report "Booming Clinical Trials Market in India", the number of clinical studies by domestic and global players has sharply risen. India, over the last decade, has developed significant capabilities in clinical trials, along with certain capabilities in project management and data management.

Problems / Challenges of Pharmaceutical Industry :-

Over the past decade pharma companies have entered a difficult period where shareholders the market and regulators have created significant pressures for change within the industry. The core issues for must of drug companies are declining productivity of in-house R & D patent expiration of number of block buster drugs increasing legal and regulatory concern and pricing issue.

As a result larger pharmaceutical companies are shifting to new business model with greater outsourcing of discovery services, clinical research and manufacturing.

The Indian pharma Industry would have to contend with several challenges ! problems as follows.

(1) Public and government pressure to make drug prices more affordable :

Pharmaceutical companies in India has been constrained to live with continuing focus of the government and also. of the civil society on 'reasonably affordable medicines' irrespective of the fact whether they are generic or patented.

The Department of Pharmaceuticals has reportedly started comparing Indian drug prices with their international equivalents in terms of the 'purchasing power parity' and 'per capita income' and not just their prevailing prices in various developed markets converted into rupees. With such comparisons the government has already started voicing that prices of medicines in India are not the cheapest but on the contrary one of the costliest in the world.

Thus, one of the critical challenges of the Indian Pharmaceutical Industry continues to be delivering affordable medicines for a large section of the population of the country, as expected by the government. Reported high profitability, at least, of the listed pharmaceuticals companies gives an impression to the stakeholders, including the government, that there is a scope for further reduction of pharmaceutical prices in India.

Pharmaceuticals being covered under the 'Essential Commodities Act empower the government to announce the 'administered price for essential medicines. Current debate and deliberations on the New Drug Policy both by the Supreme Court and the Group of Ministers is a case in point.

(2) High 'Out of Pocket (OoP\' expenditure limiting access to medicines :

While India is making reasonably rapid strides in its economic growth, the country is increasingly facing constraints in providing healthcare benefits to a vast majority of its population with ballooning 'Out of Pocket (OOP)' expenditure of around 74 percent and 72 percent of which is the cost of medicines (Source : HLEG Report).

This is mainly because of the following key reasons :

- Low public spending on healthcare at around just 1.1 percent of the GDP
- Fragile healthcare infrastructure
- Very low penetration of health insurance system for all strata of society
- Poor healthcare delivery system
- Absence of 'Universal Health Coverage'
- Changing disease pattern increases healthcare expenditure, further limiting access

(3) Pricing of Patented Drugs :-

Innovative pharmaceutical products patented in India are expected to facilitate access to latest modern medicines to the country's population to meet their unmet needs, if available at a reasonably affordable price.

To respond to this important need of the patients, many innovator companies like, Merck, GlaxoSmithKline (GSK) have already announced a differential pricing mechanism for their patented medicines in India.

(4) Fostering innovation and Intellectual Property Rights (IPR) :

Many companies expect that 'tomorrow' will be a 'mega today' and prefer to continue to run their businesses more or less the same way, as what they are currently doing. At the same time the global market keeps sending, in very small measures though, but definite and continuous signals of changes. As we move on, we realize that 'tomorrow' will nat be a 'mega today', just as 'today' is not a 'mega yesterday'. To meet such challenges of change squarely and realistically, one will need to embrace a culture of continuous innovation' in all the fields of business processes in India.

Therefore, the name of the game, while competing within the globalized economy.is "continuous innovation", which is more than a novel idea or a set of novel ideas. It is, in fact, the process of translating the novel idea/ideas into reality

Like other industries, the pharmaceutical sector in India will also have io innovate with cutting edge ideas, convert them to implementable business models and processes, which in turn would help these companies to remain competitive in the globalized market place. The innovation, which I am talking about, extends far beyond Intellectual Property Rights (IPR) for a product.

While innovation is an absolute must to remain and grow the business, having patented products and marketing these brands effectively are desirable, but not a 'must do' for the Indian pharmaceutical companies, just yet. Unfortunately, not much inclusive innovation is taking place within the industry as of now, which consequently poses a great challenge for a quantum leap of this knowledge based industry of the country

(6) Counterfeit Medicines :-

India still needs to generate enough credible data to convince itself and then to establish that counterfeit drugs are posing a growing menace to the humanity. All stakeholders should join hands to address this public health issue, leaving aside petty commercial interests, be it generic pharmaceutical companies of India or research based pharmaceutical players across the world.

The other side of the coin is that counterfeit versions of high value and/or high volume brands of the pharmaceutical companies in India are adversely affecting their business performance posing another major challenge.

(7) Requirement of Stringent Regulatory Practices:

In the increasingly globalized economy, strict conformance to high regulatory standards like, Good Manufacturing Practices (GMP), Good Clinical Practices (GCP) and Good Laboratory Practices (GLP) pose another major challenge for the pharmaceutical industry in India.

Those pharmaceutical companies who are involved in manufacturing and export of drugs and pharmaceuticals are required to meet standards set up not only by the Drug Controller General of India (DCGI) and/or the State Drug controllers, but also of the regulatory authorities of the respective countries, where their products will be exported.

(8) Ethics and Compliance :-

We have been witnessing for quite some time that ethical concerns related to the pharmaceutical industry, spanning across clinical trials to ethical marketing practices, are hugely bothering a large section of the stakeholders, solely for the interest of the patients.

Such concerns are assuming greater proportion, as the pharmaceutical industry is increasingly facing siringent regulatory and media scrutiny in gradually expanding areas of business operations. Thus, to overcome this chalienge, there is a dire need for the industry to move beyonu its usual bottom-line ventric model to a transparent, comprehensive and implementable 'Ethics and Compliance models', which are well meshed with all other business processes.

Role of Government in Pharmaceutical Industry:

The pharma industry in India is the world's third-largest in terms of volume and stands 14th in terms of value. According to Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers the total turnover of India's pharmaceuticals industry between 2008 and September 2009 was US\$21.04 billion.

Some of initiatives taken by the Government to further proincte the industry are as under:

(1) The Software Technology Parks of India (STP) Scheme :

The Government has also played a vital role in the development of the India Software Industry. In 1986, the Indian government announced a new software policy which was designed to serve as a catalyst for the software industry. This was followed in 1988 with the World Market Policy and the establishment of the Software Technology Parks of India (STP) Scheme

(2) The Foreign Investment Promotion Board (FIPB) :

The Foreign Investment Promotion Board (FIPB) has cleared seven FDI proposals for investment in the Indian pharmaceutical companies. Currently, 100 per cent FDI in pharma sector is permitted through automatic approval route in the new projects but the foreign investment in the existing pharma companies requires FIPB approval.

(3) Increase investments in new projects :

in the Union Budget 2013-14, investment allowance of 15 per cent on new plant and machinery has been allowed. The allowance is expected to increase investments in new projects while siniultaneously providing tax benefit to the industry.

(4) Jan Aushadhi projects :

In order to provide relief to the common man in the area of healthcare, a countrywide campaign in the name of 'Jan Aushadhi Campaign has been initiated by the Department of Pharmaceuticals, Government of India, in collaboration with the State Governments, by way of opening up of Jan Aushadhi Generic Stores in the Government Hospitals by way of supply of generic medicines through Central Pharma Public Sector Undertakings, to make available quality generic medicines at affordable prices to all.

(5) Patents Act :

The Government started to encourage the growth of drug manufacturing by Indian companies in the early 1960s, and with the Patents Act in 1970. However, economic liberalization in 90s by the former Prime Minister P.V. Narasimha Rao and the then Finance Minister, Dr. Manmohan Singh enabled the industry to become what it is today. This patent act removed composition patents from food and drugs, and though it kept process patents, these were shortened to a period of five to seven years

(6) Biotechnology Parks Society :-

The Indian government has been very supportive. It established the Department of Biotechnology in 1986 under the Ministry of Science and Technology. Since then, there have been a number of dispensations offered by both the central government and various states to encourage the growth of the industry. India's science minister launched a program that provides tax incentives and grants for biotech start-ups and firms seeking to expand and establishes the Biotechnology Parks Society of India to support ten biotech parks by 2010. Previously limited to rodents, animal testing was expanded to rge animals as part of the minister's initiative. States have started to vie with one another for biotech business, and they are offering such goodies as exemption from VAT and other fees, financial assistance with patents and subsidies on everything ranging from investment to land to utilities.

(7) Pharma Vision 2020 :-

The Department of pharmaceuticals has prepared a Pharma Vision 2020 document for making India one of the leading destinations for end to end drug discovery and innovation.

* * *

HISTORY OF DIAMOND INDUSTRY IN INDIA

Diamond is the most attractive natural stone which can satisfy the desire of beauty in any human being. Pleeney (roman naturalist in the 1st A.D.) said " Not only out of all the precious stones but out of all the things in the world The Diamond is the most valuable thing." It is believed that before 6000 years, stones were found near the banks of river krishna, godavari, panner. It is also said that most valuable Vajra diamonds were found in the fertile land. During that time the diamond mine of golkonda had become famous. Some of the most popular diamonds - DARIYAE- NUR, NOOR-AL-IN, KOHINOOR, HOPE DIAMOND & REGENT DIAMONDS ETC. were found from this golkonda mine.

In INDIA diamond is being treated as a symbol of beauty. It is also worshiped for it's power to heal and keep away the devilish forces of the nature. In 327 B.C. the great Sikander attacked India but could not march ahead and had to go back. During that time he was able to take some of the precious diamonds of India. So from the time of The Great King Chandra Gupta Maurya (the great disciple of Chanakya), Chanakya also has mentioned the trade of diamonds in his famous book " Arthshatra". India has been exporting diamonds of various kinds and shapes to Egypt, Babylon, Mesopotamia, Arab countries and Europe. The world famous diamond "KOHINOOR" was knows as biggest diamond in the world. It was first in the custody of the king of Punjab - RanjeetSingh. From him it was taken by Mughal kings. Ultimately this most precious but cursed diamond was taken by Britishers and it is still in the custody of British Empire. In addition to the above, there are other diamonds also. e.g. Orlave Diamond, Regent Diamond etc.

There was one Hope Diamond which was fixed as one eye of the Hindu Goddess-Idol of Mother SITA which was stolen away. This diamond also is being treated as CURSED diamond. In India, from the ancient times, it has been custom to select different stones or diamonds to attract the divine rays of different Grah-Devatas in to our human body. The diamond rings are made according to the astrological predictions and these rings are given to proper Brahmins to do Mantra-Japa for a particular Grah-Devta. In addition, there is also a custom of wearing different kinds of diamonds for beauty, strength & victory. So, in day-to-day life of India great importance has been given to diamonds, gold, silver, copper, etc.

This diamond industry was shattered during the mid part of 18th century. The reason being discovery of diamond mines in Brazil in 1725 A.D. In addition, during the end of 18th century diamond mines were found in the South Africa. In addition, with the passage of time diamond mines have been found out countries like Canada, Zimbabwe, Angola, Russia. Also diamond mines have been found in some states of America namely, Colorado, Arkansas, Wyoming and Montana. So the discovery of diamond mines all in these countries had badly affected the trade of diamonds in India. But after the Independence, because of proper laws, regulations enacted by government of India, there has been marked improvement in the development of DIAMOND INDUSTRY. **Size of Diamond Industry :-** The present turnover of Indian Diamond Industry is approximately 6000 crore. The indian Diamond Industry is being treated as a fastest growing industry in the world.

Geographical Distribution : Mumbai, Surat, Vadodara, Ahmedabad, Bhavnagar, Amreli, etc.

Output per Annum :- The Indian Diamonds Industry has exported rough diamonds worth 566 million US Dollars and polished diamonds of worth 14.18 million US dollars in the year 2007-2008.

Percentage in World Market :- Today India is largest diamond cutting and polishing center in the world, it enjoys 60% value share for diamond cutting and polishing. 85% volume share and 92% share of the world market in terms of number of pieces.

Market Capitalization :- Indian Diamond Industry currently constitutes about 15% share of the total world market and is currently growing @ 40% per annum. Today Indian diamond industry has become the main center of the whole world. Todays diamond industry has become pioneer in the business of unpolished and polished diamonds Out of 10 diamonds being used in the jewelery business of the world almost 9 diamonds are being exported from India. The Indian Diamond Industry is mainly associated with cutting, polishing & the export.

The Artisans of the Indian diamonds Industry are expert in giving proper shape and size to all types of stones and diamonds. In addition, they are well-versed at faceting colored diamonds also. At present, cutting and polishing centers of the diamonds are situated at Ahmedabad, Surat, Bhavnagar, Amreli etc in Gujarat and in Mumbai in Maharastra. At least 10 lakh individuals are working in the diamond industry which amounts to more than 90% of the total work force in diamond industry of the whole world.

Indian diamond industry was in very scattered position and on small scale like Gruh Udhyog. But at present, this industry has become modern, technically capable and developed on a very large scale.

At present, Indian medium and large scale diamond factories are well equipped with modern machines, laths, etc. but still traditionally there are so many families who have been making / creating / shaping diamonds, gold and diamonds jewelery etc of different designs and shapes since thousands of years. This kind of unique traditional style has been well acclaimed at the international level also. Today, there is a new generation of young designers dominating the world market apart from the host of established families and houses that design the fashion jewelery. The gem and jewelery export promotion council (GJEPC) was set under the patronage of ministry of commerce in 1966 and has helped to form a better understanding between the government and the diamond industry. The core function of the council is to develop and promote the export of gems and jewelery from India, to contribute towards establishing a code of ethics to ensure that fair trade practices are followed in the jewelery area.

Indian Diamonds industry is at the doorstep of expansion today. The Indian government has legitimated the setting up of bonded warehouses in order to enable diamonds to be brought into the country for sale. The unsold diamonds could be exported without any duty or tax. Government has been creating the export promotion zones (EPZ) and special economics zones (SEZ) in order to help and promote the export of gems and jewelery from the country and is undoubtedly a new step for the betterment of the industry.

TODAY'S TOP DIAMOND COMPANIES / HOUSES ARE :

- 1. ADORA : This diamond brand was started by jewelery corporation based in Mumbai. This brand is based on the subject of love and celebration in life. The great celebrated singer "Nightingale of India" - Lata Mangeshkar - has great faith in this brand.
- 2. TANISHQUE : is one of the most popular diamond jewelery brand in India and is known for it's innovative designs. It is promoted by TATA group and was launched in 1995 and boasts of 84 outlets in 61 cities. Tanishque introduced "Collection" strategy in Diamond Jewelery.
- **3. KIAH** : is another Diamond brand which is deemed stylish, striking, and light weight. It was launched by Sheetal manufacturing company in October 2004.
- 4. NIRVANA DIAMOND : was launched in 1987 by fine jewelery (I) Ltd., implementing the state of the art technology, the collection is targeted at fashion conscious, modern and independent women.
- 5. D'DAMAS : is one of the oldest diamond houses of India established in 1996 and forming a part of Gitanjali Digico Group.
- 6. Kalyan Jewellers : T S Kalyanaraman is the Chairman and Managing Director of Kalyan Jewellers, the largest jewellery chain in India with a turnover of Rs 8,500 crore (Rs 85 billion) this year. His journey as a businessman started at the age of 12 when he was taken to the textile shop to learn the basics from his father. After managing Kalyan Textiles, he set up Kalyan Jewellers on his own in 1993 with an investment of Rs 75 lakh. Today, his business is booming, with jewellery stores across.
- 7. Joyalukkas : Joyalukkas learnt business from his father's jewellery showroom founded in 1956. ... More retail outlets were set up in the UAE in Dubai, Sharjah, Al-Ain and Ras Al-Khaimah, making him the first jeweller in the Middle East to be certified with ISO 9001 and ISO 14001.

Information Technology in India

Information Technology

Information Technology is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise.

Examples of information technology.

- (1) Telephone and radio equipments and switches used for voice communications.
- (2) Traditional computer applications that include data storage and programs to input, process and output the data.

Claude Elwood Shannon (April-30 1916 - Feb. 2001) was an American mathematician, electrical engineer and cryptographer known as "The Father of information Theory". Shannon is noted for having founded information theory with a land mark paper. A Mathematical Theory of communication that in the publihsed 1948. On the Basis of this theory inormation technology was developed.

Information technology in India is an industry consisting of two major components: <u>IT Services</u> and <u>business process outsourcing</u> (BPO). The sector has increased its contribution to India's GDP from 1.2% in 1998 to 7.5% in 2012. According to <u>NASSCOM</u>, the sector aggregated revenues of US\$100 billion in 2012, where export and domestic revenue stood at US\$69.1 billion and US\$31.7 billion respectively, growing by over 9%.

Information technology is playing an important role in India today & has transformed India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs.

The IT sector in India is generating 2.5 million direct employment. India is now one of the biggest IT capitals of the modern world and all the major players in the world IT sector are present in the country.

The major cities that account for about nearly 90% of the sector's exports are *Bangalore, Hyderabad, Kolkata, Chennai, Trivandrum, Noida, Mumbai* and *Pune. Bangalore* is considered to be the *Silicon Valley of India* because it is the leading IT exporter. Exports dominate the industry and constitute about 77% of the total industry revenue. However, the domestic market is also significant with a robust revenue growth. The industry's share of total Indian exports (merchandise plus services) increased from less than 4% in FY1998 to about 25% in FY2012. According to Gartner, the "Top Five Indian IT Services Providers" are *Tata Consultancy Services, Infosys, Cognizant, Wipro* and *HCL Technologies.*

Regulated VSAT links became visible in 1994. Desai (2006) describes the steps taken to relax regulations on linking in 1991:

In 1991 the Department of Electronics broke this impasse, creating a corporation called *Software Technology Parks of India* (STPI) that, being owned by the government, could provide VSAT communications without breaching its monopoly. STPI set up software technology parks in different cities, each of which provided satellite links to be used by

firms; the local link was a wireless radio link. In 1993 the government began to allow individual companies their own dedicated links, which allowed work done in India to be transmitted abroad directly. Indian firms soon convinced their American customers that a satellite link was as reliable as a team of programmers working in the clients' office.

<u>Videsh Sanchar Nigam Limited</u> (VSNL) introduced Gateway Electronic Mail Service in 1991, the 64 kbit/s leased line service in 1992, and commercial Internet access on a visible scale in 1992. Election results were displayed via National Informatics Centre's NICNET.

The Indian economy underwent economic reforms in 1991, leading to a new era of <u>globalization</u> and international economic integration. Economic growth of over 6% annually was seen during 1993-2002. The economic reforms were driven in part by significant the internet usage in the country. The new administration under <u>Atal Bihari</u> <u>Vajpayee 1999 govt pm</u>-which placed the development of Information Technology among its top five priorities- formed the Indian National Task Force on Information Technology and Software Development.

Wolcott & Goodman (2003) report on the role of the Indian National Task Force on Information Technology and Software Development:

Within 90 days of its establishment, the Task Force produced an extensive background report on the state of technology in India and an IT Action Plan with 108 recommendations. The Task Force could act quickly because it built upon the experience and frustrations of state governments, central government agencies, universities, and the software industry. Much of what it proposed was also consistent with the thinking and recommendations of international bodies like the <u>World Trade Organization</u> (WTO), <u>International Telecommunications</u> Union (ITU), and <u>World Bank</u>. In addition, the Task Force incorporated the experiences of <u>Singapore</u> and other nations, which implemented similar programs. It was less a task of invention than of sparking action on a consensus that had already evolved within the networking community and government.

"The New Telecommunications Policy, 1999" (NTP 1999) helped further liberalize India's telecommunications sector. The <u>Information Technology Act</u> 2000 created legal procedures for electronic transactions and e-commerce.

Throughout the 1990s, another wave of Indian professionals entered the United States. The number of <u>Indian Americans</u> reached 1.7 million by 2000. This immigration consisted largely of highly educated technologically proficient workers. Within the United States, Indians fared well in science, engineering, and management. Graduates from the Indian Institutes of Technology (IIT) became known for their technical skills. The success of Information Technology in India not only had economic repercussions but also had farreaching political consequences. India's reputation both as a source and a destination for skilled workforce helped it improve its relations with a number of world economies. The relationship between economy and technology-valued in the western worldfacilitated the growth of an entrepreneurial class of immigrant Indians, which further helped aid in promoting technology-driven growth.

Recent development

The economic effect of the technologically inclined services sector in India accounting for 40% of the country's GDP and 30% of export earnings as of 2006, while employing only 25% of its workforce-is summarized by Sharma (2006): "Today, Bangalore is known as the <u>Silicon Valley of India</u> and contributes 33% of Indian IT Exports. India's second and third largest software companies are headquartered in Bangalore, as are many of the global SEI-CMM Level 100 Companies." Numerous IT companies are based in <u>Mumbai</u>, such as <u>TCS</u> (among India's first and largest), <u>Reliance, Patni, Lnt Infotech, Myzornis Corporation and i-Flex.</u>

<u>Thiruvananthapuram</u> (Trivandrum), the capital of Kerala state, is the foremost among the Tier II cities that is rapidly growing in terms of IT infrastructure. As the software hub of Kerala, more than 80% of the state's software exports are from here. Major campuses and headquarters of companies such as <u>Infosys</u>, <u>Oracle Corporation</u>, <u>IBS Software Services</u> and <u>UST Global</u> are located in the city. India's biggest IT company <u>Tata Consultancy</u> <u>Services</u> is building the country's largest IT training facility in Trivandrum—the project is worth INR10 billion and will have a capacity of 10,000 seats. The completion of the facility is expected in 2014 or 2015.

On 25 June 2002, India and the <u>European Union</u> agreed to bilateral cooperation in the field of science and technology. A joint EU-India group of scholars was formed on 23 November 2001 to further promote joint research and development. India holds observer status at <u>CERN</u>, while a joint India-EU Software Education and Development Center will be located in Bangalore.

Rank		Description
1	Bangalore	Popularly known as the Silicon Valley of India and leading software exporter from India. Bangalore is considered to be a global information technology hub of India.
2	Hyderabad	Hyderabad is a Second major IT hub in India. It has become the first destination for the Microsoft development centre in India and largest software development centre outside of their headquarters in Redmond, Washington. It is also known as Cyber city which consists of many Multinational corporation companies such as Cognizant, TCS, Infosys, Wipro etc., together called HiTech City. [9] and is the BPO hub of India
3	Chennai	Chennai is the third largest exporter of IT and ITES of India.
4	Delhi	The National Capital Region comprising Delhi, Gurgaon and Noida are clusters of software development.
5	Mumbai	The Financial capital of India, but recently many IT companies have established offices.
6.	Pune	Major Indian and International Firms present in Pune. Pune is also C-DAC headquarters.

Major	IT	Hubs
-------	----	------

7.	Kolkata	The city is a major back-end operational hub for IBM, Deloitte.
8	Coimbatore	Proudly called as "Manchester of South India", Coimbatore is one of the fastest emerging IT hub and developing cities of India. Coimbatore has major IT companies like Cognizant, Wipro, Robert Bosch, HCL Technologies, DELL, Exterro, Tata Consultancy Services. It also hosts the training center of Cognizant. There are many other IT majors which have planned to start the operations soon.
9	Bhubaneswar	The capital city of Odisha, an emerging IT and education hub, is one of India's fastest developing cities.
10	Thiruvananthapuram	The capital of Kerala, now houses all major IT companies including Oracle, TCS, Infosys, and contributes in IT export of India.
11	Kochi	The commercial capital of Kerala, now houses all major IT companies including TCS, Cognizant, and contributes in IT export of India.

Employment

This sector has also led to massive employment generation. The industry continues to be a net employment generator - expected to add 230,000 jobs in FY2012, thus providing direct employment to about 2.8 million, and indirectly employing 8.9 million people. Generally dominant player in the global outsourcing sector. However, the sector continues to face challenges of competitiveness in the globalized and modern world, particularly from countries like China and Philippines.

India's growing stature in the Information Age enabled it to form close ties with both the United States of America and the European Union. However, the recent global financial crises has deeply impacted the Indian IT companies as well as global companies. As a result hiring has dropped sharply, and employees are looking at different sectors like the financial service, telecommunications, and manufacturing industries, which have been growing phenomenally over the last few years. India's IT Services industry was born in Mumbai in 1967 with the establishment of Tata Group in partnership with Burroughs. The first software export zone SEEPZ was set up here way back in 1973, the old avatar of the modern day IT park. More than 80 percent of the country's software exports happened out of SEEPZ, Mumbai in 1980s.

Future Outlook

The Indian IT market currently focuses on providing low cost solution in the services business of global IT. Presence of Indian companies in the product development business of global IT is very meagre, however, this number is slowly on the raise. US giants that outsource work to India, do not allocate the high end SDLC (Software Development Life Cycle) processes like requirement analysis, high level design and architectural design, although some Indian IT players have enough competency to take up and successfully complete these high level software jobs. The other prominent trend is, IT jobs, that were earlier confined to Bangalore, are slowly starting to experience a geographical diffuse into other cities like Chennai, Hyderabad and Pune. The growth is not fast paced, this, can be largely attributed to the lethargic attitude of the government in providing proper telecommunication infrastructure. The penetration levels are higher for mobile, but, the speed at which the backbone infrastructure works (network speed) and the coverage it offers are far below what other countries of the world have currently in offer.

The Indian Advantage

The above listed views might possibly work against India's' dream to become the biggest contributor to world IT business, but, if there is one factor that is particular only to India, and, the one that can nullify all negative factors lined up against it, would be, the volume of young, English speaking talent pool that India has got to offer. This number far exceeds, any other country can generate in the coming years. It cannot be denied that China is gearing up to reduce the English fluency gap, but, at the same time, doing it with ease like India, is a topic of discussion.

From Services to Product Orientation

The migration of Indian IT companies to mainstream product development is not happening any time in the near future, this, primarily can be attributed to the fact that was discussed in earlier section, which is, lack of innovation culture amongst the top hierarchy of the firm, and, less availability of skilled management graduates in the country. However, what might possibly happen is, global multinationals that are currently outsourcing services and back office jobs to India, might outsource more of higher level jobs in SDLC (Software Development Life Cycle) like requirement analysis and architecture design. The other opportunity is, Indian subsidiaries of global multinationals might take up significant chunk of the product development than what they are currently doing, this, however, is not happening currently because, the global IT firms are still not comfortable in working out a way to extract high end work from Indian companies.

Research and Development-The new drivers

The research in the industry was earlier concentrated towards programming technologies like Java, in the recent times, the research focus changed towards technologies like mobile computing, cloud computing and software as a service. This shift is attributed to preference of clients towards the ubiquitous computing over standalone computing and the growing demand for low cost computing solutions.

* * *

ADVANTAGES OF INFORMATION TECHNOLOGY IN BUSINESS

ADVANTAGES

- (1) Increase production and saves time : Business use technology to automate tasks. A good example is a bakery which uses automated temperature censors to detect any drop or increase in room temperature in a bakery. These censors will send information directly to the operator and report any temperature change. This saves the bakery time and it also results into quality products.
- (2) Improves communication through communication technology : With the help of communication technology tools likephones, video conferencing, electronic mail, databases just to mention but a few. Movement of information with in an organization or business has become easy and fast. Employees can easily move information across departments without having any interruptions. Tools like electronic mail, e-fax, mobile phones and text messaging enhance the movement of information among employees, customers and business partners or suppliers.
- (3) Improves data storage and file management : Business use cloud hosting services to store and backup business data. Also it saves on paper work and makes transfer and access of data remote. With services like `Dropbox.com', business owners can access their data any time any where. Information and data are very important tools for a business, so it is very essential to store them safely and also access them at any time of need.
- (4) Improve financial management : Accounting software like Quick Books, Bookkeeper, Sage 50 xeroodoo Tally and Account Edge can be used in performing various accounting tasks in a business. Business owners can easily balance their books with less experience in accounting because these software's are well equipped with every tool needed in accounting and they also have a help section which can be referred to in case a user is stuck.
- (5) Cuts costs operation and increase in RIO : Communication technology and social technology have made business promotion and product launch affordable. Many small business have found ways to use social technology to increase on their brand awareness and get more clients at a minimal cost. In business, factors like cost of operation play a big role in the development and growth of that business. So when businesses use information technology to cut down on costs of operation, then their ROI will increase which will result into business growth.
- (6) Improves business to consumer relationship : Business have embranced the social technology to interact with their consumers and fans. This creates a strong business consumer relationship and it results into business growth and expansion. Information technology can be used to improve customer service in so many ways. For example, businesses can use internet to inform their customers about great deals and discounts, this makes customers feel special and it can drive their desire to buy. A good customer services can be used as a great tool by any small business to gain competitive advantage.

- (7) Improves on business competitive advantage : Companies have used technology to gain competitive advantage over their competitors. A business will improve on its technology and improve on its services and products which will make its customers happy, this will turn these happy customer loyal to that business and also invite more friends to use that service or product.
- (8) Improved innovation : Technology has played a big role in job creation and emerging of technology based companies. With access to a computer and internet, any one can start an business while at home. Most successful technology based ventures like Google / Amazon / Facebook, to mention but a few, started from home but now they employ thousands or people.
- (9) Improved entertainment : Technology has changed the entertainment industry, now days we have many options to chose from, you can have a play-list of 10,000 songs in your plams with an ipod, you can have a play-list of 10,000 songs in your plams with an ipod, you can watch movies on the go with an ipad, the list is endless.
- (10) **Improved social discovery :** Finding both old and new friends has become very simple. With social networks like facebook and twitter, you can easily keep up with all your old friends and also make new ones.
- (11) Globalization of Knowledge : Today you can use the internet to get the latest news from any country on the globe. Services like `Twitter' have enabled people to become journalist so they report news on instant by twitting. Services like Wikipedia.org are well equipped with data on about anyting.
- (12) Improved communication : Online education has made educational material and data accessible anywhere. The use of internet technology has opened educational boundaries, this has benefited students from developing countries have a chance to study relevant courses which increase on their chance of getting high paying jobs international.
- (13) New methods of education have been created : Use of educational video games and puzzles has increased students interest in learning. Basing on research, students enjoy learning with technology, many schools have started providing free internet on school campus, this help students make research and learn as individuals without getting any help from their teachers.
- (14) Online Banking : Many Banks have integrated advanced information technology systems to improve on their customer service. Today, it is very easy to withdraw money using an ATM card or smart money card, this saves customers from wasting time lining up in banks.
- (15) Fast Credit : Technology used in banks helps in gathering of financial details and credit scores about each customer, the information gathered can be used when a customer applies for credit in that bank.

DISADVANTAGES OF INFORMATION TECHNOLOGY IN BUSINESS DISADVANTAGES

- (1) **Implementation Expenses :** Small business fail to afford this expensive technology so they end up losing their clients to a business which has improved its technology and provides a better service or product.
- (2) Job Elimination : Technology has replaced most position which humans used to occupy. Accounting is now being done by software, so accountants run out of opportunities.
- (3) Security Breaches : Since businesses store their data on remote cloud servers which can be accessed with a use name and password, they risk losing that data to wrong mined knowledge works, hackers or viruses, which can harm he business.
- (4) **Internet security issues :** For the merchant to process an order online, consumer has to provide their financial details. Experienced hackers can use this loop hole to channel this information and use it for their own needs.
- (5) Faulty products and duplication : In most cases auction websites have products that are not real. So a user can bid on a shoe thinking it is original, upon delivery, they discover that the shoe is fake and it does not resemble the picture on auction.
- (6) **Privacy :** Ecommerce websites collect personal data using cookies to know more about us and suggest products basing on that information. This data is collected without any notice, but with selfish intent.
- (7) **Cyber-sickness :** With the increased addiction to social networks and internet games, people are spending more time on computers and give up on their normal offline life. This has resulted into relation breakups and increases loneliness.
- (8) Social implications : access to harmful information which corrupts people's minds and drives them to commit crime. People use search engines to find information on how to create harmful weapons and how to commit wrong acts in society.
- (9) Over dependence on information technology makes students less active and innovative : Students no longer take time to solve equation and taks, all they do is query that task in a search engine and a solution will be provided.
- (10) **Poor publications online :** This exposes student's wrong information which results into failure of exams. Many online publishers post content for monetary purposes, so you find that most the content published online is not well detailed to help students and researchers.
- (11) Money Laundering : Cases of Online money laundering are on the rise and this has exposed many online users to the predators.