Question No.4 Describe various sectors of chemical industry. What are India's competitive advantages & disadvantages in the export of chemical goods?

Solution: India has, over the years, developed strengths in sectors like dyestuffs, pesticides, organic and inorganic chemicals, drugs and pharmaceuticals, plastics, rubber processing, synthetic fibres etc. India is also strategically located in Asia. These are our strengths and these must be fully exploited with more efficient and quality oriented facilities to increase our share in the world market. There is tremendous scope of growth in India in the chemical sector. The per capita consumption of chemicals is well below the prevailing world level.

The Indian chemical industry can well remain competitive via-a-via its counterparts in developed nations, even after fully complying with the Indian environmental regulations both in letter and in spirit. Following are the major sectors of the chemical industry:

1. **Organic Chemical Industry:** The Indian organic chemical industry (covering petrochemicals, bulk organic chemicals and speciality chemicals) in the country is characterised by uneconomic capacities, fragmented production base and poor marketing focus. However, the industry can be viewed in terms of players with distinct characteristics. There are the large petrochemical cracker operating companies such as Reliance and ICPL producing all key commodity plastics plus a slew of other bulk chemicals. There are single polymer manufacturing companies who procure either the basic chemical or the intermediate to make the commodity polymer. In bulk organic chemicals, there is a range- from benzene based producers such as Hindustan Organic Chemicals and Herdillia Chemicals to fertiliser companies which have diversified into products such as caprolactum and methanol. Another separate group is the molasses (industrial alcohol) based chemical producers some of whom even compete with petro-based manufacturers in products such as MFG**,** acetic acid and VAM. In addition, there are the speciality chemical companies which at the upper end are dominated by multinational companies such as Ciba Specialities.

2. **Petrochemicals:** The petrochemical market in India is essentially supply driven. Growth rates for various commodity polymers and polyester have been in double digits helping Indian companies to keep operating at high rates even in the face of a reduction in price. As Reliance has shown, Indian companies can build that extra cost advantage by world class delivery systems to a fragmented market, thereby keeping the working capital costs of the customers low. Integrated large producers, IPCL and Reliance, are well placed to
ride out of the through of the price cycle and in fact are investing further to maintain the market share. Single polymer companies do not have the pricing flexibility of a cracker complex through some such as Finolex Industries have world class capacities. Most of the remaining companies are likely to continue as marginal players.

3. **Bulk Organics:** This is one segment of the industry which could soon witness a phase of consolidation. Even companies with reasonably large capacities such as Hindustan Organic Chemicals Limited are finding the going tough. Unlike in petrochemicals, investments have I been tardy. Although some companies have been successful in reducing conversion costs, competitive advantage could come through only world class capacities and integration. Many of these companies are hampered by lack of resources to invest and stay competitive. Multi-business companies in fertilisers and chemicals are also intent only on maintaining the status quo.

4. **Alcohol-based chemicals**: The alcohol based chemical industry became subject to the vagaries of molasses prices after these prices were decontrolled in 1993. Raw material supply and prices for these companies are inextricably linked to the sugar economy and State level policies. Large sugar producers now operate an integrated complex producing apart from sugar, paper and organic chemicals. This segment of the chemical industry is likely to remain marginal without attracting large investments.

5. **Speciality Chemicals:** As far as the speciality chemical industry is concerned, high margin product segments should continue to be dominated by the technologically strong multinational companies, Indian companies have **a** reasonable presence in this sector and should continue to maintain their share although margins will be linked to end user industry performance and therefore on an economic revival.

6. **Pharmaceuticals:** Over the past five decades, the Indian pharmaceutical industry has moved through several phases, largely in accordance with government policy. Commencing with repacking and preparation of formulations from imported bulk drugs, the Indian industry had moved on to become a net foreign exchange earner, with capability of producing almost all drugs.

7. **Oil and Gas:** India is currently the fourth largest oil consumer in the Asia-Pacific region after Japan, China and South Korea. Estimated to increase at the rate of 7 per cent a year, the demand for petroleum products, in absolute terms, is expected to nearly double from the present level of 80 million tonnes to 155 million tonnes per annum by 2006-07.

India's Competitive Advantages and Disadvantages

Growth in value of world merchandise exports by product groups reveals that chemicals product group registered the third highest growth rate of 22%, after office and telecom equipment (26%) and iron and steel (25%) in 1995 over the previous year. Polymerization products and medicinal, pharmaceutical products are the major items of

this industry, accounting for more than 45 per cent of its total exports. Nitrogen compounds and products of condensation are the other important items in the group. During 1991-95, world imports of chemicals registered an annual growth of 11.9 per cent.

Exports of medicinal products, carboxylic acids and perfumery cosmetics continued to grow rapidly. Below average growth was recorded for dyes, cellulose derivatives, plastic materials and pesticides.

As developed world consumes about 70 per cent of the global production of chemicals, world trade too is virtually among developed countries. USA and Germany are the leading exporting countries and are followed by UK, France, Switzerland, Japan and Belgium. Among the developing countries, Korea Republic has a significant share in hydrocarbons (6,0%), products of condensation (4.5%) and polymerisation products (4.2%) and Hong Kong, India and China have considerable share in synthetic dyes exports. China is a major exporter of plastic materials also. Imports too are dominated by developed countries. Korea Republic and Hong Kong are the only developing countries having significant imports,

Though India has substantial exports in some of the sectors such as medicinal, pharmaceutical products, synthetic dyes, nitrogen compounds and products of condensation, overall share in the chemical group is below one per cent. The recent growth rate in India's exports, 27.4 per cent in 1997-98, is indicative of the growing acceptability of Indian products overseas. Owing to the high cost of labour, the overheated economies of many countries are endeavouring to re-locate their manufacturing and sourcing bases. Industry should take advantage of the emerging opportunities.

India's competitive advantages and disadvantages of chemical sector may be evaluated through the SWOT analysis. Following is the evaluation of strength, weakness, opportunity and threat of chemical sector.

SWOT ANALYSIS (Strength, Weakness, Opportunity, Threat)

Strengths

Easy availability of a highly skilled pool of technical and scientific manpower gives a technological edge and helps creation of value addition from basic stage to finished products.

Industry is six decades old with well-diversified sectoral composition.

Important linkages with the other sectors of the economy and provides vital inputs.

Easy availability of raw materials/feed stocks such as naptha, gas, ethyl alcohol etc.

Presence of MNCs in the industry is an added advantage.

From position of net importer, the industry graduated to a growing exporter with 14 percent contribution to total exports.

Excellence in R&D aided by national and private sector institutions, provides an edge

Low cost of technical manpower gives a competitive edge.

Indian patent act being amended to be in tune with GATT regulations.

Petrochemicals has been declared as a "Thrust Area" by Government of India for prioritised development.

India has, over the years, developed strength in sectors like dyestuffs, pesticides, organic and inorganic chemicals, drugs and pharmaceuticals, plastics, rubber processing, synthetic fibres etc. India is also strategically located in Asia.

Weaknesses

Contract manufacturing in India has not yet developed.

The chemical industry worldwide spends a high proportion of production costs on R&D, whereas in India it is not so.

Opportunities

Petrochemicals are a fast growing area in Asia-Pacific region. Most countries in the region are seeking to enhance their- domestic petrochemical capabilities through foreign investment.

In East Asia, plastics and textiles expansions are expected to fuel demand for additives and dyestuff chemicals.

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Future prospects of sustained growth in the chemical industry are outside the developed world. Areas of growth are Eastern Europe, the Pacific Rim, China etc.

Two biggest customers of the chemical industry namely, construction and automobiles are undergoing radical changes due to trend towards wider use of new materials such as optic fibres, super polymers, composites, fine ceramics, fibre reinforced plastics etc.

The chemical industry has become increasingly conscious of environmental concerns. All EU countries have stringent environmental laws, particularly for chemicals, given their risk-prove characteristics.

Rapid technological obsolescence is one of the prominent features of the chemical industry.