

Manufacturing Industries

Question 1.

What is manufacturing? To which sector of economy does it belong?

Or

“The economic strength of a country is measured by the development of manufacturing industries”. Support the statement with arguments. (2016 D)

Answer:

Manufacturing. Production of goods in large quantities after processing from raw materials to more valuable products is called manufacturing.

Manufacturing belongs to secondary sector in which the primary materials are processed and converted into finished goods. The economic strength of a country is measured by the development of manufacturing industries.

Question 2.

Write the importance of ‘manufacturing sector’ for our nation.

Or, “Manufacturing industry is considered the backbone of economic development of India.” Give reasons. (2015 OD, 2011 D)

Answer:

Importance of manufacturing industries for India:

- 1 It helps in modernizing agriculture, which is the base of our economy.
- 2 It reduces heavy dependence on agricultural income by providing jobs in non-agricultural sectors.
- 3 Industrial development is necessary for eradication of poverty and unemployment because people get jobs and generate more income.
- 4 Export of manufactured goods expands trade and brings in much needed foreign exchange.
- 5 Industries bring riches faster to a nation because manufacturing changes raw materials into finished goods of a higher value, so industrial development brings prosperity to the country.

Question 3.

“Agriculture and industry are not exclusive of each other, but move hand in hand.” Give arguments in favour of this statement. (2013 D)

Or, Explain with examples how industries in India have given a major boost to agriculture. (2015 D, 2012 OD)

Answer:

Agriculture and industry in India are inseparable or interdependent on each other:

- 1 Agro-industries in India have boosted agriculture by raising its productivity.
- 2 Industries depend on agriculture for their raw materials, e.g. cotton textile industry.
- 3 Industries provide many agricultural inputs like irrigation pumps, fertilisers, insecticides, PVC pipes, machines and tools etc. to the farmers.
- 4 Manufacturing industries have assisted agriculturists to increase their production and also made the production processes very efficient.
- 5 Development of different modes of transport by industrial sector has not only helped farmers to obtain agricultural inputs but has also helped them trade their products.

Question 4.

Write the contribution and present growth rate of manufacturing sector in national economy. Suggest measures to increase the industrial growth rate. (2011 OD)

Answer:

The share of manufacturing sector has stagnated at 17% of GDP. The trend of growth rate over the last decade has been around 7% per annum. Since 2003, it has shown an increased growth rate of 9-10% per annum. The desired growth rate over the next decade is 12%. To attain this target, following steps can be taken:

- Appropriate policy interventions by the government.
- Renewed efforts by the industries to improve productivity.

Question 5.

List the major factors which affect the location of an industry at a place. What is the key to the decision of 'factory location'? (2011 D, 2011 OD, 2015 D)

Answer:

- 1 Raw material. Cheap and abundant availability of raw material. Industries which use heavy and perishable raw material have to be located close to the source of raw material.
 - 2 Labour. Availability of cheap labour is necessary for keeping the cost of production low.
 - 3 Power. Cheap and continuous supply of power is extremely necessary for continuity in the production process.
 - 4 Capital. It is necessary for developing infrastructure, for the entire manufacturing process and for meeting manufacturing expenditure.
 - 5 Banking and insurance facilities, favourable government policies are other factors which affect location of an industry.
- The 'key' to the decision of a factory location is least cost so that the venture is profitable.

Question 6.

"Industrialisation and urbanisation go hand in hand." Explain.

Answer:

After an industrial activity starts, urbanisation follows. Some industries are located in and around the cities. Thus industrialisation and urbanisation go hand in hand. Cities provide markets, services such as banking, insurance, transport, labour, consultants and financial advice, etc. to industries.

Question 7.

What are 'agglomeration economies' in the industrial context?

Answer:

Many industries tend to come together to make use of the advantages offered by the urban centres known as 'agglomeration economies'. Gradually, a large industrial agglomeration or clustering takes place around an urban centre.

Question 8.

State any five basis on which industries are classified.

Answer:

- 1 On the basis of source of raw materials used — Agro-based and mineral-based.
- 2 According to their main role — Basic and Consumer industries.
- 3 On the basis of capital investment— Small-scale and large-scale industries.
- 4 On the basis of ownership — Public Sector, Private Sector, Cooperative Sector, Joint Sector.
- 5 Based on the bulk and weight of raw material and finished goods— Heavy industries, Light industries.

Question 9.

Classify industries on the basis of capital investment. How are they different from one another? Explain with examples. (2016 D)

Answer:

On the basis of capital investment industries can be classified as:

- Small-scale industry
- Large-scale industry

Difference:

If the investment is more than one crore rupees in any industry, it is considered as a large scale industry.

For example, Iron and Steel industry, Cement industry.

If the investment is less than one crore rupees in any industry, it is considered as a small scale industry.

For example, Plastic industry, Toy industry.

Question 11.

Explain the types of industries on the basis of ownership and give one example of each.

Answer:

Four types of industries based on ownership are:

- 1 Public Sector industries. They are owned and operated by government agencies, e.g. BHEL, SAIL, etc.
- 2 Private Sector industries are owned and operated by an individual or a group of individuals, e.g. TISCO, Bajaj Auto Ltd., Dabur Industries.
- 3 Joint Sector industries are jointly run by the Public (government) and Private Sector (individuals), e.g. Oil India Ltd.
- 4 Cooperative Sector industries are owned and operated by the producers or suppliers of raw materials, workers, or both. They pool in the resources and share the profits or losses proportionately, e.g. sugar industry in Maharashtra and coir industry in Kerala.

Question 12.

Name four agro-based and four mineral-based industries.

Answer:

Four Agro-based industries are cotton textile, jute textile, sugar industry and edible oils industry.

Four Mineral-based industries are iron and steel industry, aluminium industry, copper smelting industry and cement industry.

Question 13.

Explain the role of agro-based industries in Indian economy.

Answer:

Role of agro-based industries in Indian economy:

- 1 The agro-based industries in India have given a major boost to agriculture by raising its productivity as they obtain their raw material from agriculture.
- 2 Development and competitiveness of industries has not only assisted agriculturists in increasing their production but also made the production processes very efficient.
- 3 The farmers are heading for commercial farming to produce high value crops for industries. This may in turn help improve the economic status of the farmers.
- 4 These agro-based industries, by creating demand, support the growth of many other industries e.g., packaging materials and engineering works etc.

Question 14.

Explain the significance of textile industry in India. (2011 D)

Or

The textile industry is the only industry which is self-reliant and complete in the value-chain? Justify this statement? (2016 D)

Or

“Textile industry occupies a unique position in the Indian economy”. Support the statement with appropriate arguments. (2015 D)

The Textile industry occupies a unique position in the Indian Economy because:

- 1 It contributes significantly to industrial production (14%).
- 2 It employs largest number of people after agriculture, i.e. 35 million persons directly.
- 3 Its share in the foreign exchange earnings is significant at about 24.6%.
- 4 It contributes 4% towards GDP.
- 5 It is the only industry in the country which is self-reliant and complete in the value chain, i.e., from raw material to the highest value added products.

Question 15.

Write the stages of the development of cotton textile industry in India from ancient to modern times.

Answer:

Stages of development of Cotton Textile Industry in India:

- 1 In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques.
- 2 After the 18th century, powerlooms came into use.
- 3 Our traditional industries suffered a setback during the colonial period because they could not compete with the mill-made cloth from England.
- 4 Today, there are nearly 1600 cotton and human-made fibre textile mills working at various levels and owned by varied sectors. It is a decentralised industry today.

Question 16.

List factors which favoured the location and concentration of cotton textile industry in Maharashtra and Gujarat in early years. (2012 D, 2015 OD)

Answer:

- 1 Availability of raw cotton was abundant and cheap because these are the traditional cotton growing States.
- 2 Moist climate in these coastal States also helped in the development of cotton textile industry because humid conditions are required for weaving the cloth, else the yarn breaks.
- 3 Well developed transportation system and accessible port facilities in Maharashtra and Gujarat led to their concentration there.
- 4 Proximity to the market is yet another factor as cotton clothes are ideal and comfortable to wear in these warm and humid States.
- 5 Cheap labour was abundantly available.

Question 18.

Name the main countries to which India exports its cotton yarn and cotton goods.

Answer:

The major countries are: Japan, USA, UK, Russia and France.

Question 19.

What are the problems faced by the cotton textile industry?

Answer:

Problems faced by the cotton textile industry:

- 1 Power supply is erratic in our country.
- 2 Machinery needs to be upgraded, especially in weaving and processing sectors.
- 3 Low output of labour.
- 4 We still need to import cotton in spite of the fact that the production of cotton in the country has increased.
- 5 Stiff competition from the synthetic fibre industry.

Question 20.

Explain the main factors which are responsible for the concentration of jute mills along the banks of Hugli river. (2014 D, 2012 OD)

Answer:

Factors responsible for the concentration of jute industry on the banks of Hugli:

- 1 Proximity of the jute producing areas to the Hugli Basin.
- 2 Inexpensive water transport provided by the Hugli river.
- 3 It is well connected by a good network of railways, waterways and roadways to facilitate movement of raw materials to the mills.
- 4 Abundant water for processing raw jute.
- 5 Availability of cheap labour from West Bengal and the adjoining States of Bihar, Orissa and Uttar Pradesh.
- 6 Kolkata as a port and large urban centre, provides banking, insurance and port facilities for export of jute goods.

Question 21.

Write down the major problems/challenges faced by the jute industry.

Answer:

The major challenges faced by the jute industry:

- 1 Stiff competition in the international market from synthetic substitutes.
- 2 Stiff competition from other competitors like Bangladesh, Brazil, Philippines, Egypt and Thailand.
- 3 The demand for jute products is declining both in international as well as domestic markets.
- 4 The cost of production is high and many jute mills still have obsolete machinery.

Question 22.

What are the objectives of formulating National Jute Policy. In which year was this policy formulated?

Do you think that the demand for jute products will pick up at global level and why? (2013 OD)

Answer:

National Jute Policy was formulated in 2005 with the following objectives:

- 1 For increasing productivity
- 2 For improving quality
- 3 For ensuring good prices to the jute farmers
- 4 For enhancing the yield per hectare

Yes, the demand for jute products in the world market will grow. The growing global concern for environment friendly, biodegradable material, also led to the government policy of mandatory use of jute packing.

Question 23.

Name some countries which are the main buyers of Indian jute products.

Answer:

The main buyers of Indian jute products are:

- 1 USA
- 2 Canada
- 3 Russia
- 4 United Arab Republic
- 5 UK
- 6 Australia

Question 24.

Why are the sugar mills located close to the sugarcane fields?

Or

Why are sugar mills concentrated in sugarcane producing areas? (2016 D)

Answer:

Reasons for location of sugar mills close to the fields:

- The raw material used, (i.e.,) sugarcane is bulky and perishable.
- It cannot be transported to long distances because its sucrose content dries up fast, so it should be processed within 24 hours of its harvest.

Question 25.

Write the distribution of sugar industry in India.

Answer:

There are over 460 sugar mills in the country. Out of these, 60% mills are in Uttar Pradesh and Bihar. Rest of the mills are spread over Maharashtra, Tamil Nadu, Andhra Pradesh, Gujarat and Punjab.

Question 26.

Why are sugar mills shifting and concentrating in southern and western State of India? Give reasons. (2012 D)

Answer:

Sugar Industry is shifting towards southern and western States, because:

- 1 Cane produced here has higher sucrose content.
- 2 The favourable climatic conditions (cooler climate) ensure a longer growing and crushing season.
- 3 The Cooperatives are more successful in these States and sugar industry being seasonal in nature, is ideally suited to cooperative sector.
- 4 Yield per hectare is higher in southern States.

Question 27.

What are the major challenges faced by sugar industry? (2016 D)

Answer:

Challenges faced by the sugar industry:

- 1 Seasonal nature of the industry.
- 2 Old and inefficient methods of production.
- 3 Delays in transportation of cane to the factories.
- 4 The need to maximise the use of baggase.

Question 28.

Why is iron and steel industry called the basic or key industry? Explain. (2012 OD)

Answer:

- 1 Since all the other industries—heavy, medium and light, depend on it for their machinery.
- 2 Steel is needed to manufacture a variety of engineering goods.
- 3 Steel is needed for construction material, defence and medical equipments.
- 4 Steel is needed for telephonic, scientific equipment and a variety of consumer goods.
- 5 Production and consumption of steel is often regarded as the index of a country's development.

Question 29.

(a) Why is iron and steel industry called a heavy industry? Give reasons. (2012 OD)

(b) Write four raw materials of iron and steel industry and the proportions in which they are required.

Answer:

(a) Iron and steel industry is a heavy industry because:

- 1 All the raw materials used are heavy and bulky.
- 2 The finished goods are also very heavy and bulky entailing heavy transportation costs.
- 3 Iron-ore, coal, limestone are the major raw materials used in producing iron and steel and they are heavy.
- 4 Transportation costs of raw materials and finished goods of iron and steel industry are heavy (costly).
- 5 Efficient transport network is needed for its distribution.

(b) The raw materials of iron and steel industry are:

- 1 Iron ore, coking coal and limestone are required in the ratio of 4 : 2 : 1.
- 2 Manganese is required in some quantity to harden the steel.

Question 30.

Describe India's position in the world regarding production of steel and its consumption.

Answer:

- 1 India produces 32.8 million tonnes of steel.
- 2 India ranks 9th among the world's crude steel producers.
- 3 It is the largest producer of sponge iron.
- 4 However, its per capita consumption per annum is only 32 kg.

Question 31.

Name the marketing body through which all public sector undertakings market their steel.

Answer:

Steel Authority of India Limited. (SAIL)

Question 32.

What is the major difference between integrated steel plants and mini steel plants? (2011 D)

Answer:

An integrated steel plant is large and handles everything in one complex—from putting together raw materials in the blast furnace to steel making, rolling and shaping. An integrated steel plant uses a blast furnace and iron-ore as raw material.

Mini steel plants are smaller, have electric furnaces, use steel scrap and sponge iron. They have re-rollers that use steel ingots also. They produce mild and alloy steel of given specifications.

Question 33.

Why are most of the iron and steel industries concentrated in and around Chotanagpur Plateau Region? Give reasons.

(2015 OD, 2014 D, 2012 OD)

Answer:

Reasons:

- 1 Low cost of iron-ore which is mined here.
- 2 High grade raw materials in close proximity.
- 3 Availability of cheap labour.
- 4 Vast growth potential in the home market.
- 5 Efficient transport network for their distribution to the markets and consumers.
- 6 Availability of power because this region has many thermal and hydel power plants.
- 7 Liberalisation and FDI have also given boost to the industry with efforts of private entrepreneurs.

Question 34.

What problems does the iron and steel industry in India face? (2011 OD, 2013 OD)

Or, Why is India not able to perform to her full potential in iron and steel production? Explain.

Answer:

In spite of being an important producer of iron and steel, India has not been able to exploit her complete potential, because of:

- 1 High cost of production and limited availability of coking coal.
- 2 Lower productivity of labour.
- 3 Irregular supply of energy.
- 4 Poor infrastructure.

Question 35.

What recent developments have led to a rise in the production capacity of the iron and steel industry?

Answer:

- 1 In recent years, liberalisation policy of the government and increased Foreign Direct Investment in the industry combined with the efforts of private entrepreneurs and firms have increased production capacity.
- 2 Greater allocation of funds and resources for research and development in the production of steel will provide a boost to the industry.

Question 36.

Write four characteristics and four major uses of aluminium.

Answer:

Four characteristics of aluminium:

- 1 It is a light metal.
- 2 It is resistant to corrosion.
- 3 It is a good conductor of heat.
- 4 It is malleable and becomes strong when mixed with other metals.

Four uses (importance) of aluminium.

- 1 It is used for manufacturing aircrafts.
- 2 It is used for making utensils and packing material.
- 3 It is used for making wires.
- 4 It has gained popularity as a substitute of steel, copper, zinc and lead in a number of industries.

Question 37.

How many aluminium smelting plants are set up in India? Write their distribution.

Answer:

There are eight aluminium smelting plants in the country. They are located in the states of Orissa (Nalco and Balco), West Bengal, Kerala, Uttar Pradesh, Chhattisgarh, Maharashtra and Tamil Nadu. Together they produced 600 metric tonnes of aluminium in 2004.

Question 38.

(a) Name the mineral used for obtaining aluminium. Write its one important characteristic by which it can be identified.

(b) List two prime factors required for the location of an aluminium smelting plant.

Answer:

(a) Bauxite is the raw material used in aluminium industry. It can be identified by its dark reddish colour and bulky nature.

(b) Two prime factors required for the location of aluminium melting plant are:

- Regular and cheap supply of electricity.
- An assured source of raw material at a minimum cost.

Question 39.

Give reasons to highlight the importance of chemical industry in Indian economy.

Answer:

Importance of chemical industry:

- 1 It contributes approximately 3% of the GDP.
- 2 It is the 3rd largest in Asia and occupies 12th position in the world in terms of its size.
- 3 It comprises both large and small-scale manufacturing units producing a variety of items, ranging from plastic, rubber, soaps, chemical fertilizers to pharmaceuticals.
- 4 The chemical industry is its own largest consumer. Basic chemicals undergo processing to further produce other chemicals that are used for industrial application, agriculture or directly for consumer markets.
- 5 The chemical industry in India is fast growing and diversifying in both organic and inorganic chemicals, thereby generating lot of employment.

Question 40.

Name two groups into which the chemical industry is usually classified. What is the main difference in their locations over space and why?

Answer:

The two groups are:

- 1 Inorganic chemical industry
- 2 Organic chemical industry.

Inorganic chemical industries are widely spread over the country because they use inorganic chemicals like sulphuric acid, nitric acid, alkalies, soda ash and caustic soda which can be transported anywhere.

Organic chemical plants are located near oil refineries or petrochemical plants so these are located at specific locations.

Question 42.

Name four major groups of fertilizers produced in India.

Answer:

Main groups of fertilizers produced in India are:

- 1 Nitrogenous fertilizers (mainly urea).
- 2 Phosphatic fertilizers.
- 3 Ammonium phosphate (DAP).
- 4 Complex fertilizers which have a combination of nitrogen, phosphate and potash.

Question 43.

Name the fertilizers which India needs to import and why?

Answer:

Potash is entirely imported as India does not have any reserves of commercially usable potash or potassium compounds in any form.

Question 44.

What is India's position in the world with regard to the production of nitrogenous fertilizers?

Answer:

India is the 3rd largest producer of nitrogenous fertilizers, because:

- 1 There are 57 fertilizer units manufacturing nitrogenous and complex nitrogenous fertilizers — 29 for urea and 9 for producing ammonium sulphate as a by-product.
- 2 There are 68 other small units which produce single super-phosphate.
- 3 At present there are 10 Public Sector undertakings.
- 4 One unit is in the Cooperative Sector at Hazira in Gujarat under the Fertilizer Corporation of India (FCI).

Question 45.

What is the main reason for the fertilizer industry to expand in several parts of the country? Name the states which together produce about 50% of the country's fertilizers.

Answer:

After the Green Revolution, the fertilizer industry expanded to several parts because natural gas could be transported by pipelines to any desired location.

States which produce about 50% of the fertilizers are:

- 1 Gujarat
- 2 Tamil Nadu
- 3 Uttar Pradesh
- 4 Punjab and
- 5 Kerala.

Question 46.

Name the important raw materials used in the manufacturing of cement.

Answer:

Raw materials used in cement industry are:

- 1 limestone
- 2 silica
- 3 alumina
- 4 gypsum.

Question 47.

Write down the locational factors of cement industry.

Answer:

Factors which affect location of cement industry are:

- Availability of raw materials which are heavy and bulky, e.g., limestone, silica, etc.
- Availability of coal and electric power.
- Rail transportation.

Question 48.

What factors led to the rapid expansion of cement industry in India?

Answer:

Factors that led to rapid expansion of cement industry are:

- Decontrol of cement price since 1989.
- Decontrol of distribution of cement since 1989.
- Many other policy reforms led the cement industry to expand in capacity, process, technology and production. Today, there are 128 large plants and 332 mini cement plants in the country, producing variety of cement.

Question 49.

Why does Indian cement have a large demand in the international market and whom do we export to?

Answer:

Because of the good quality cement being produced in India, it has found a readily available market in South and East Asia, Middle East and Africa.

Question 50.

Why has the automobile industry of India witnessed fast growth? Give reasons.

Answer:

Reasons for fast growth in automobile industry:

- 1 After liberalisation, the coming in of new and contemporary models stimulated the demand for vehicles in the market.
- 2 This led to the healthy growth of the industry including passenger cars, two and three-wheelers.
- 3 Foreign Direct Investment (FDI) brought in new technology and aligned the industry with global developments.
- 4 Trucks, buses, cars, motorcycles, scooters, three-wheelers and multi-utility vehicles and commercial vehicles are manufactured in India at various centres such as Delhi, Gurgaon, Mumbai, Jamshedpur etc.

This industry has experienced a quantum jump in less than 15 years.

Question 51.

“Electronic industry has revolutionized the life of the masses and the country’s economy.” Justify the statement with suitable arguments.

Answer:

Electronic industry has revolutionized the life of the people and the country’s economy because:

- 1 It produces a wide range of products from transistor sets to televisions and computers for the masses.
- 2 It has helped us set up telephone exchanges, telephones, cellular telecom, radios and many other equipments which have application in space technology, aviation, defence, meteorological departments, etc.
- 3 It has generated employment for a large number of people. It employed over one million people by March 2005, out of these 30% are women employees.

4 This industry has been a major foreign exchange earner because of its fast growing Business Process Outsourcing (BPO) Sector.

5 India is one of the leading countries in software development. We have 18 software technology parks which provide high data communication facility to software experts.

Question 52.

Write the distribution of the electronics industry.

Answer:

Bangalore has emerged as the electronic capital of India. Other important centres for electronic goods are the four mega cities of Hyderabad, Pune, Lucknow and Coimbatore.

Question 53.

What is a software technology park? How many such parks do we have? Name the technology park which is closest to Delhi.

Answer:

Software technology parks provide single window service and high data communication facility to software experts. We have 18 software technology parks. Noida Software Technology Park is the closest to Delhi.

Question 54.

Explain how do industries cause air pollution.

Answer:

Air pollution is caused by the industries in the following ways:

- 1 The presence of high proportion of undesirable gases, such as sulphur dioxide and carbon monoxide in the smoke emitted from the industries causes air pollution.
- 2 Smoke is emitted by chemical and paper factories, brick kilns, refineries and smelting plants, and burning of fossil fuels in factories that ignore pollution norms.
- 3 Air-borne particulate materials contain both solid and liquid particles like dust, sprays, mist and smoke.
- 4 Toxic gas leaks can be very hazardous with long-term effects, e.g., Bhopal gas leak tragedy.

Question 55.

Write down the adverse effects of air pollution.

Answer:

Air pollution adversely affects:

- 1 human health,
- 2 animals and plants,
- 3 buildings and
- 4 atmosphere as a whole resulting in climate change.