SECONDARY ACTIVITIES : MANUFACTURING INDUSTRIES

FOR SEMESTER 4 (CBCS) GEOGRAPHY

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SECONDARY ACTIVITIES

Activities concerned with manufacturing, processing and construction.
It is related to transforming raw material into valuable products.
Many secondary activities which are not carried on in factories are also included in industry like 'tourism industry' and 'entertainment industry'

MANUFACTURING: literally means 'to make by hands'. But now it includes goods 'made by machines'

CHARACTERISTICS:

1. Application of power.
2. Mass production of identical products.
3. Specialized labour.

MODERN LARGE SCALE MANUFACTURING:

A] Specialization of skills/methods of production.
B] Mechanization.
C] Technological innovation.
D] Organizational structure and stratification.

FACTORS INFLUENCING LOCATION OF INDUSTRY:

1. **ACCESS TO MARKET**- market means people who have demand for goods and also purchasing power. Remote areas inhabited by a few people offer small market.
2. **ACCESS TO RAW MATERIAL**- industries based on bulky, cheap and weight losing material are located close to the source of raw material. Perishability is a vital factor for the localisation of industry.
3. **LABOUR SUPPLY**-skilled labour is required by some industries. Increasing mechanisation, automation has reduced dependence of industries upon labour.
4. **SOURCE OF ENERGY**- industries which use more power is located close to source of energy. Earlier coal was the main source of energy, now it is petroleum and hydroelectricity.
5. **TRANSPORT AND COMMUNICATION**- speedy and efficient transport facilities to carry raw material to the factory and to move finished goods to the market are essential for the development of industries.
6. **GOVERNMENT POLICIES**- government adopts 'regional policies' to promote 'balanced' economic development.
7. **ACCESS TO AGGLOMERATION ECONOMIES**- many industries benefit from nearness to a leader industry and other industries.

- Smallest manufacturing unit.
- Artisans use local raw material.
- Use of simple hand tools.
- Part time labour/family members.
- Products for sale in local markets.
- Mats, tools, pottery, crafts and artifacts made of bamboo and wood.

2. SMALL SCALE INDUSTRY:

- Use of local raw material.
- Use of simple power driven machines.
- Semi skilled labour.
- Manufacturing done in workshop outside home.

3. LARGE SCALE INDUSTRY:

- Various raw material used.
- Enormous energy used.
- Specialized workers.
- Products manufactured for large market.
- Huge capital investment.
- Use of advanced technology.

- Source of raw material is agricultural.
- E.g. Food processing, sugar, textile, edible oil.

FOOD PROCESSING, PICKLE, FRUIT JUICE


COTTON TEXTILE


SUGAR INDUSTRY


EDIBLE OIL

2. MINERAL BASED:

- Use mineral as raw material

IRON AND STEEL

CEMENT

3. CHEMICAL BASED:

- Use natural chemical minerals.
- Mineral oil in petrochemical.
- Salt, potash industries.
- Synthetic fibre, plastic.

SYNTHETIC FIBRE

Timber for furniture industry

paper industry

5. ANIMAL BASED:

- Leather industry, woollen textile, ivory.

LEATHER INDUSTRY

WOOLLEN INDUSTRY

IVORY INDUSTRY

ON THE BASIS OF OUTPUT:

1. BASIC INDUSTRY-the industries whose products are used by other industries as raw material.eg. Iron and steel.

ON THE BASIS OF OWNERSHIP:

PUBLIC SECTOR:

- Owned and managed by government.
- Socialist countries have state owned industries.

2. PRIVATE SECTOR:

- Owned by individual investors.
- Managed by private organization.
- Capitalist countries have privately owned industries.

3. JOINT SECTOR:

- Jointly managed by private and public sector.

ON THE BASIS OF THE SYSTEM OF LARGE SCALE MANUFACTURING:

1. TRADITIONAL LARGE-SCALE INDUSTRIAL REGION.

Includes heavy industries, located near coal fields.
Metal smelting, heavy engineering,chemical,textile.
Smokestack industry

Iron and steel industry, the major industry.
Ruhr region is responsible for 80% of Germany's total steel production.
The industry started shrinking due to decline in demand for coal.
Future prospect of Ruhr is now based on new industries like opel car assembly plant, new chemical industries, and universities.

CONCEPT OF HIGH TECHNOLOGY INDUSTRY.

High technology is the latest generation of manufacturing activities.

Products of advanced scientific and engineering character.

White collar workers make up a large share of the total workforce.

Neatly spaced, low, modern, dispersed, office-plant-labbuildings mark the high-tech industrial landscape.

TECHNOPOLIES- high –tech industries which are regionally concentrated .self sustained and highly specialized.
Silicon Valley [San Francisco]
Silicon forest [Seattle]

IRON AND STEEL INDUSTRY: It is called 'BASIC' and 'HEAVY INDUSTRY'. Basic industry because it provides raw material for other industries such as machine tools. Heavy because it uses large quantities of bulky raw material and its products are also heavy.

DISTRIBUTION

USA-n.applachian, great lakes, Alabama, Pittsburg [now become rust bowl]

U.K.-birmingham, Sheffield, Port Talbot.

GERMANY-dusseldorf,Essen,duisberg,Dortmund.

RUSSIA-moscow,st.petersburg,Tula.

UKRAINE-krivoirog, Donetsk.

ASIA- JAPAN-nagasaki, Tokyo, Yokohama.
China- shanghai, Wuhan, tienstin.
India- Jamshedpur, Durgapur, Rourkela, Bhilai, bokaro.

COTTON TEXTILE:

HANDLOOM- labour intensive.
Employs semi-skilled workers.
Small capital investment.
Spinning,weaving,finishing of the fabric.

POWERLOOM- use of machines.
Less labour intensive.
Volume of production more.
Capital intensive.

ASSIGNMENT

LEVEL 1

1. What do you mean by secondary activities?
2. What are the characteristics of modern manufacturing industry?
3. Classify industries on the basis of raw material.

LEVEL 2

1. What are the different basis on which industries are classified?
2. Why is iron and steel industry called 'basic and heavy industry'?

LEVEL3

1. Define techno pole.
2. Give any two examples of techno poles?

Manufacturing Industries

A place where primary goods[raw materials are converted into finished products using machines are called *Manufacturing Industries.*

Example:

- Cloth from cotton
- Sugar from sugarcane
- Paper from wood
- Iron from iron ore
- Aluminium from bauxite

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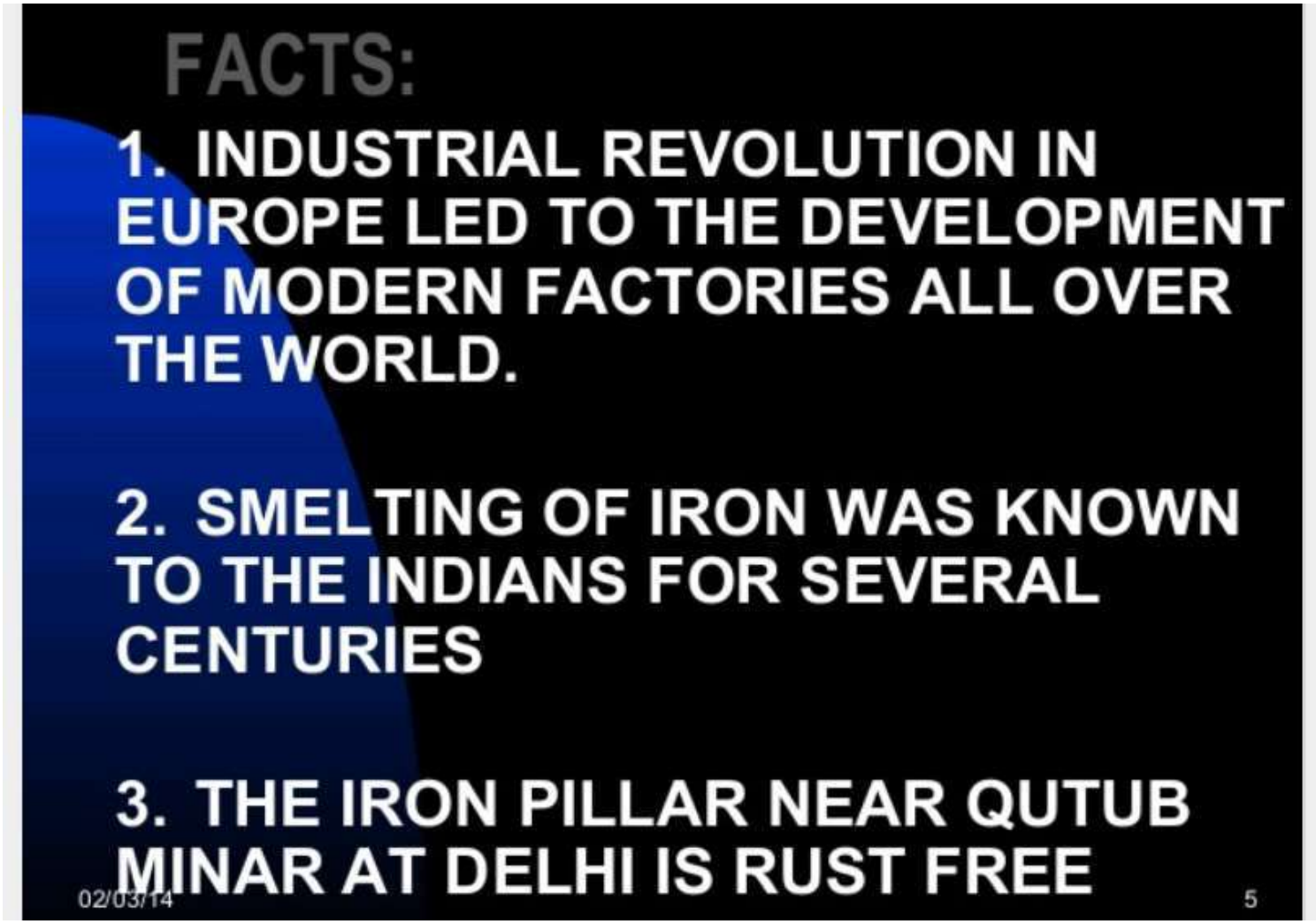
USES OF MANUFACTURING INDUSTRIES

- ECONOMIC STRENGTH OF A COUNTRY IS MEASURED FROM THE DEVELOPMENT OF MANUFACTURING INDUSTRIES.
- THEY REDUCE THE DEPENDENCE OF PEOPLE ON AGRICULTURE – PROVIDING JOBS.
- EXPORT OF MANUFACTURED GOOD BRING FOREIGN EXCHANGE


FACTS:
1. INDUSTRIAL REVOLUTION IN EUROPE LED TO THE DEVELOPMENT OF MODERN FACTORIES ALL OVER THE WORLD.
2. SMELTING OF IRON WAS KNOWN TO THE INDIANS FOR SEVERAL CENTURIES
3. THE IRON PILLAR NEAR QUTUB MINAR AT DELHI IS RUST FREE
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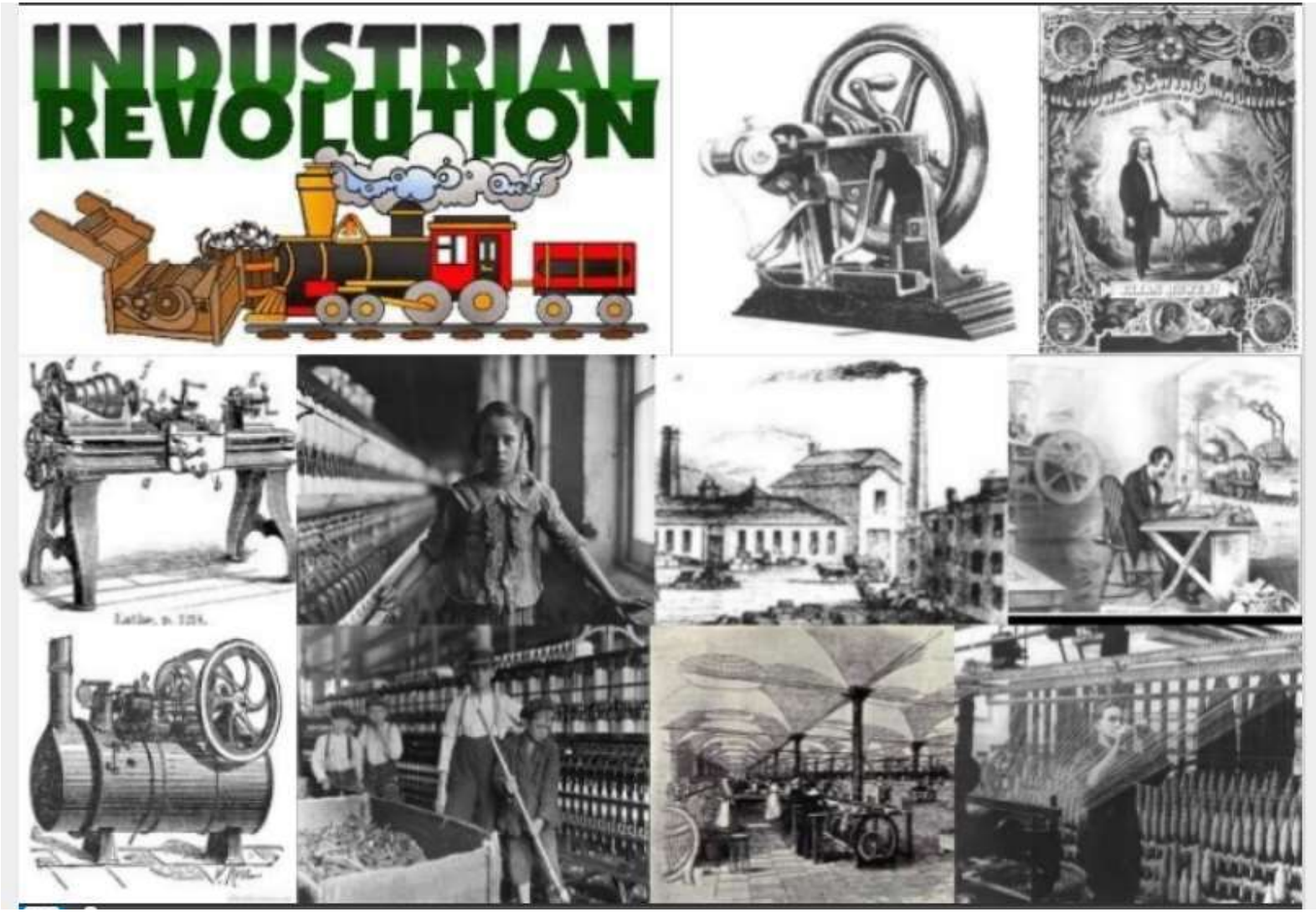

INDUSTRIAL
REVOLUTION

FACTS:

- SMELTING OF IRON ORE IN MODERN INDIA BEGAN IN 1830 IN TAMILNADU
- FIRST COTTON TEXTILE MILL WAS SET UP AT MUMBAI IN 1854
- FIRST JUTE MILL WAS ESTABLISHED AT RISHRA NEAR KOLKATA IN 1855
- INDUSTRIES EXPERIENCED UPS & DOWNS DURING THE 1ST & 2ND WORLD WARS AND AT THE TIME OF PARTITION OF INDIA IN 1947

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

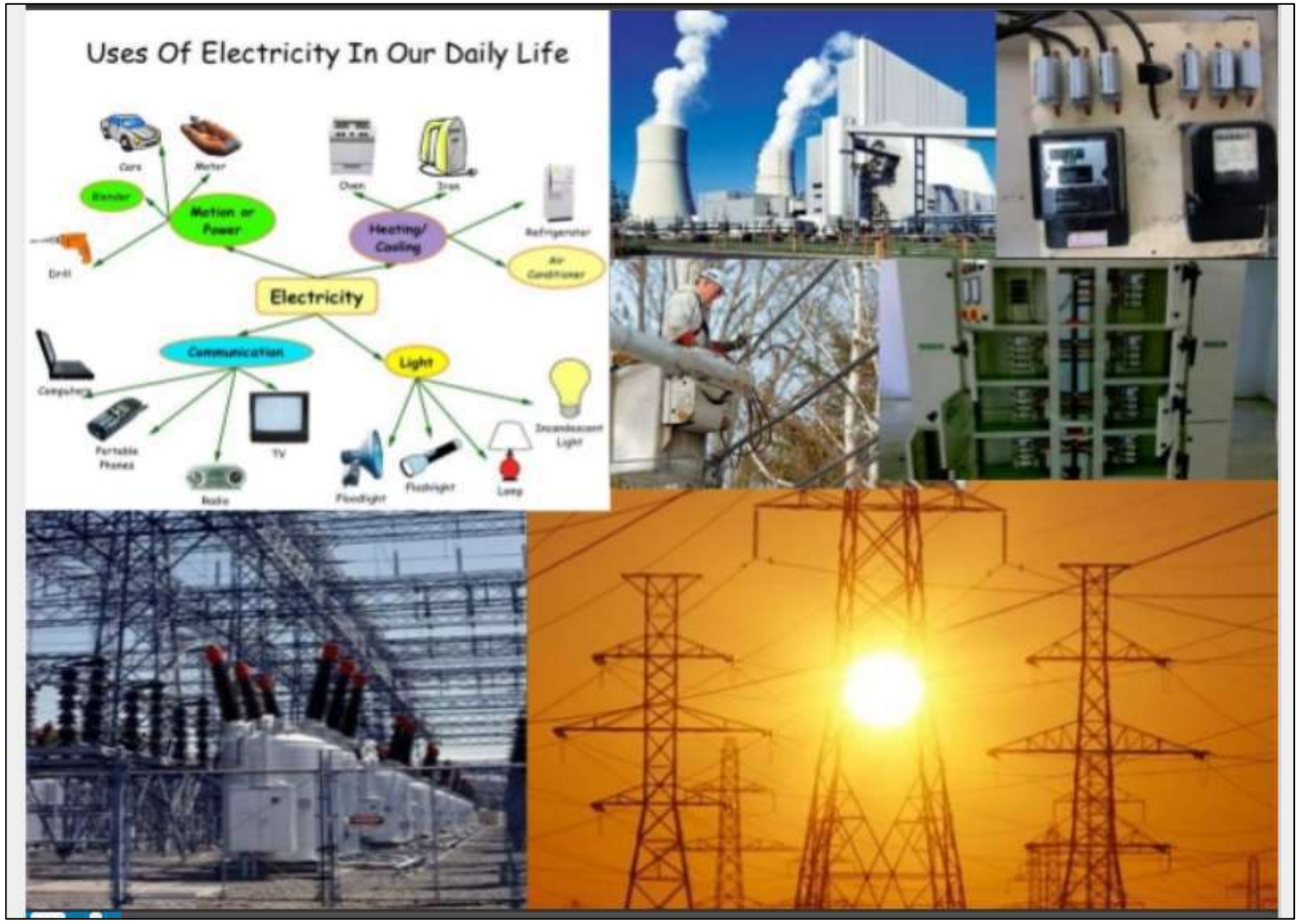
Physical factors

- 1. Raw material- closeness to the source of bulky and perishable raw material .Ex: iron and steel industry, sugar industry.

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Physical factors

- 2. Power resources: - closeness to the source of economically viable power resources. Ex: Aluminium smelting requires lot of electricity.


Uses Of Electricity In Our Daily Life
Motion or Power
Heating/ Cooling
Electricity
Communication
Light

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Physical factors

- 3. Water: - Availability of water in abundance for processing of the raw material .Ex: jute and coir industry.

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Physical factors

- 4. Climate: - favorable climatic conditions for processing of raw material. Ex: cotton textile industry requires more humidity therefore located in Maharashtra.


FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES
Human factors
1. Labour: - cheap and skilled labour. Ex:Diamond cutting industry in Surat.

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Human factors

2. Transport: any industry needs a well-developed transport network for the movement of raw material and finished products.


FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES
Human factors
3. Capital: - Every industry needs capital investment, which is available through banks.

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Human factors

4. Market:-demand and supply play an important role in the economy of a country.

Demand from the market is met by the supply from the industry.


Laptop

FACTORS THAT CONTIBUTE TO THE LOCATION OF INDUSTRIES

Human factors

5. Government policies: - government policies are made to regulate the setting up and functioning of industries.


CLASSIFICATION OF INDUSTRIES
BASED ON RAW MATERIAL
BASED ON LABOUR
BASED ON OWNERSHIP
BASED ON SOURCE OF RAW MATERIAL


CLASSIFICATION OF INDUSTRIES
BASED ON LABOUR
LARGE SCALE INDUSTRIES - Employ large number of labourers .Eg.cotton textile industry
SMALL SCALE INDUSTRIES – run by individuals with less no of people. Eg. Gur & Khandsari
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CLASSIFICATION OF INDUSTRIES
BASED ON RAW MATERIAL
Heavy industries use heavy & bulky raw materials & produce heavy materials. Eg. Iron & steel Industry
Light industries use light raw materials & produce light materials. Eg. Electric fans, watches, sewing machines etc.


CLASSIFICATION OF INDUSTRIES
BASED ON OWNERSHIP
Private – Bajaj Auto & Tata Iron & Steel
Public – Bhilai Steel Plant & Bharat Heavy Electricals Ltd.
Joint – Oil India Ltd. & Gas Authority of India Ltd ,Maruthi Udyog Ltd
Cooperative – Sugar Mills & Silk Mills


CLASSIFICATION OF INDUSTRIES
BASED ON SOURCE OF RAW MATERIAL
Agro Based – Use Agricultural Raw Materials. Eg. Cotton Textile Industry, Sugar Industry, Silk Industry
Mineral Based – Use Minerals As Raw Materials. Eg. Iron & Steel Industry, copper Smelting Industry, fertilizer Industry.
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AGRO BASED INDUSTRIES


COTTON TEXTILE INDUSTRY
FIRST COTTON TEXTILE MILL ESTABLISHED [IN MUMBAI 1854]
LARGEST INDUSTRY OF INDIA
EMPLOYS 1.5 MILLION PERSONS [20%] OF INDUSTRIAL LABOUR FORCE OF INDIA.


1600 COTTON & HUMAN MADE FIBER TEXTILE MILLS
79% IN PRIVATE SECTOR & REST IN PUBLIC AND COOPERATIVE SOCIETIES.
90% OF COTTON TEXTILE PRODUCED IN DECENTRALISED SECTOR.
AVAILABILITY OF COTTON, MARKET, TRANSPORTATION, HUMID CLIMATE LED TO LOCALIZATION [MAHARASHTRA & GUJARAT]


FOUND AT
MAHARASHTRA – MUMBAI, SHOLAPUR, PUNE, WARDHA, NAGPUR, AURANGABAD & JALGAON
GUJARAT – AHMEDABAD, VADODARA, SURAT, RAJKOT & PORBANDAR
WEST BENGAL – HAORA, MURSHIDABAD, HUGLI & SILAMPUR

UTTAR PRADESH – KANPUR, MURADABAD, AGRA & MODINAGAR.

MADHYA PRADESH – GWALIOR, UJJAIN, INDORE, & DEWAS.

TAMIL NADU – COIMBATORE, MADURAI, & CHENNAI


FACTORS THAT CONTRIBUTED TOWARDS DECENTRALISATION OF COTTON TEXTILE INDUSTRY.
1. Wide market
2. Transport
3. Banking facilities &
4. Electricity


BURNING PROBLEMS OF COTTON INDUSTRY –
1. Scarcity of good quality cotton
2. Obsolete machinery
3. Erratic power supply
4. Low productivity of labour
5. Stiff competition with synthetic fiber industry


MAIN IMPORTERS OF INDIAN COTTON GOODS:
U.S.A., U.K., Russia, France, East European Countries,Nepal , Singapore, African Countries & Srilanka

JUTE TEXTILES INDUSTRIES:

- LARGEST PRODUCERS OF RAW JUTE & JUTE GOODS.
- SECOND LARGEST EXPORTER IN THE WORLD.
- 70% JUTE MILLS MOSTLY LOCATED IN WEST BENGAL
- 80% JUTE PRODUCED IN WEST BENGAL, ANDHRA PRADESH & 10% REST IN BIHAR U.P., M.P., ORISSA, ASSAM & TRIPURA.

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IN WEST BENGAL JUTE MILLS ALONG HUGLI RIVER

CONCENTRATION HERE IS DUE TO LOCATION OF JUTE PRODUCING AREAS CLOSE TO THE JUTE MILLS & INEXPENSIVE WATER TRANSPORT.

AVAILABILITY OF ABUNDANT WATER IS VERY IMPORTANT FOR PROCESSING JUTE

CHEAP LABOUR

BANKING

INSURANCE FACILITITIES &

PORT FACILITITIES ARE ALSO IMPORTANT.


MAIN MARKET IS
U.S.A
CANADA
RUSSIA
U.A.E.
U.K. &
AUSTRALIA.


CHALLENGES FACED BY THE INDUSTRY
DEMAND FOR JUTE CARPETS & PACKING MATERIALS NEEDS TO BE PROMOTED
HIGH PRODUCTION COST
STIFF COMPETITION IN THE INTERNATIONAL MARKET &
SYNTHETIC SUBSTITUTES ARE POSING PROBLEMS.
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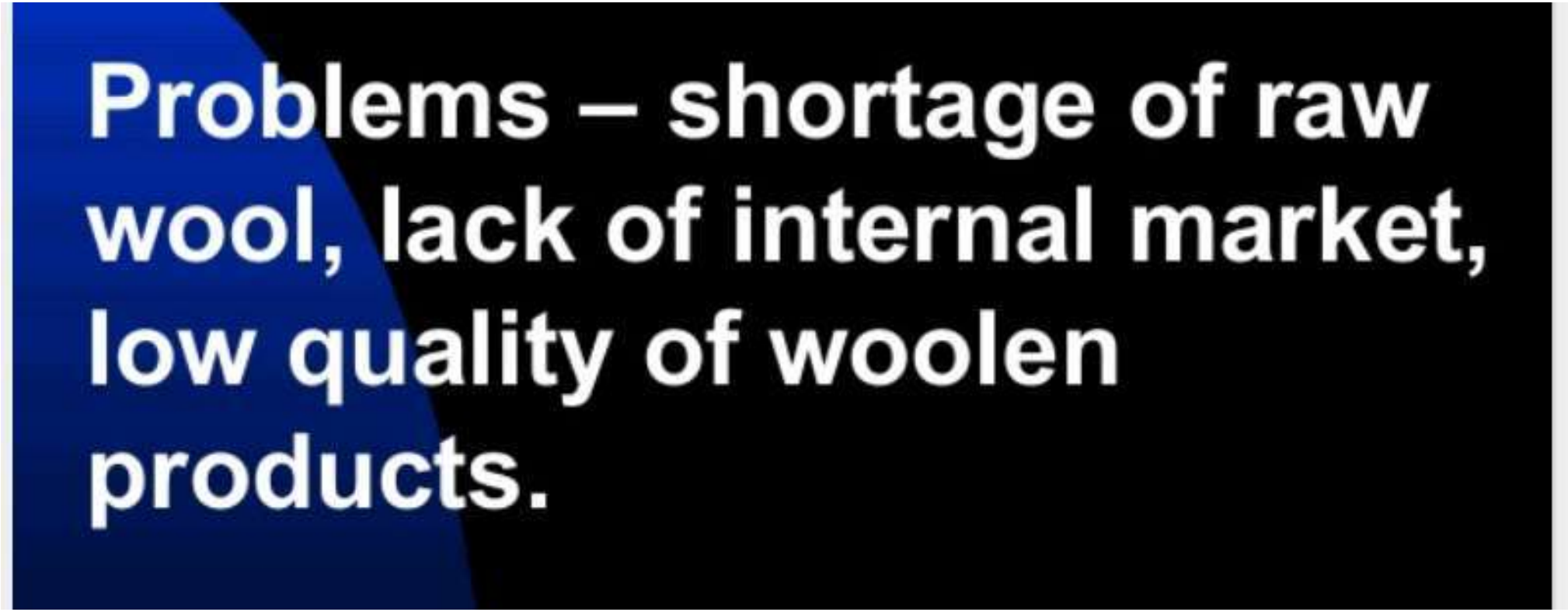
WOOLEN TEXTILE INDUSTRY:
Found at Punjab, Maharashtra, U.P., Gujarat, Haryana & Rajasthan

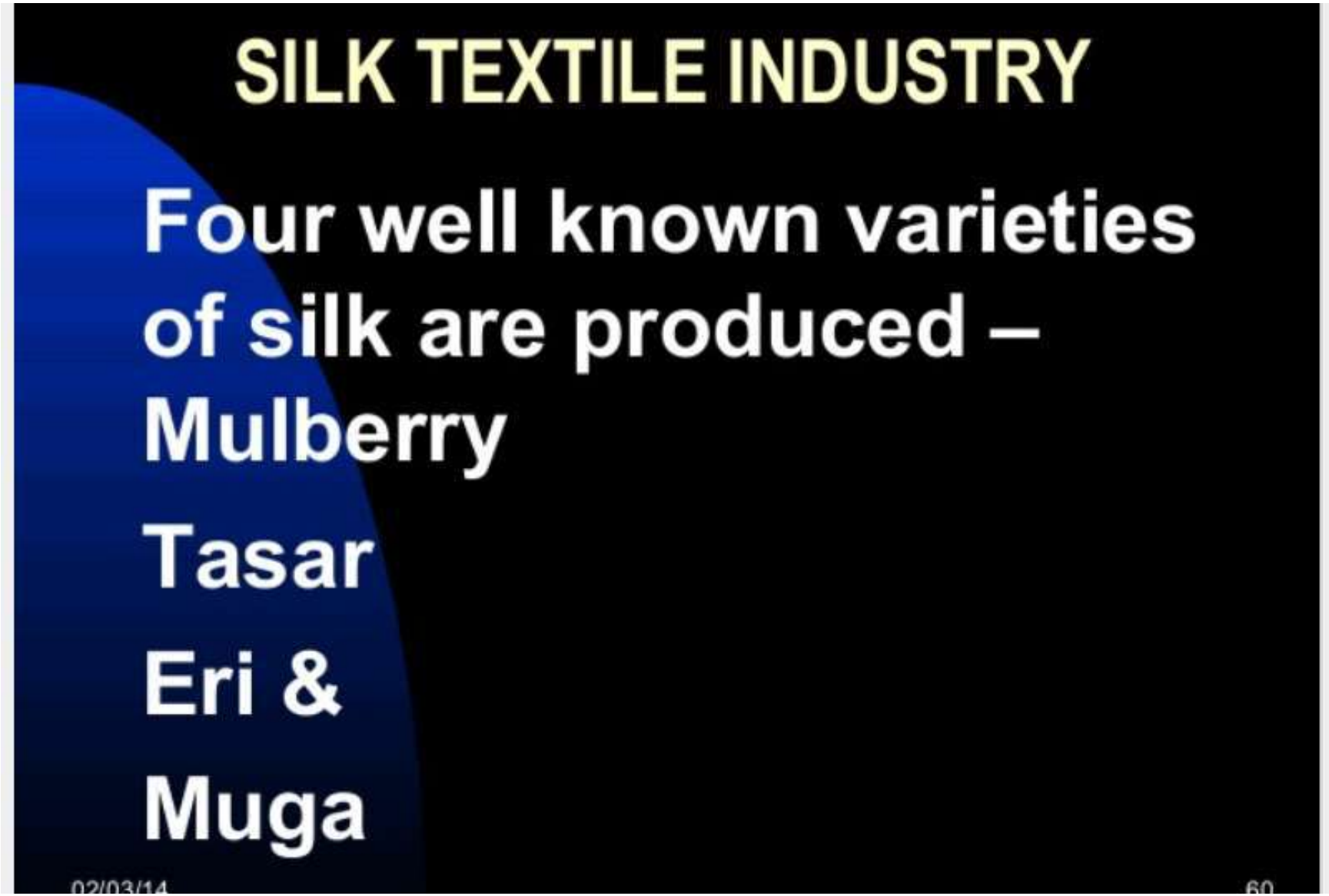

Punjab – Dhariwal, Ludhiana, & Amritsar.
Maharashtra – Mumbai
Uttar Pradesh – Kanpur, Shahjahanpur, Agra & Mizapur
Gujarat – Ahmedabad, & Jamnagar


Haryana - Panipat & Gurgaon
Rajasthan - Bikaner & Jaipur
Jammu & Kashmir –Srinagar
Karnataka - Bangalore


Hosiery producing units are located primarily in Punjab, Haryana, & Tamil Nadu
Good Quality raw – wool is imported from Australia

Main Markets – U.S.A., Russia, U.K., Canada & several European countries.


Problems – shortage of raw wool, lack of internal market, low quality of woolen products.


SILK TEXTILE INDUSTRY
Four well known varieties of silk are produced –
Mulberry
Tasar
Eri &
Muga
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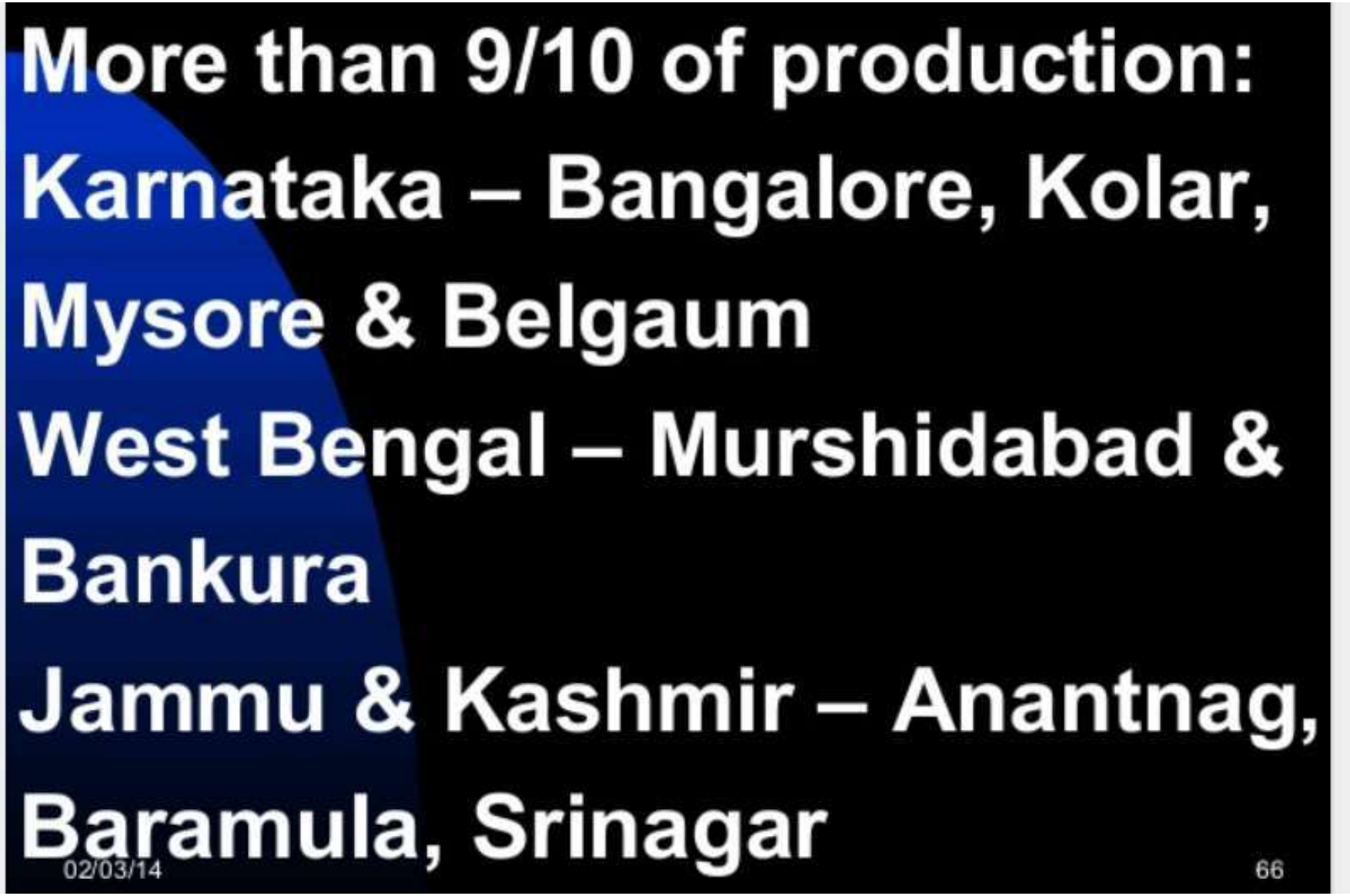
About 90 silk textile mills are there in India.

India produces 8.5 lakh kg of silk yarns.


More than 9/10 of production:
Karnataka – Bangalore, Kolar,
Mysore & Belgaum
West Bengal – Murshidabad &
Bankura
Jammu & Kashmir – Anantnag,
Baramula, Srinagar
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Tough competition with
China, Thailand & Italy.
Markets – U.S.A., U.K.,
Russia, Saudi Arabia, Kuwait
& Singapore.

SYNTHETIC TEXTILE INDUSTRY:

- IMPORTANT SEGMENT OF TEXTILE INDUSTRY – HUMAN MADE FIBRE
- SPECIAL QUALITIES – STRENGTH, DURABILITY, DYEABILITY & WORKABILITY
- 4 WELL KNOWN FIBRE PRODUCED – RAYON, NYLON, TERENE, & DECRON.

- FOUND IN KERALA, TAMIL NADU, KARNATAKA, MAHARASHTRA, GUJARAT, RAJASTHAN & MADHYA PRADESH [BETTER FINISH]
- SYNTHETIC TEXTILES – MUMBAI, AHMEDABAD, SURAT, DELHI, AMRITSAR, GWALIOR & KARNATKA.

SUGAR INDUSTRY:

- INDIA LARGEST PRODUCER OF SUGARCANE ALONG WITH GUR & KHANDSARI
- SURAGRCANE – HEAVY, WEIGHT LOSING & PERISHABLE, MILLS ARE LOCATED CLOSE TO THE PRODUCING AREAS
- 460 MILLS IN THE COUNTRY

- SUGAR CONTENT IN THE SUGARCANE –HIGHER IN THE SOUTHETRN STATES THAN THE NORTHERN STATES HENCE THE INDUSTRY HAS A TENDENCY TO MIGRATE TO THE SOUTH

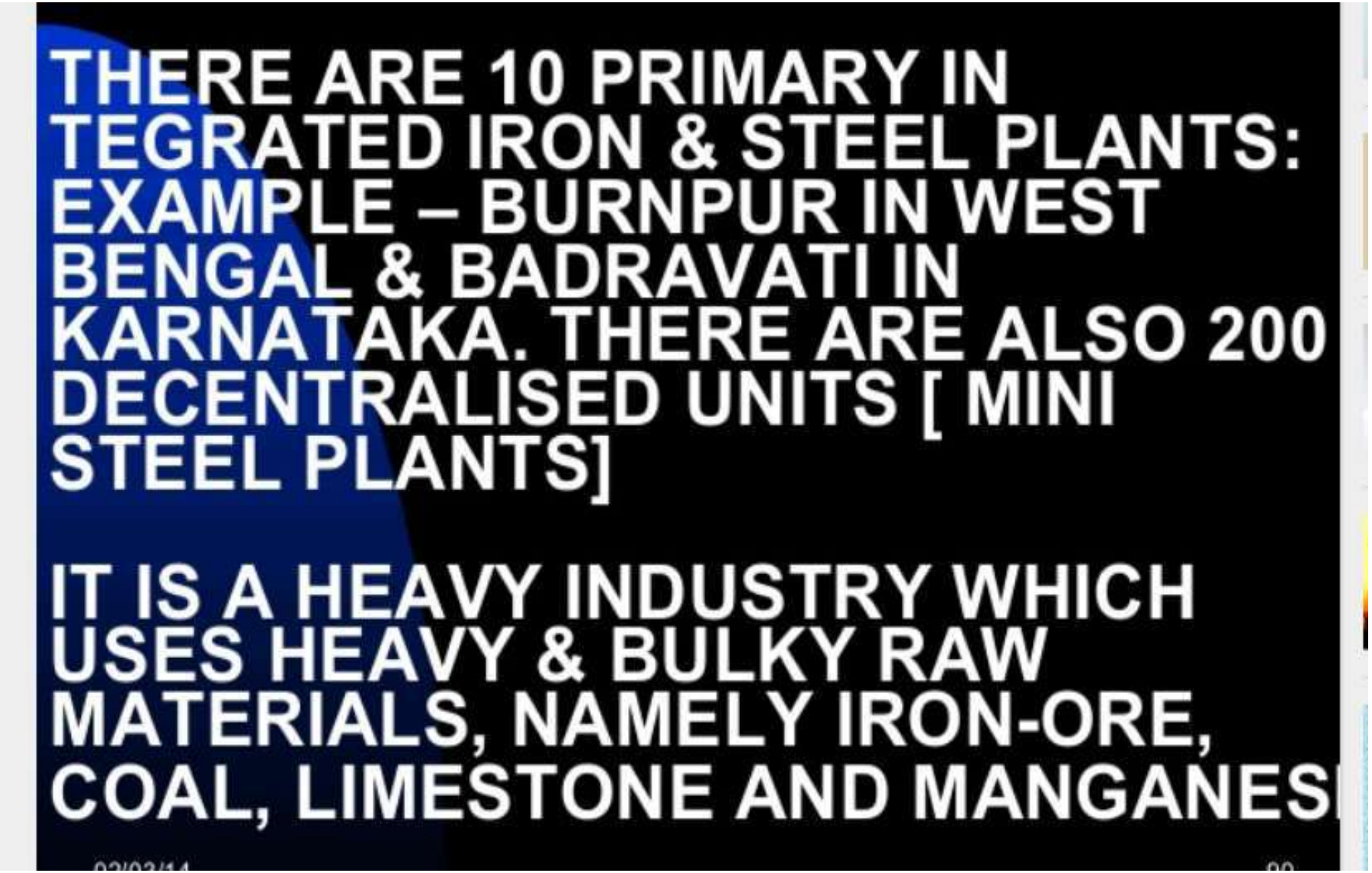
- 50% IN UTTAR PRADESH AND MAHARASHTRA
- OTHER STATES ARE KARNATAKA, TAMIL NADU, ANDHRA PRADESH, GUJARAT, PUNJAB, HARYANA, MADHYA PRADESH, & BIHAR.

MINERAL BASED INDUSTRY

IRON & STEEL INDUSTRY

IRON & STEEL INDUSTRY:

- FIRST UNIT WAS ESTABLISHED IN 1830 AT PORTO NOVA IN TAMIL NADU BUT WAS CLOSED DOWN.
- MODERN STEEL INDUSTRY BEGAN AT KULTI IN WEST BENGAL IN 1864
- LARGE SCALE PRODUCTION STARTED AT JAMSHEDPUR [JHARKAND] IN 1907


THERE ARE 10 PRIMARY IN TEGRATED IRON & STEEL PLANTS: EXAMPLE – BURNPUR IN WEST BENGAL & BADRAVATI IN KARNATAKA. THERE ARE ALSO 200 DECENTRALISED UNITS [MINI STEEL PLANTS]
IT IS A HEAVY INDUSTRY WHICH USES HEAVY & BULKY RAW MATERIALS, NAMELY IRON-ORE, COAL, LIMESTONE AND MANGANES

LOCATION – CLOSE PROXIMITY TO RAW MATERIALS, FINISHED PRODUCTS ARE ALSO HEAVY AND BULKY HENCE NEED GOOD TRANSPORT SYSTEM FOR DISTRIBUTION.

THE STEEL AUTHORITY OF INDIA LTD. MAINTAINS THE PUBLIC SECTOR PLANTS OF INDIA.

INDIA PRODUCES 27 MILLION TONES OF CRUDE STEEL.

PUBLIC SECTOR IRON & STEEL PLANTS IN INDIA ARE MANAGED BY STEEL AUTHORITY OF INDIA LIMITED.

VISHAKAPATNAM – STEEL PLANT WITH A COASTAL LOCATION.

ALL OTHER STEEL PLANTS ARE LOCTED IN THE MINERAL RICH NORTH-EASTERN & SOUTHERN PART OF INDIAN PENINSULA.

ALUMINIUM SMELTING

- 2ND IMPORTANT METALLURGICAL INDUSTRY OF INDIA.
- ALUMINIUM IS A UNIVERSALLY ACCEPTED MINERAL FOR A LARGE NUMBER OF INDUSTRIES DUE TO ITS FLEXIBILITY AND GOOD CONDUCTIVITY OF HEAT & ELECTRICITY.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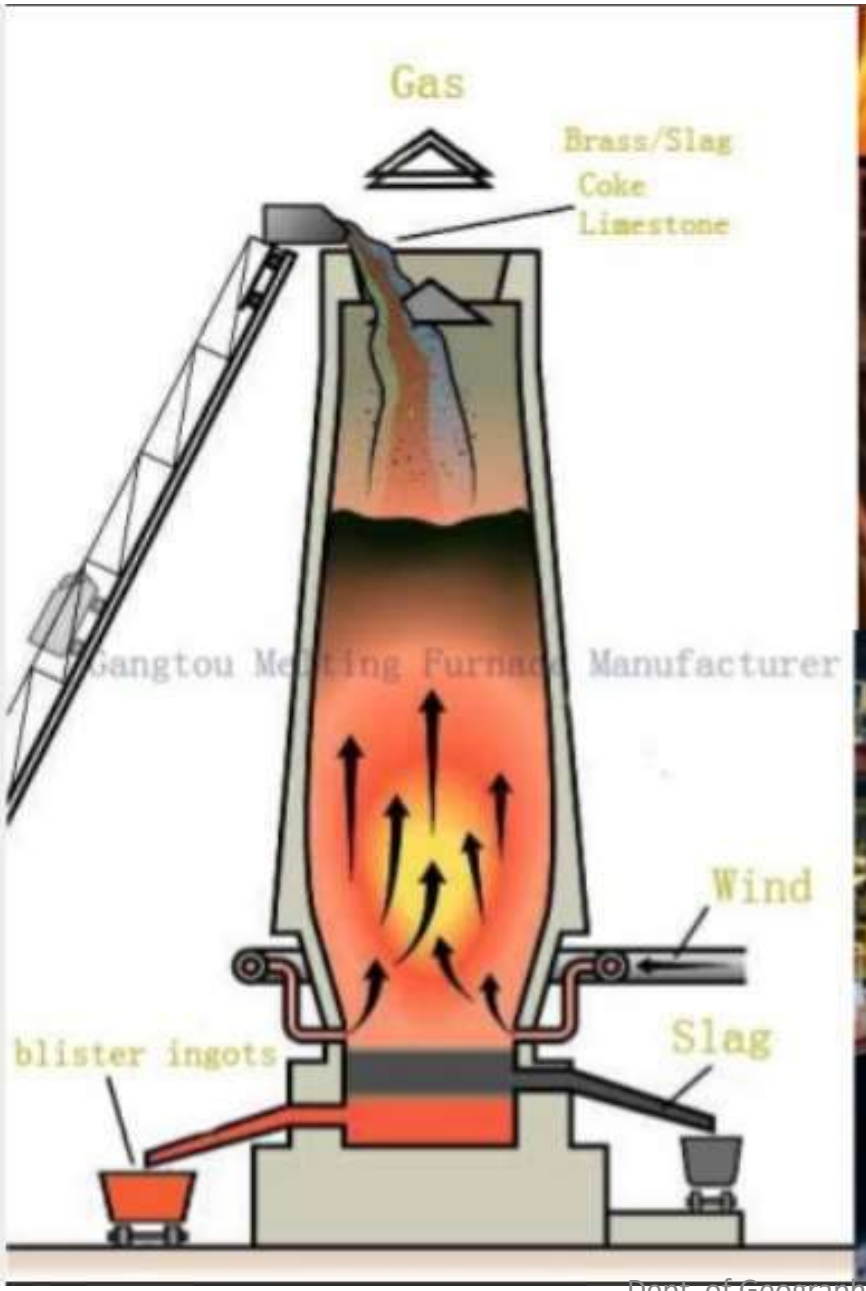
- POPULAR SUBSTITUTES TO STEEL, COPPER, ZINC & LEAD IN A NUMBER OF INDUSTRIES.
- FOR PRODUCTION OF 1 TONNE OF ALUMINIUM, APPROXIMATELY 6 TONNES OF BAUXITE & 18600KWH OF ELECTRICITY IS NEEDED.

- LOCATION – AVAILABILITY OF BAUXITE, INEXPENSIVE ELECTRICITY.
- THERE ARE 8 ALUMINIUM PLANTS IN THE COUNTRY
- LOCATED AT ORISSA, WEST BENGAL, KERALA, UTTAR PRADESH, CHATTISGARH, MAHARASHTRA & TAMIL NADU.
- TOTAL PRODUCE –620 THOUSAND TONNES PER ANNUM.

COPPER SMELTING:

- IT WAS SET UP BY INDIAN COPPER CORPORATIONS AT GHATSHILA IN JHARKAND.
- THE HINDUSTAN COPPER LTD. TOOK OVER THE INDIAN COPPER CORPORATION IN 1972, SINCE THEN IT IS THE SOLE PRODUCER OF COPPER IN THE COUNTRY.


Gas
Brass/Slag
Coke
Limestone
Wind
Slag
blister ingots

- IT HAS 2 CENTERS – MAUBHANDAR NEAR GHATSHILA IN SINGHBHUM DISTRICT AND KHETRI IN JHUNJUNU OF RAJASTHAN.
- COPPER IS OBTAINED FROM THE MINES OF THOSE DISTRICTS WHERE THEIR SMELTING PLANTS ARE LOCATED.
- INDIA PRODUCES 43,000 TONNES OF COPPER BLISTER, WHICH IS ONLY ½ OF THE REQUIREMENT, AND THE REMAINING ½ IS IMPORTED FROM ZAMBIA, CHILE, AND U.S.A., CANADA.

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CHEMICAL INDUSTRIES:
HEAVY INORGANIC CHEMICALS INCLUDE :
SULFURIC ACID – MANUFACTURING OF FERTILIZERS, PAINTS, DYESTUFF, PLASTICS & SYNTHETIC FIBRES.
NITRIC ACID & ALKALIES
SODA ASH – MANUFACTURE OF GLASS, PAPER, SOAP & DETERGENTS.
CAUSTIC SODA.
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Travancore-Cochin Chemicals Ltd,
CHEMTECH
2009
Pharma
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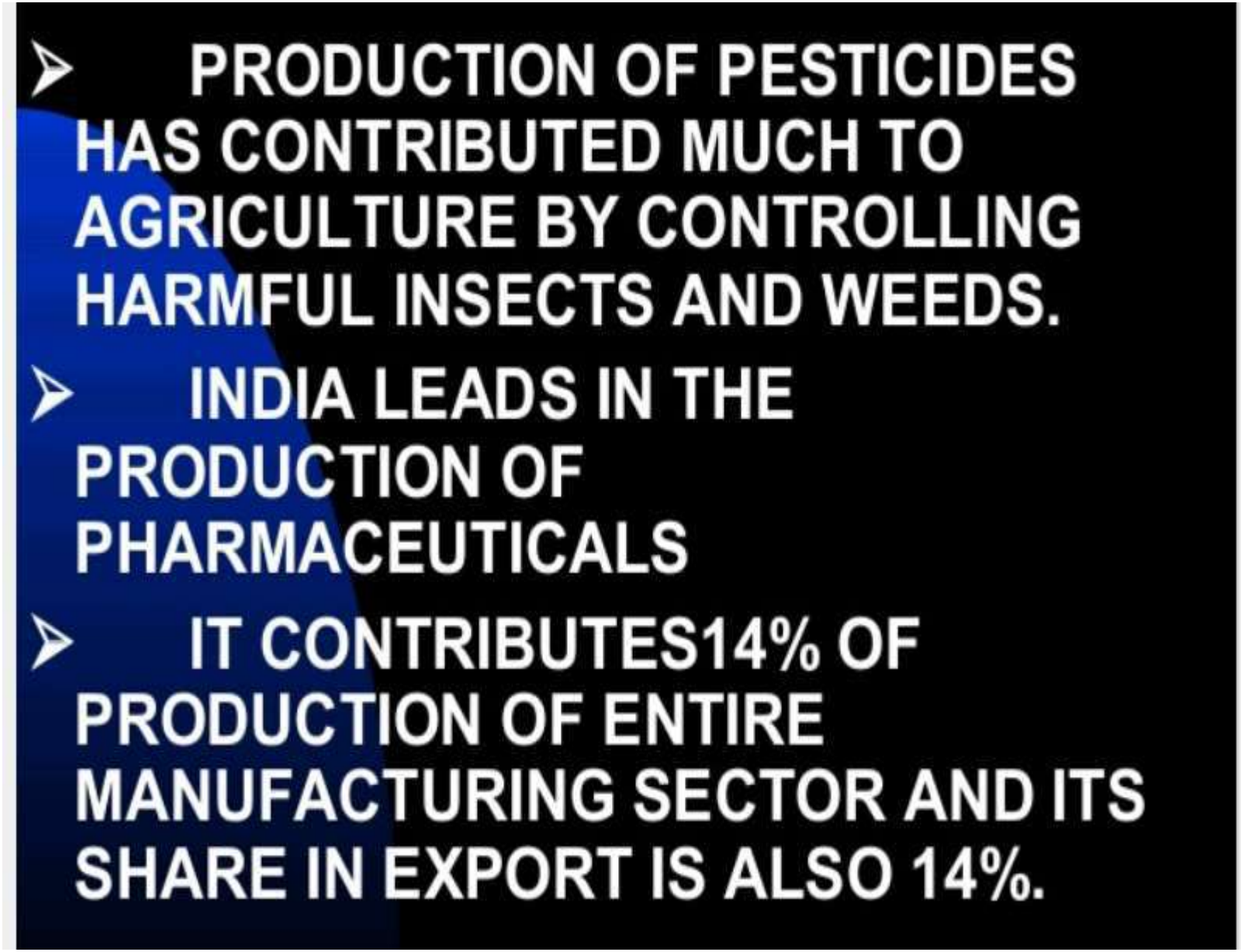
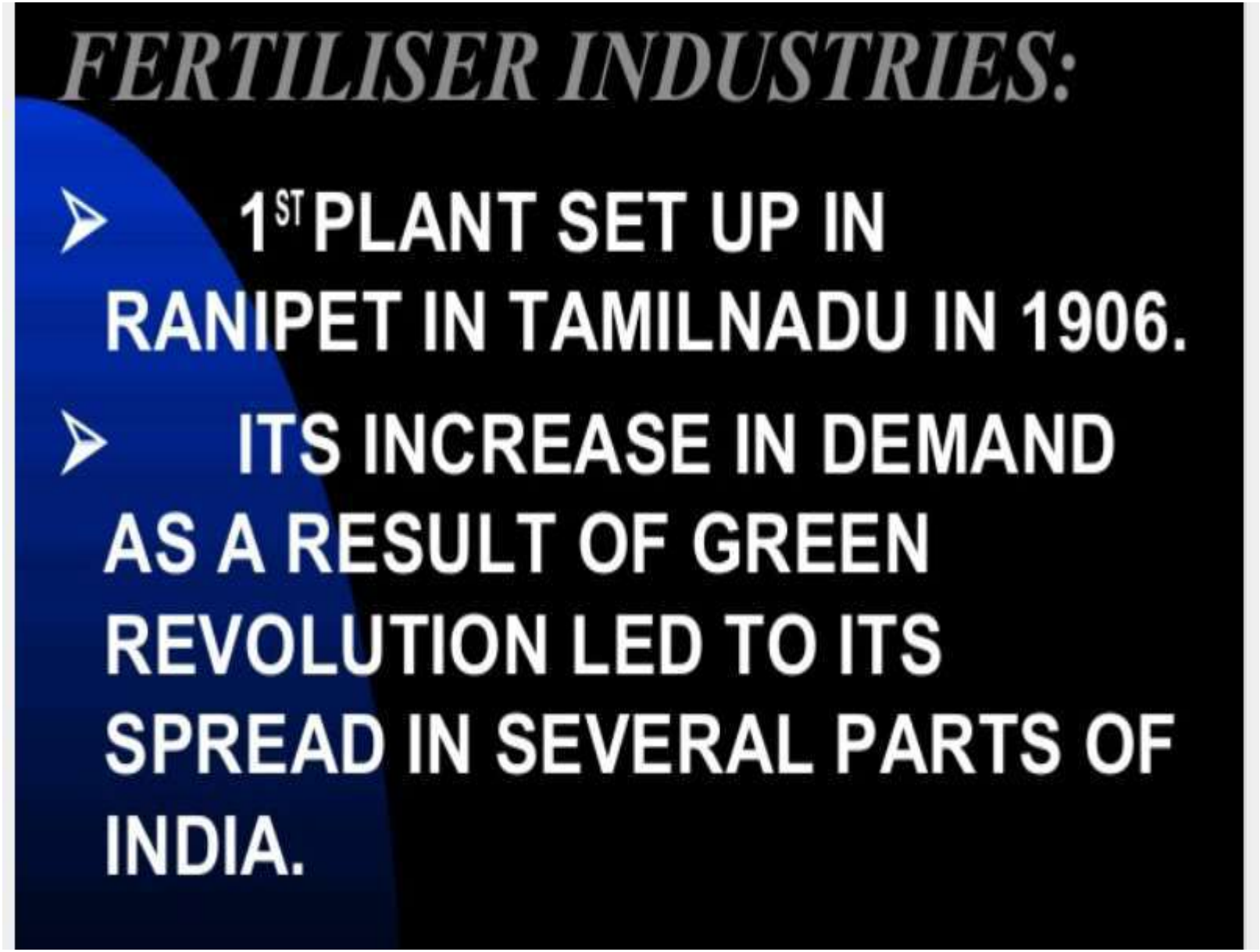
THE INORGANIC CHEMICALS /PETROCHEMICAL PLANTS.

- HEAVY ORGANIC CHEMICALS INCLUDE PETRO CHEMICALS, WHICH ARE USED FOR MANUFACTURING OF SYNTHETIC FIBRES, SYNTHETIC RUBBERS, PLASTICS, DYESTUFF & PHARMACEUTICALS.
- THE INORGANIC CHEMICALS INDUSTRIES ARE WIDELY SPREAD WHILE ORGANIC CHEMICAL INDUSTRIES ARE NEAR OIL REFINERIES & PETROCHEMICAL PLANTS.


PRODUCTION OF PESTICIDES HAS CONTRIBUTED MUCH TO AGRICULTURE BY CONTROLLING HARMFUL INSECTS AND WEEDS.
INDIA LEADS IN THE PRODUCTION OF PHARMACEUTICALS
IT CONTRIBUTES14% OF PRODUCTION OF ENTIRE MANUFACTURING SECTOR AND ITS SHARE IN EXPORT IS ALSO 14%.


FERTILISER INDUSTRIES:
1ST PLANT SET UP IN RANIPET IN TAMILNADU IN 1906.
ITS INCREASE IN DEMAND AS A RESULT OF GREEN REVOLUTION LED TO ITS SPREAD IN SEVERAL PARTS OF INDIA.

- MORE THAN ½ THE TOTAL PRODUCTION – GUJARAT, TAMIL NADU, UTTAR PRADESH, PUNJAB & KERALA.
- OTHER PRODUCERS ARE ANDHRA PRADESH, ORISSA, RAJASTHAN, BIHAR, GOA, DELHI, MAHARASHTRA, ASSAM, MADHYA PRADESH, WEST BENGAL, & KARNATAKA.

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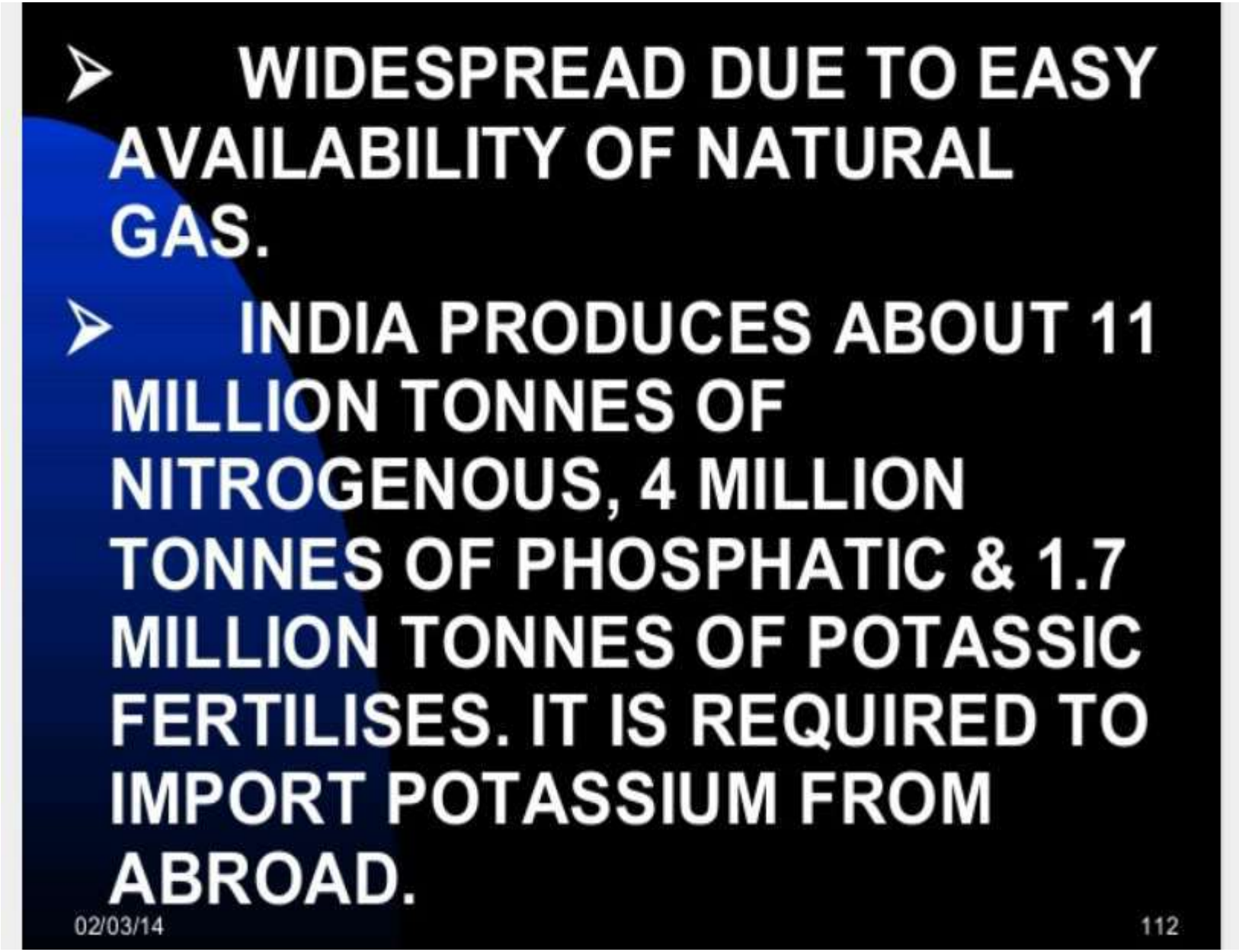
WIDESPREAD DUE TO EASY AVAILABILITY OF NATURAL GAS.
INDIA PRODUCES ABOUT 11 MILLION TONNES OF NITROGENOUS, 4 MILLION TONNES OF PHOSPHATIC & 1.7 MILLION TONNES OF POTASSIC FERTILISES. IT IS REQUIRED TO IMPORT POTASSIUM FROM ABROAD.
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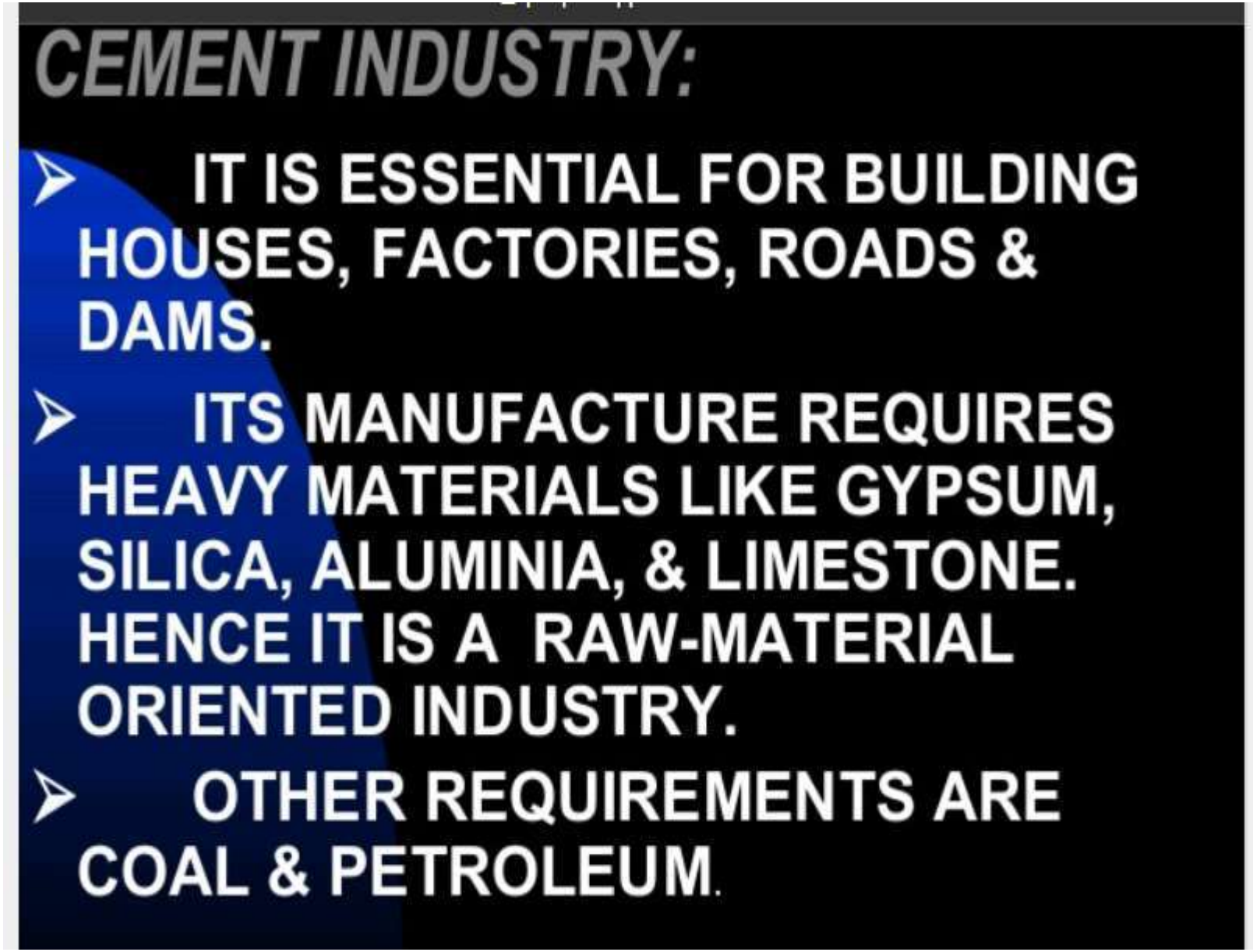
CEMENT INDUSTRY:
IT IS ESSENTIAL FOR BUILDING HOUSES, FACTORIES, ROADS & DAMS.
ITS MANUFACTURE REQUIRES HEAVY MATERIALS LIKE GYPSUM, SILICA, ALUMINIA, & LIMESTONE. HENCE IT IS A RAW-MATERIAL ORIENTED INDUSTRY.
OTHER REQUIREMENTS ARE COAL & PETROLEUM.


1ST PLANT – CHENNAI IN 1904
THERE ARE 119 LARGE AND OVER 300 MINI PLANTS IN INDIA
TOTAL INSTALLED CAPACITY – 131 MILLION TONNES PER ANNUM
INDIA PRODUCES A VARIETY OF CEMENT – GOOD QUALITY & HENCE HAS A READY MARKET IN SOUTH AND EAST ASIA.
ANNUAL PRODUCTION IN INDIA IS 100 MILLION TONNES.
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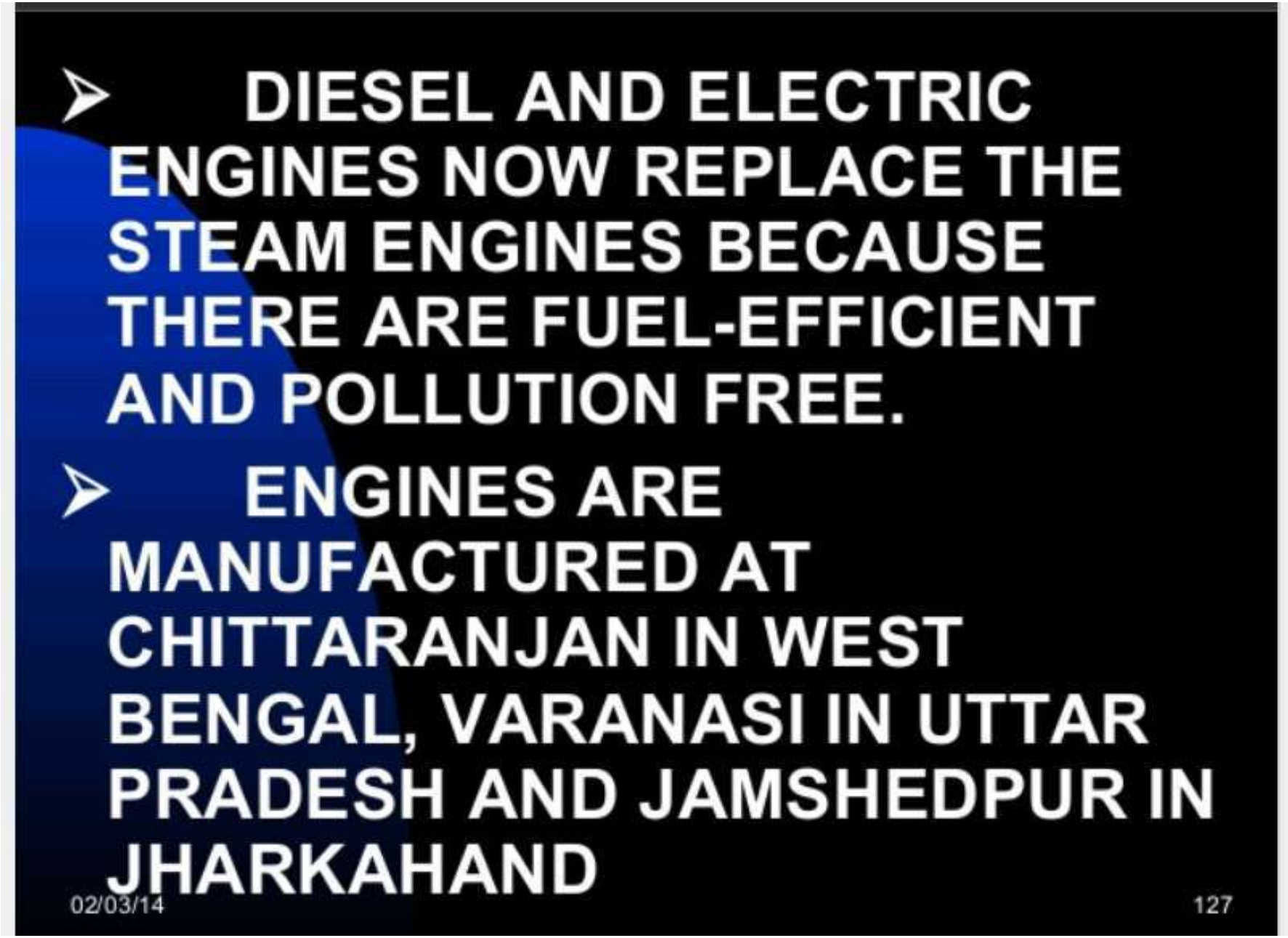
TRANSPORT EQUIPMENT INDUSTRIES

RAILWAYS:

- THE TRAIN IS CLASSIFIED INTO 3 PARTS – RAILWAY ENGINES, WAGONS & COACHES.
- RAILWAY ENGINES ARE OF 3 TYPES: STEAM, DIESEL & ELECTRIC


DIESEL AND ELECTRIC ENGINES NOW REPLACE THE STEAM ENGINES BECAUSE THERE ARE FUEL-EFFICIENT AND POLLUTION FREE.
ENGINES ARE MANUFACTURED AT CHITTARANJAN IN WEST BENGAL, VARANASI IN UTTAR PRADESH AND JAMSHEDPUR IN JHARKAHAND
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CHITTARANJAN

- RAILS AND SLEEPER BARS ARE MANUFACTURED AT IRON & STEEL PLANTS.
- COACHES ARE MANUFACTURED AT PERAMBUR, BANGALORE, KAPURTHALA & KOLKOTA.
- WAGONS ARE PRODUCED IN PRIVASTE SECTOR AND RAILWAY SHOPS.

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ROAD VEHICLES:

- INDIA IS 2ND LARGEST PRODUCER OF 3 WHEELERS.
- INDIA CURRENTLY PRODUCES 15 MILLION BICYCLES & 3.8 MILLION SCOOTERS & MOTOR CYCLES IN A YEAR
- WIDELY SPREAD AROUND DELHI, GURGAON, MUMBAI, CHENNAI, PUNE, KOLKOTA, LUCKNOW, INDORE, HYDERABAD, JAMSHEDPUR & BANGALORE
- EXAMPLE: TRUCKS, CARS, MOTORCYCLES AND SCOOTERS.

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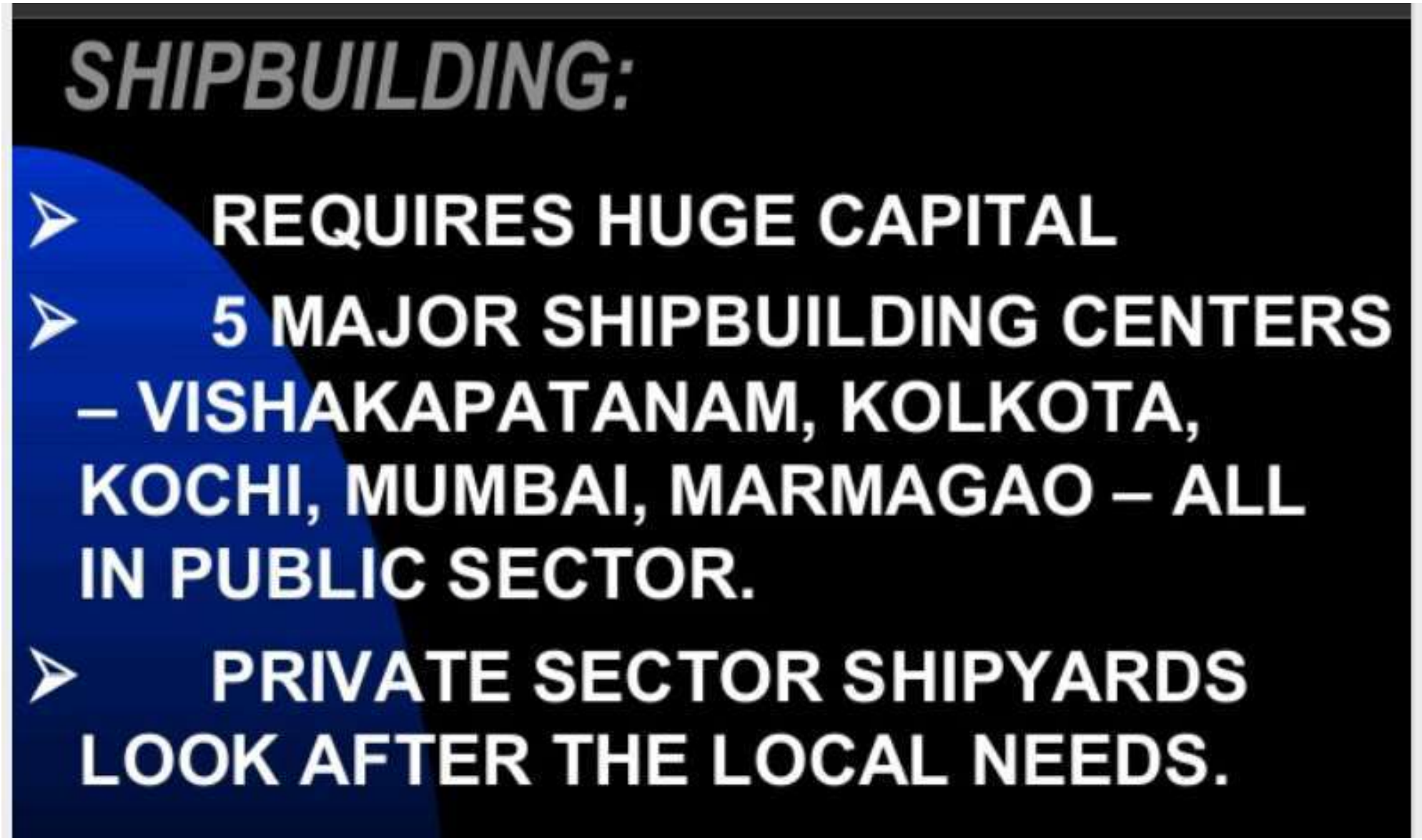
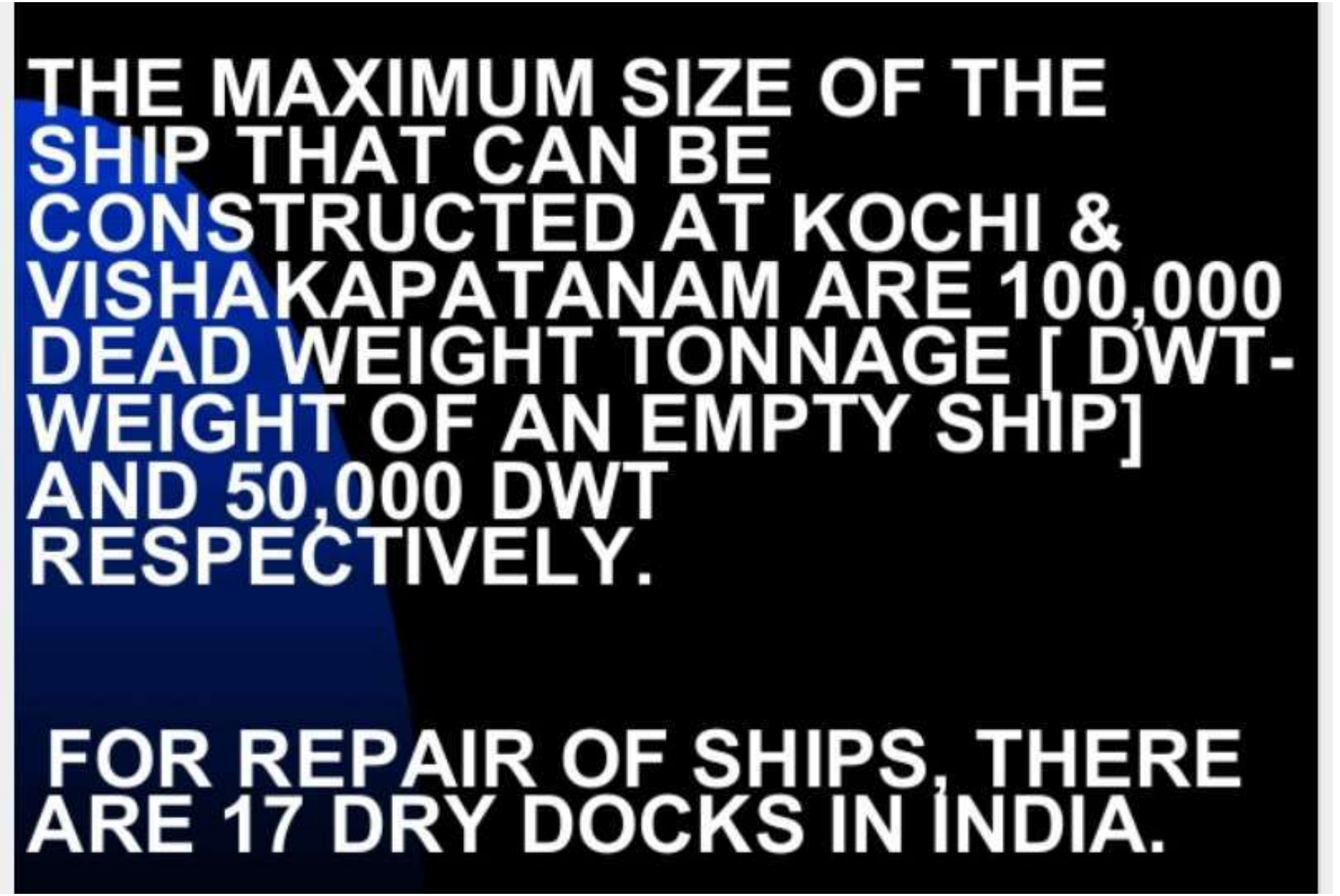

SHIPBUILDING:
REQUIRES HUGE CAPITAL
5 MAJOR SHIPBUILDING CENTERS – VISHAKAPATANAM, KOLKOTA, KOCHI, MUMBAI, MARMAGAO – ALL IN PUBLIC SECTOR.
PRIVATE SECTOR SHIPYARDS LOOK AFTER THE LOCAL NEEDS.


THE MAXIMUM SIZE OF THE SHIP THAT CAN BE CONSTRUCTED AT KOCHI & VISHAKAPATANAM ARE 100,000 DEAD WEIGHT TONNAGE [DWT- WEIGHT OF AN EMPTY SHIP] AND 50,000 DWT RESPECTIVELY.
FOR REPAIR OF SHIPS, THERE ARE 17 DRY DOCKS IN INDIA.

AIRCRAFTS:

- FOR DEFENCE REQUIREMENT, INDIA HAS DEVELOPED AIRCRAFT INDUSTRY AT BANGALORE, KORAPUT, NASHIK, HYDERABAD, KANPUR & LUCKNOW.
- EACH PLACE SPECIALIZES IN THE MANUFACTURE OF CERTAIN TYPES OF AIRCRAFT.
- INDIA ALSO MANUFACTURES HELICOPTERS.

ELECTRONIC INDUSTRY

- COVERS WIDE RANGE OF PRODUCTS – TRANSISTOR, TELEVISION, TELEPHONE EXCHANGES, CELLULAR TELECOMS, PAGERS, COMPUTERS….

LOOKS AFTER THE NEEDS OF DEFENCE EQUIPMENTS, RAILWAYS, AIRWAYS, SPACE, FLIGHTS, AND METEOROLOGICAL DEPARTMENTS.

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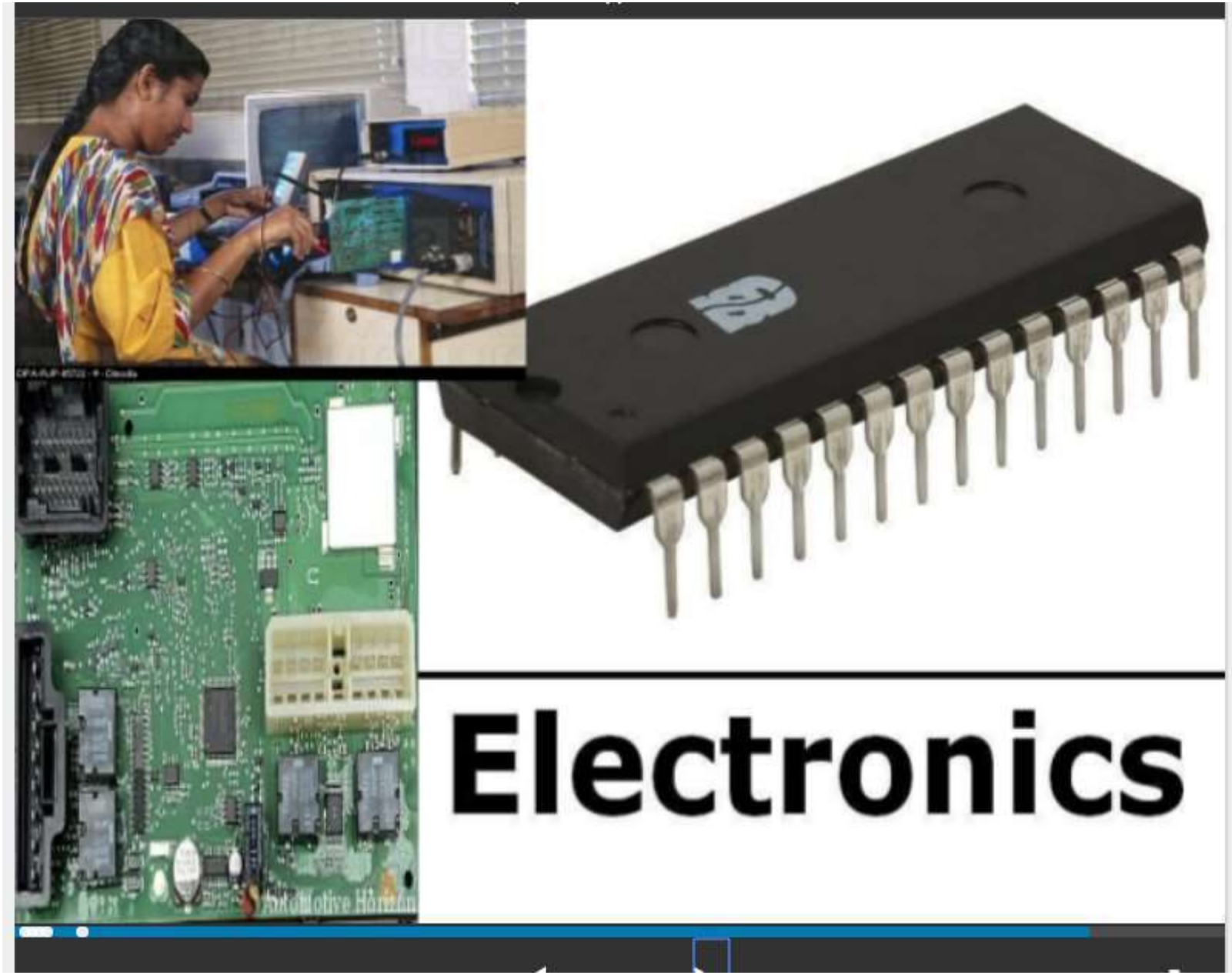
Electronics


Ø REVOLUTIONIZED THE LIFE OF THE MASSES & CHANGED THE COUNTRY'S ECONOMY & QUALITY OF HUMAN LIFE.
Ø HAS DEVELOPED BOTH HARDWARE & SOFTWARE – FAST GROWING SECTOR OF INDIAN ECONOMY.
Ø CONTRIBUTED LOT TO THE SPACE TECHNOLOGY.
Ø ELECTRONIC CAPITAL OF INDIA – BANGALORE.
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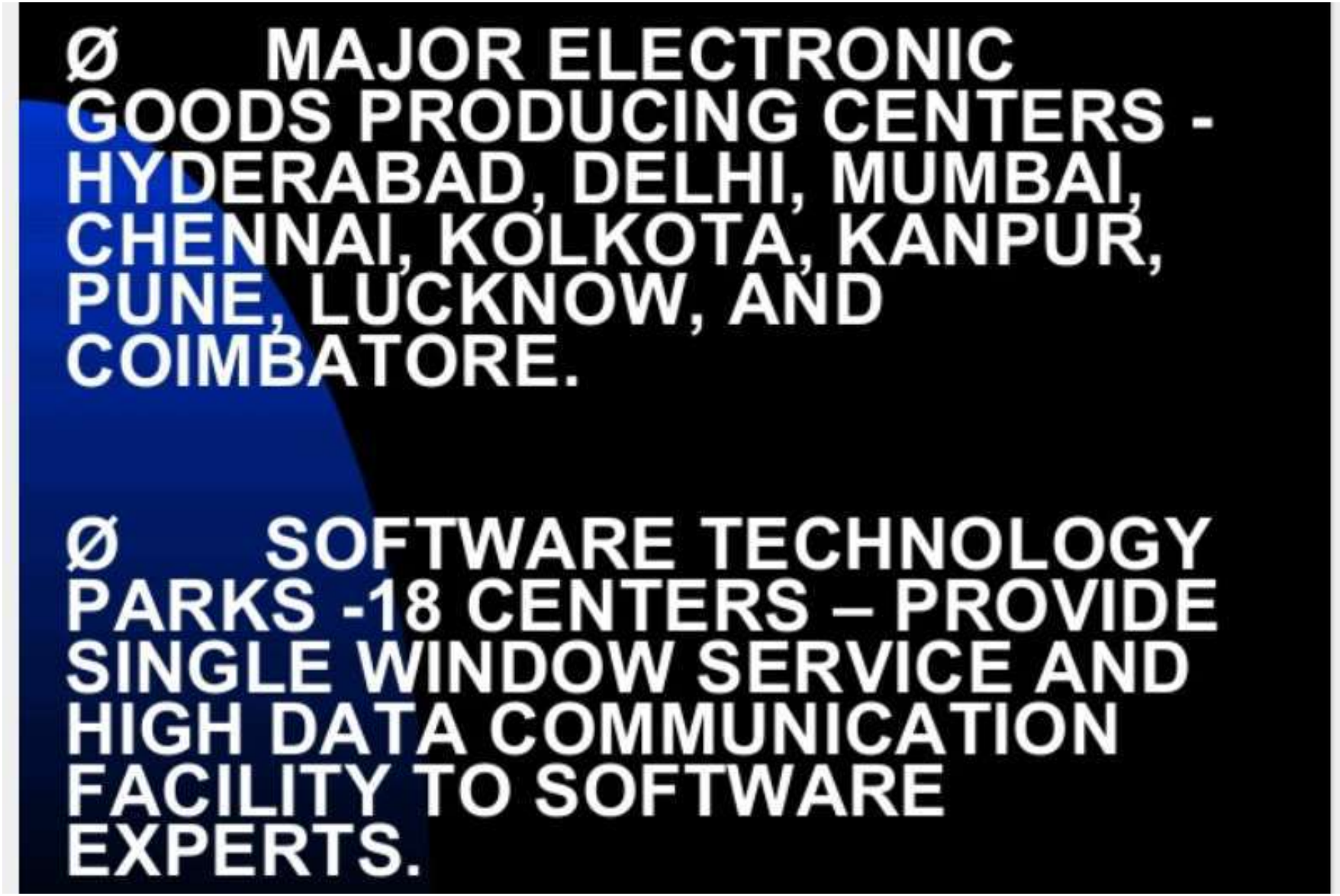
Ø MAJOR ELECTRONIC GOODS PRODUCING CENTERS - HYDERABAD, DELHI, MUMBAI, CHENNAI, KOLKOTA, KANPUR, PUNE, LUCKNOW, AND COIMBATORE.
Ø SOFTWARE TECHNOLOGY PARKS -18 CENTERS – PROVIDE SINGLE WINDOW SERVICE AND HIGH DATA COMMUNICATION FACILITY TO SOFTWARE EXPERTS.

INDUSTRIAL POLLUTION & DEGRADATION OF ENVIRONMENT

INDUSTRIES CREATE FOUR TYPES OF POLLUTION:

- Air pollution
- Water pollution
- Land pollution
- Noise pollution

AIR POLLUTION

- Caused by the Presence of a Higher Proportion of of Undesirable Gases Like
- Carbon Monoxide & Sulphur Dioxide
- Air-borne Materials Consists of Both Solid & Liquid Particles.
- Dust, Fumes, Mist, Spray & Smoke Contain Both Type of Particles.
- Human-made Sources of Pollutants Are Normally Industrial & Solid Wastes

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Water pollution

- Industrial Effluents Are Discharged Into the Rivers.
- Organic & Inorganic Materials Pollute Water.
- Some Common Pollutants of Water Are
  - Coal, Dyes, Soaps, Pesticides, Fertilisers, Plastics & Rubber
- Principal Industries That Create Water Pollution Are
  - Paper, Textiles, Chemical, Petroleum, refining, Tannery & Electroplating.

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INDUSTRIAL WASTES
CONTAINING TOXIC METALS
POLLUTE LAND AND WATER

NOISE POLLUTION

- ARISES PRIMARILY FROM INDUSTRY & MEANS OF TRANSPORT
- CAUSED BY INDUSTRIAL NOISE FROM
- MECHANICAL SAWS & PNEUMATIC DRILLS
- EFFECTS: UNBEARABLE NOISE & IS A NUISANCE TO THE PUBLIC & CAUSES IMPAIRMENT OF HEARING.


MEASURE TO CONTROL ENVIRONMENTAL DEGRADATION
POLLUTION CAN BE PREVENTED BY
1.CAREFULPLANNING OF INDUSTRIES
2.SITING[LOCATION] OF INDUSTRIES
3.BETTER DESIGN EQUIPMENTS
4.BETTER OPERATION OF EQUIPMENTS
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MEASURE TO CONTROL ENVIRONMENTAL DEGRADATION

MAJOR MEANS OF CONTROLLING AIR POLLUTION

- FUEL SELECTION & UTILISATION
- SMOKE MAY BE PREVENTED BY USE OF OIL INSTEAD OF COAL IN INDUSTRIES
- USE EQUIPMENTS TO CONTROL AEROSOL EMISSIONS.
- USE INERTIAL SEPARATORS, FILTERS, PRECIPITATORS & SCRUBBERS

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MEASURE TO CONTROL ENVIRONMENTAL DEGRADATION
MEANS OF CONTROLLING WATER POLLUTION BY INDUSTRIES
TREATMENT OF WASTES BEFORE DISCHARGING INTO RIVERS
THIS CAN BE DONE IN 3 PHASES
PRIMARY TREATMENT BY MECHANICAL PROCESS
SECONDARY TREATMENT BY BIOLOGICAL PROCESS
TERTIARY TREATMENT BY BIOLOGICAL, CHEMICAL & PHYSICAL PROCESSES
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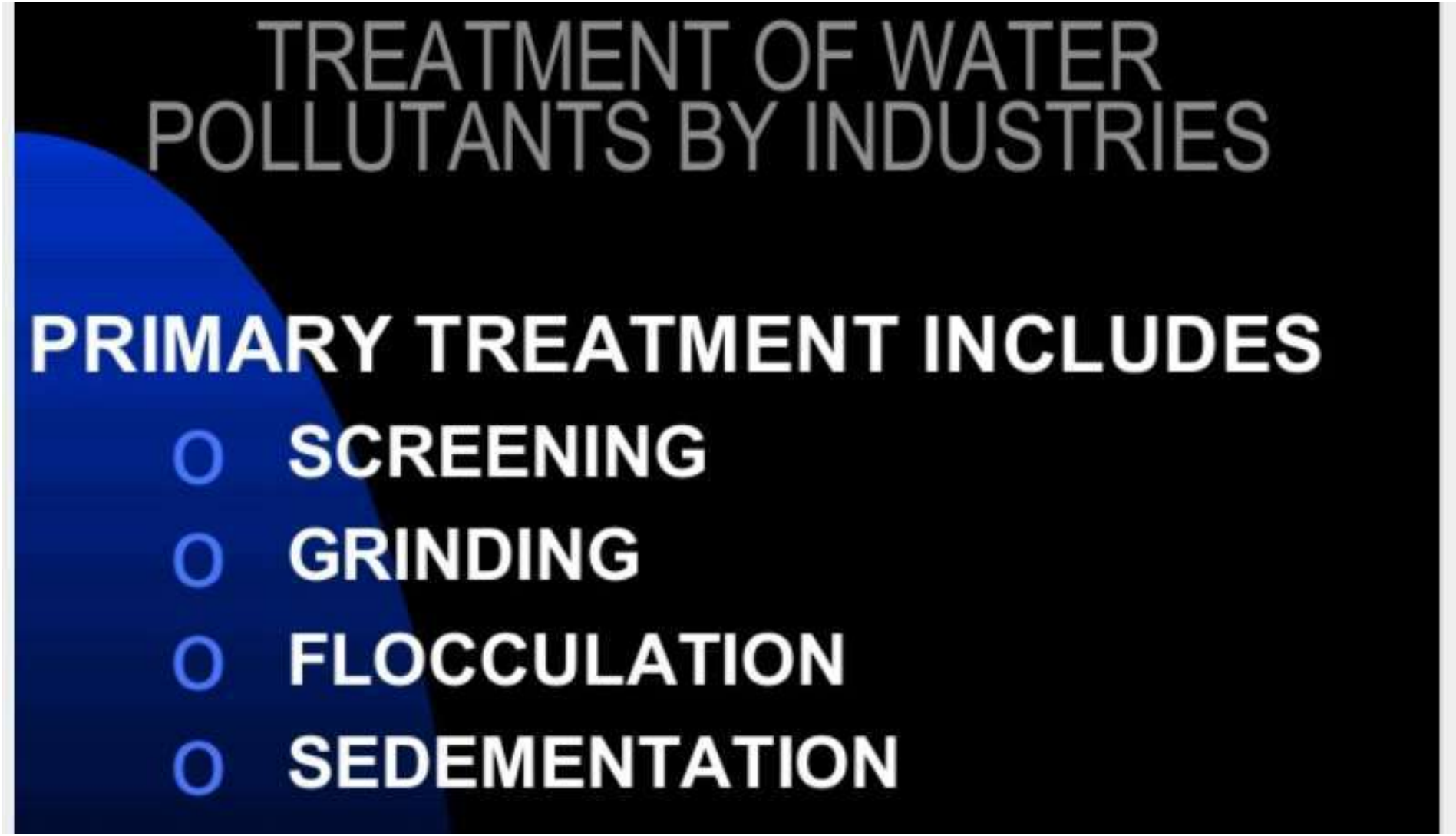
TREATMENT OF WATER POLLUTANTS BY INDUSTRIES
PRIMARY TREATMENT INCLUDES
SCREENING
GRINDING
FLOCCULATION
SEDEMENTATION


TREATMENT OF WATER POLLUTANTS BY INDUSTRIES
SECONDARY TREATMENT INVOLVES
USE OF BIOLOGICAL METHODS
TERTIARY TREATMENT INCLUDES
RECYCLING OF WASTE WATER.

CONTROL OF SOIL & LAND POLLUTION

- COLLECTION OF WASTES FROM DIFFERENT PLACES
- DUMPIMG & DISPOSING THE WASTES BY LAND FILLING
- RECYCLING OF THE WASTES FOR FURTHER USE


THANK YOU