



WARRIOR ONE SHOT SERIES

Class 10th Board

Geography

Manufacturing Industries

By- Kunal Sir (KMC)



Physics Wallah

Today's Targets

- 1 Manufacturing
- 2 Classification of Industries
- 3 Industries + Industrial Pollution
- 4 Map Work + Most Imp. Questions

पानी पिया कर भाई



Which among the following is also called industrial sector ?

A Primary Sector

B Secondary Sector ✓

C Tertiary Sector

D None



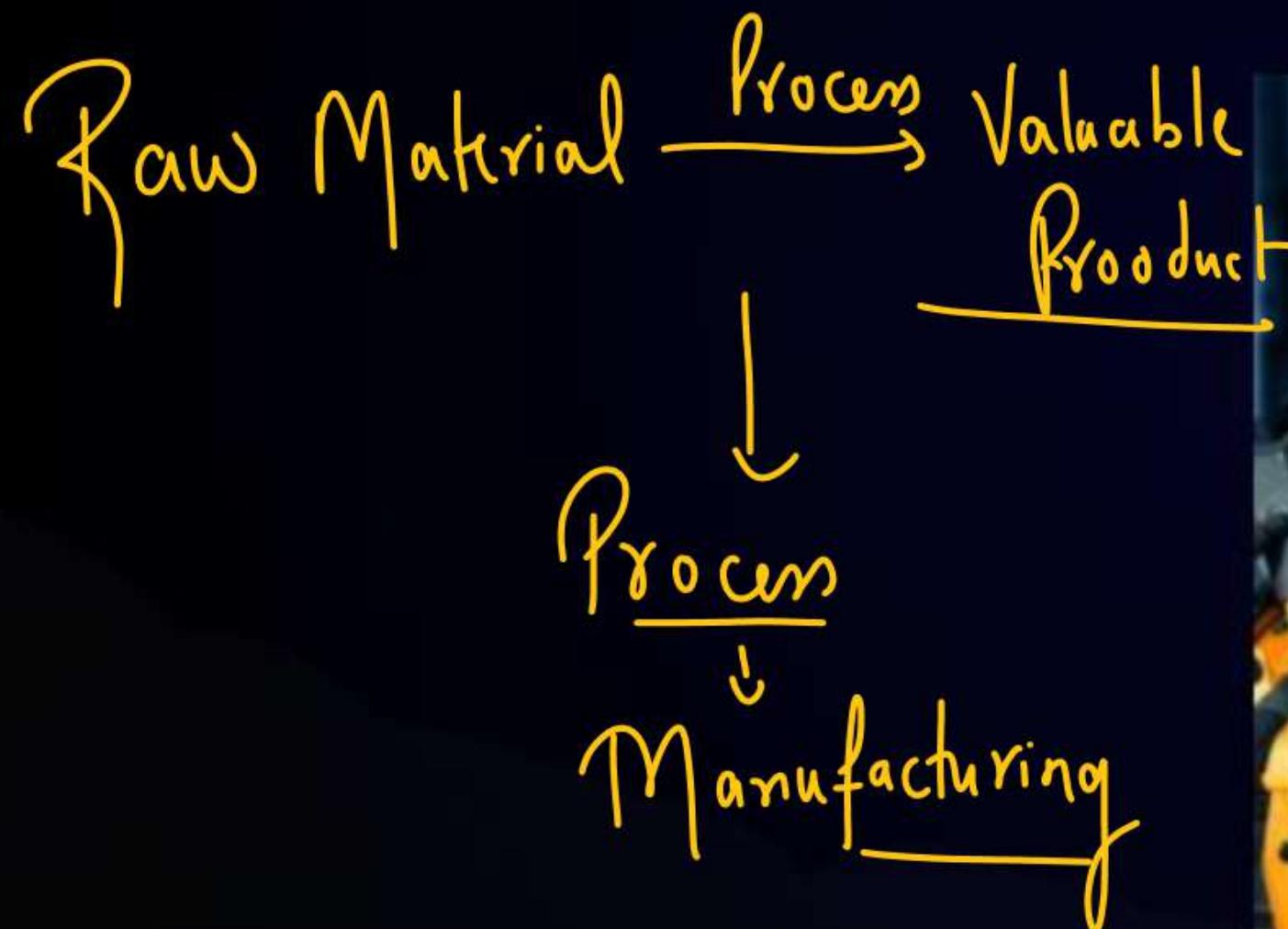
**Aur Vro! Aaj mai
tere ko batunga
business kaise
karne ka ?**



What is Manufacturing?

P
W

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



Sugarcane → Sugar / Gur

Paper → Made From Wood Pulp

Furniture → Made From Wood / Iron & Steel



Who Are The Workers ?



(a) Many people work in the different industries



They are a part of Secondary Sector



(b) Manufacturing is a part of Secondary Sector

It is important for the country's economy

Ques

Chimkandi Chintu is a person who works in Jhingur Constructions Ltd. In this he is into cement production. Identify the sector

he is working.

- (a) Primary
- (b) Secondary
- (c) Tertiary
- (d) None

R.Y.O

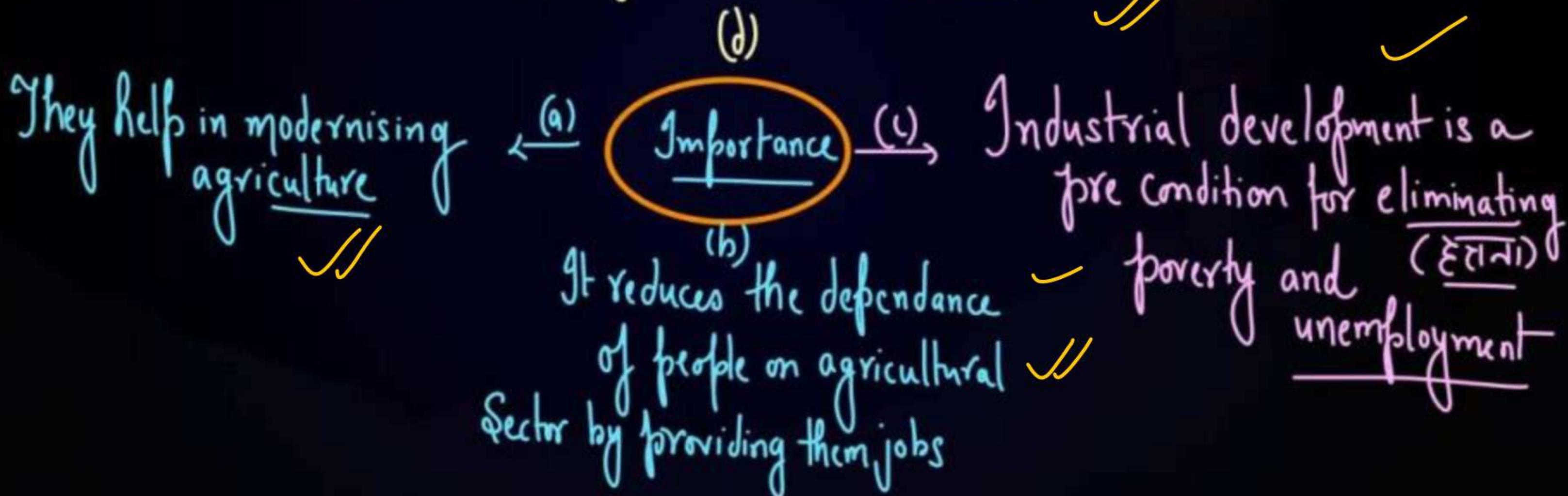
Ques :

"Manufacturing sector is of great importance for a country's economy." Discuss (5)



Importance of Manufacturing

This was the philosophy behind public sector and joint Sector industries.



Countries that are able to transform their raw materials into high value goods are generally prosperous (rich)

✓
It was aimed to develop industries in the tribal and backward areas

(e) Importance (f)
India's prosperity (Rich) lies in diversifying its manufacturing industries
Export of manufactured goods expands trade

and commerce → This brings foreign exchange

Q Pick the incorrect statement - .

- (a) Manufacturing is a precondition for eradicating poverty
- (b) Exported goods bring in the foreign income
- (c) India's prosperity lies in reducing the no. of industries
- (d) Both a & b

PYQ

"Agriculture and industry are not exclusive of each other.
They always go hand in hand." Justify (3)



Relation Between Agriculture and Industry

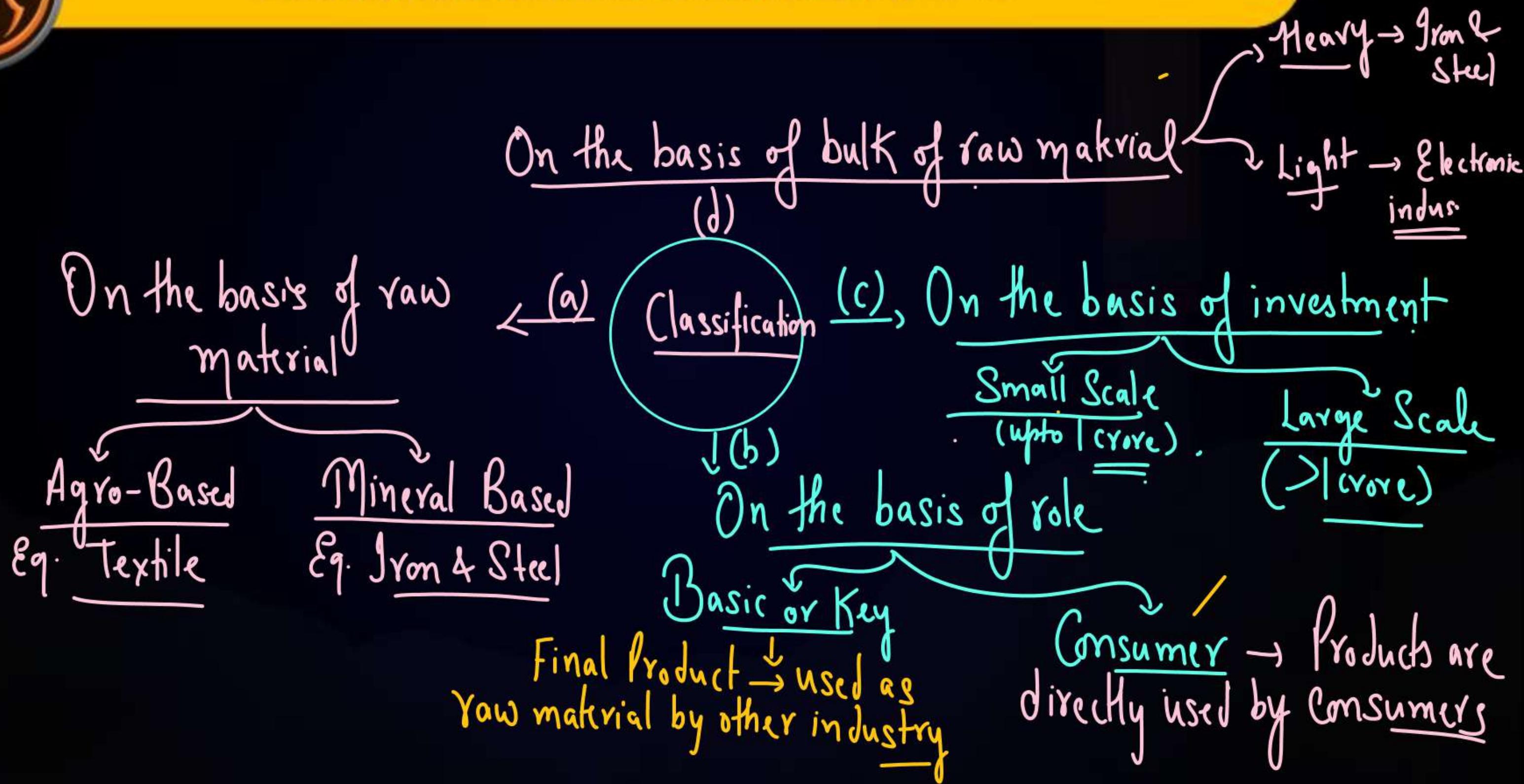
- (a) Agriculture and Industry go hand in hand ✓
- (b) Agro-Industries have provided a boost to agriculture by increasing its productivity
- (c) Agriculture depends on Industry for
 - ✓ Irrigation pumps
 - Fertilisers
 - Insecticides and Pesticides
 - Machines and Tools
 - Plastic and PVC pipes
- (d) They also sell their products to industries

Q Which of the following does not depend on agriculture?

- (a) Cotton Textile
- (b) Jute Textile
- (c) Iron and Steel
- (d) Both a & b



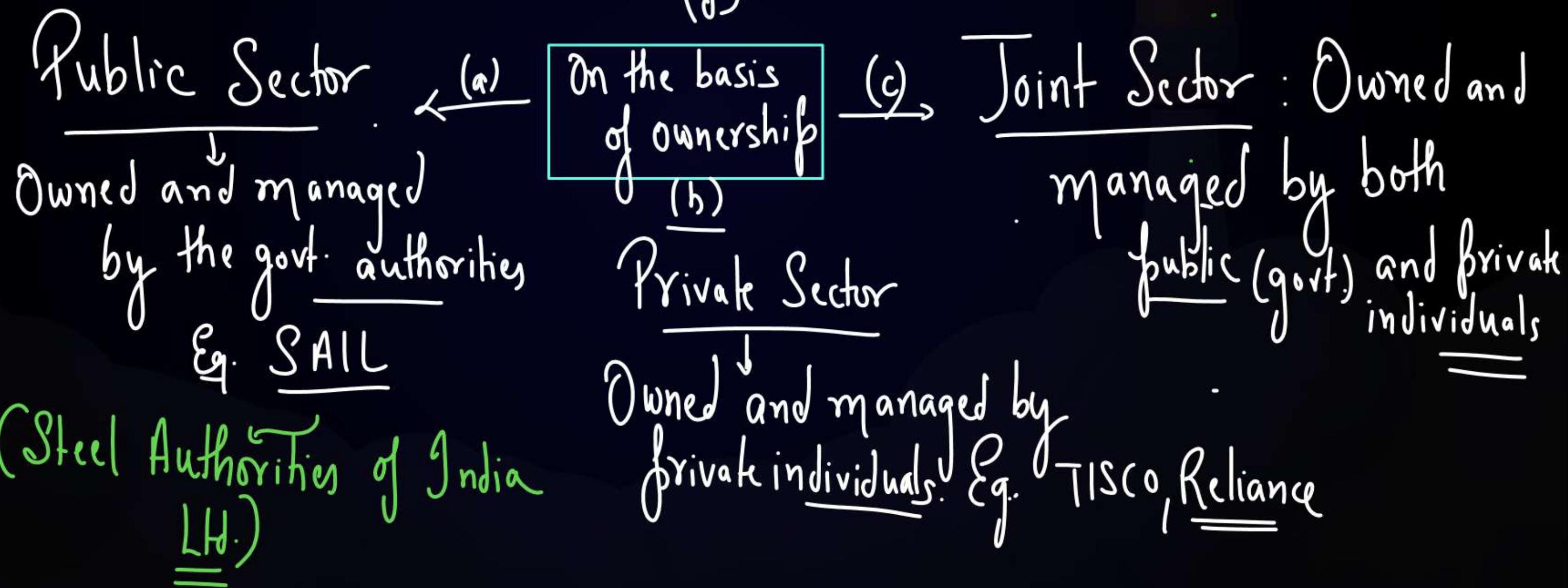
Classification of Industries



Cooperatives

Industries that are owned by the producers or suppliers of raw material, workers or both

(J)



Ques.

Navalkishore Set up an industry. The cost of land was Rs 50 lakhs, construction and tools amounted to 15 lakhs and the final operational cost to begin was 20 lakhs. Identify the industry type

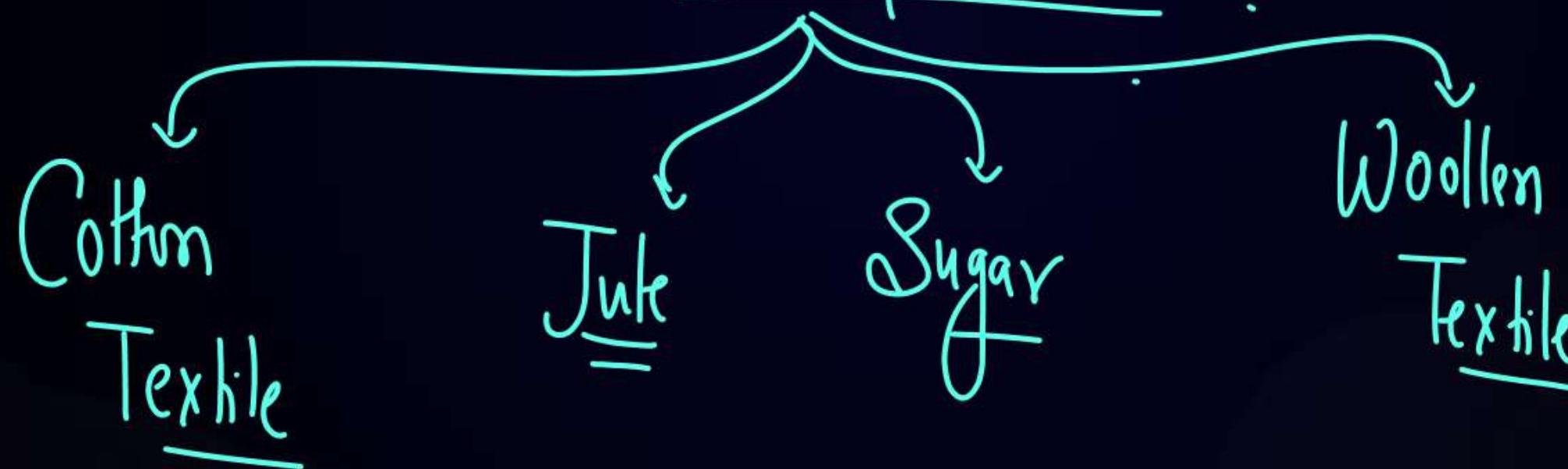
- (a) Large Scale
- (b) Heavy Industry
- (c) Public Industry
- (d) Small Scale



Agro Based Industries



Industries that use agricultural products as
raw materials





Textile Industry

❖ Textile Industry has important position in Indian Economy *(2 marks)*

- Reason ?
 - It contributes to :
 - industrial production ✓✓
 - employment generation // → 2nd largest employer in India → provides job
 - foreign exchange earnings ✓✓
- Through exports
- to 35 million people

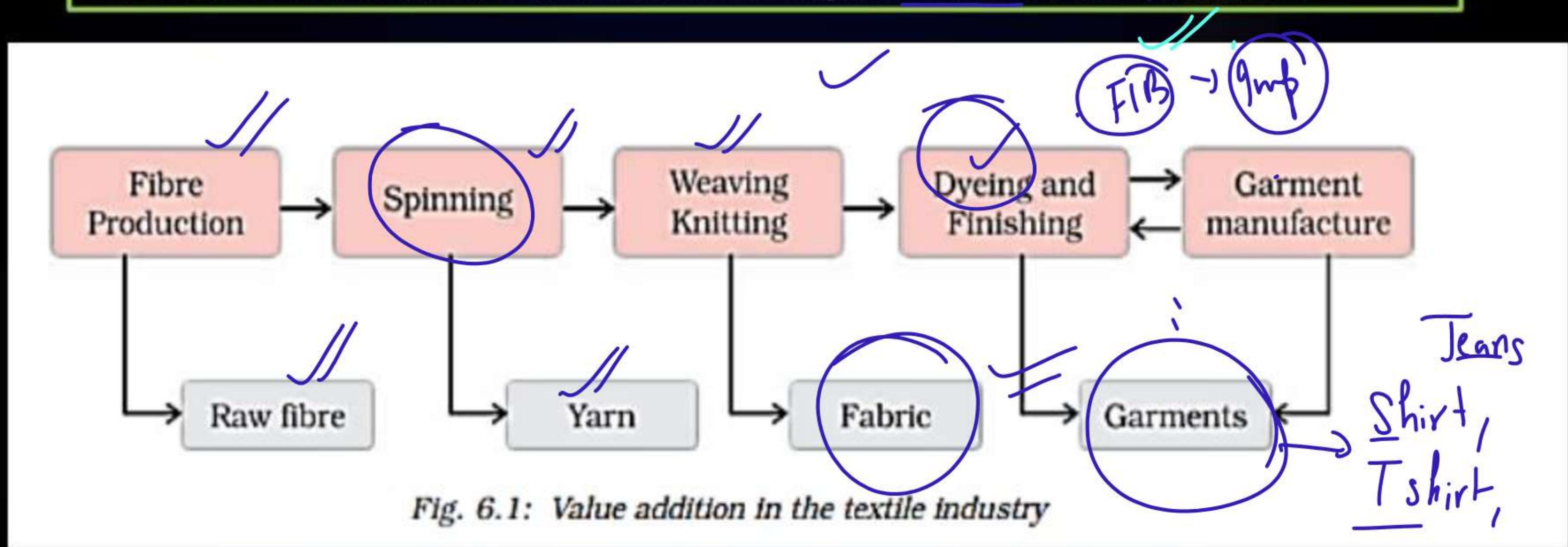
Q18 _____ is the only industry which is self-reliant and complete in the value chain

- (a) Iron & Steel
- (b) Aluminium Smelting
- (c) Textile Industry
- (d) Both a&b



Textile Industry

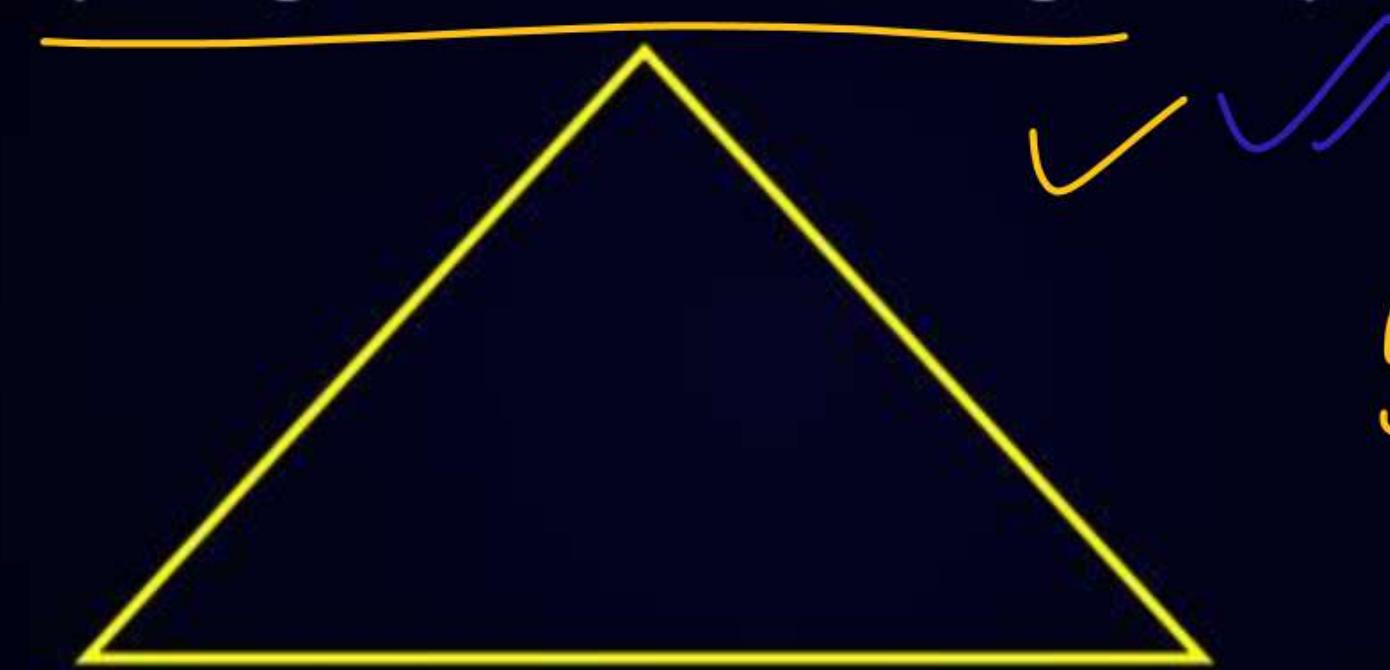
It is the only industry in the country, which is self-reliant and complete in the value chain i.e., from raw material to the highest value added products.





Cotton Textile Industry

In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques



After the 18th century, power -
looms came into use



Indian weavers could not
compete with British goods



Indian industries suffered during British rule

- * British imported raw cotton from India
- * British sold mill made cloth in India

- The first successful textile mill was established in Mumbai in 1854.
- The two world wars were fought in Europe, India was a British colony. There was a demand for cloth in U.K. hence, they gave a boost to the development of the cotton textile industry.

The logo consists of a dark circular background with a red double-lined circle inside. The word "BINDASS" is written in white, bold, sans-serif capital letters at the top. Below it, the word "FACT" is written in a larger, blue, bold, sans-serif capital letters.

BINDASS
FACT

Ques The first successful textile mill in Mumbai started in _____

(a) 1848

(b) 1954

(c) 1854

(d) 1947

Question

Chimkandi , a student of Class 10th was very happy as his father bought a car from country's largest car manufacturer. The company comes under joint sector .

Identify the company

- A** Hindustan Motors
- B** Honda
- C** Mahindra
- D** Maruti Udyog



COTTON
TEXTILE



Cotton Textile Industry

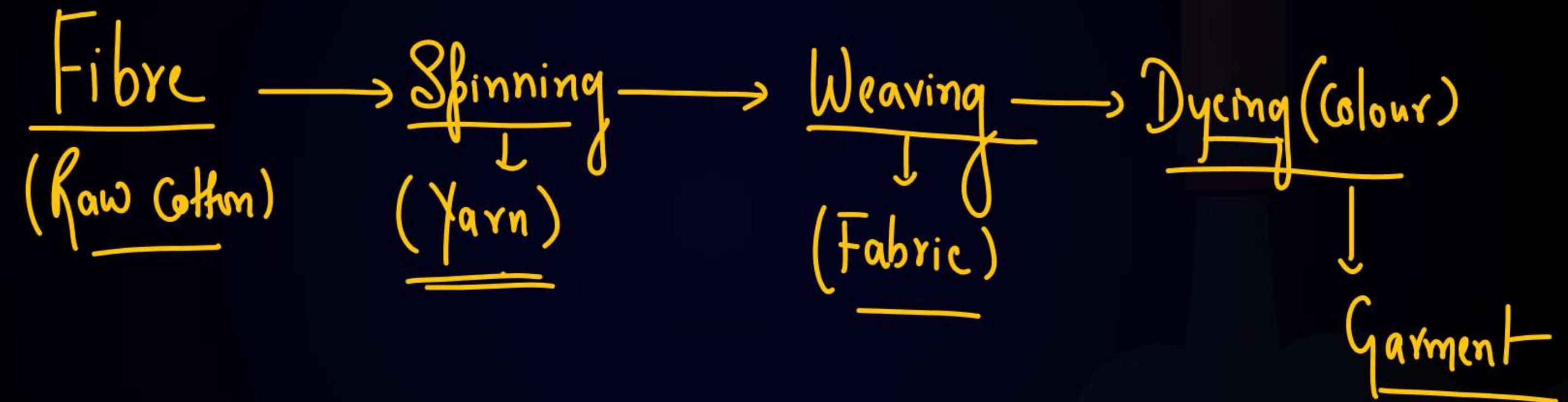
Pyg

- ❖ In the early years, the cotton textile industry was concentrated in the cotton growing belt of Maharashtra and Gujarat (*Explain*) → 2/3

➤ Reason?

- Availability of Raw Cotton ✓✓
- Market ✓
- Transport including port facilities ✓
- Labour ✓
- Moist Climate ✓✓







Cotton Textile Industry

It has close links with agriculture



Provides Employment

Farmers

Cotton Boll

Pickers

Workers involved

Ginning
(cleaning
of cotton)

Spinning

Weaving

Dyeing (color)
and Finishing

It creates demands
for other industries like

Chemical
Industries

Engineering
tools

Packaging

Ques

The cotton textile industry generates demand for —

- (a) Engineering Tools and Sugarcane
- (b) Engineering Tools and Chemicals
- (c) Both a&b
- (d) Only Garments



Cotton Textile Industry

Spinning continues to be centralised in Maharashtra, Gujarat and Tamil Nadu,

T

M G T
—
—

Weaving is decentralised-done in different parts

Reason → So that different designs and traditional styles can be included

Mere Gaon
as Tay
= (Trick)

Ques. Spinning is centralised in _____

- (a) Maharashtra
- (b) Gujarat
- (c) Tamil Nadu
- (d) All of the above

Ques.

"Spinning in India is world class but weaving supplies low quality fabric." (2) Discuss



Cotton Textile Industry–Problem

P
W

Answer

1. India has world class production in spinning, but weaving supplies low quality of fabric.
2. It cannot use much of the high quality yarn produced in the country.
3. Weaving is done by handloom, powerloom and in mills. The handspun khadi provides large scale employment to weavers in their homes as a cottage industry



Cotton Textile Industry

- ★ Weaving is done by handloom, powerloom and in mills.



handloom



Powerloom



Cotton Textile Industry

- ★ The handspun khadi provides large scale employment to weavers in their homes as a cottage industry



Q: Khadi production is mostly done in _____

- (a) Large Scale Industry
- (b) Reliance
- (c) Cottage Industry
- (d) None



Jute Textile

India → Largest producer of raw jute

(a)

India → 2nd largest exporter of Jute after Bangladesh

(b)

(c) Major Jute Production

Hooghly Basin

(around West Bengal)

The first jute mill was set up near Kolkata in 1855 at Rishra. After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

The logo consists of a dark circular background with a red double-lined circle around it. Inside, the word "BINDASS" is written in white, bold, sans-serif capital letters, and "FACT" is written in a larger, glowing blue, bold, sans-serif capital letters.

BINDASS
FACT

Ques 1st Jute mill in 1855 was set up at _____.

- (a) East Pakistan
- (b) Rishra
- (c) Gaya
- (d) Bulandshahar

PYQ

List the factors responsible for Juk production in the Hoooghly basin

← (3/5)



Jute Textile



Factors responsible for location of jute industries in Hugli Basin

- (a) Proximity to Jute producing areas ✓✓
- (b) Inexpensive Water transport ✓
- (c) Good network of
 - Roadways
 - Railways
 - Airways✓✓
- (d) With the help of this, jute can be transported easily to the jute mills ✓✓
- (e) Sufficient availability of water for processing raw jute

Cheap labour availability from the nearby States of UP
Bihar
Odisha



(f)

Kolkata as a large urban centre provides
facilities for Banking
Insurance
Port Facilities



$\sqrt{55}$



Sugar Industry



Rank-India



- Second in sugar production
- First place in the production of gur and khandsari.



Gur

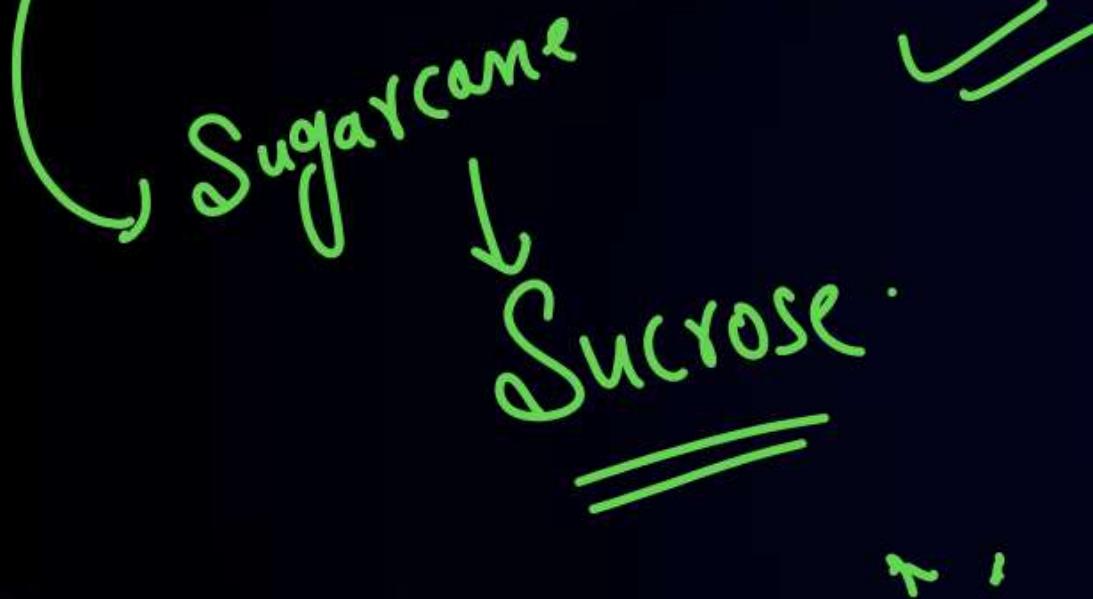


Khandsari



Sugar Industry

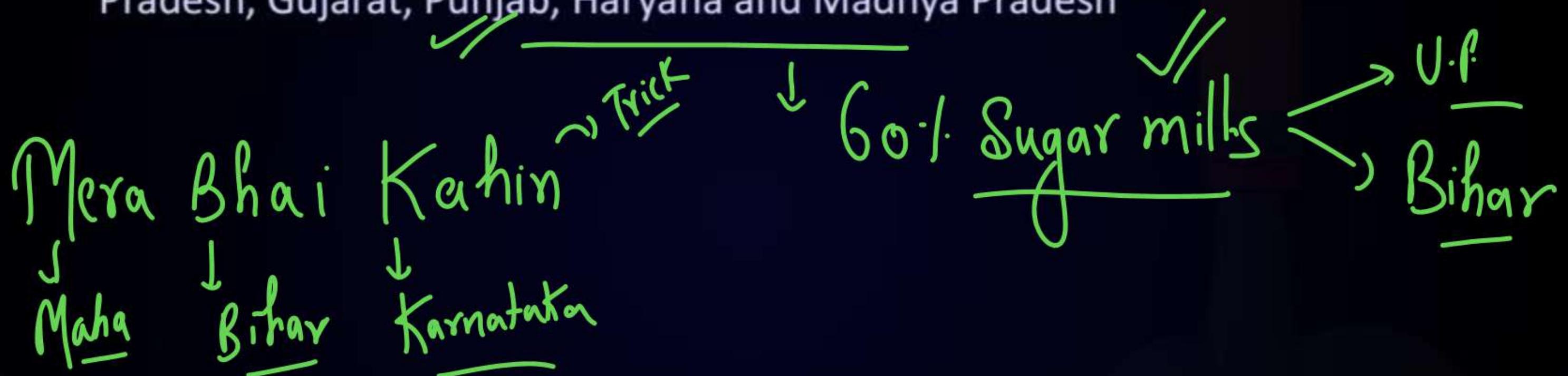
- Raw material used is **bulky** → **heavy**
- Its sucrose content reduce while transporting





Sugar Industry-Location

- Uttar Pradesh, Bihar, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Gujarat, Punjab, Haryana and Madhya Pradesh





Sugar Industry-Shifting South

In recent times

↓
Sugar industry is
shifting to
South Western parts

Reasons?

- Sugarcane grown here has more sucrose content
- Cooker climate
- Long crushing season
- Success of cooperatives

Q. Sugar mills are shifting towards South and western parts due to —

- (a) Success of cooperatives
- (b) Poor govt policies &
- (c) Long Crushing Season
- (d) Both a&c



Mineral Based



Industries that use minerals as raw material

e.g: Iron and Steel

* Aluminium Smelting



Iron and Steel

Iron and Steel Industry is a basic or key industry

(2 | 3)

(a) It is also
a heavy
industry

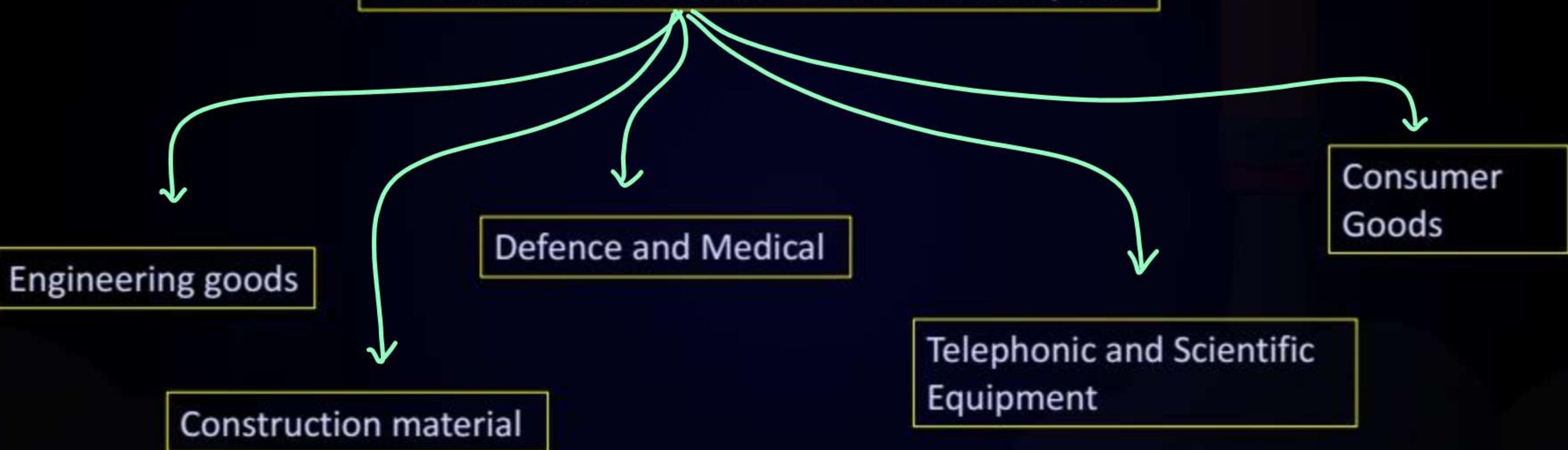
(b) Finished product
of this industry
is used as raw material
by other industries

(c) Steel is used
for different
purposes



Iron and Steel

Steel is needed to manufacture a variety of:





Iron and Steel

Iron and Steel Industry is a heavy industry

↓
Production and Consumption
of steel is an indicator
of Country's development

↓ Because raw material used
is heavy and bulky
= J



Manufacturing-Steel

1. Iron ore, coking coal and lime stone are required in the ratio of approximately 4 : 2 : 1.
 \downarrow from Ore, Coking Coal
2. Some quantities of manganese, are also required to make the steel hard

Processes of Manufacture of Steel

Blast Furnace

Transport of raw material to plant

Iron ore is melted. Lime stone is fluxing material which is added. Slag is removed. Coke is burnt to heat the ore.

Pig Iron

Molten materials poured into moulds called pigs

Pig Iron

Shaping Metal

Rolling, pressing, casting and forging

Steel Making

Pig iron is further purified by melting and oxidising the impurities. Manganese, nickel, chromium are added

Fig. 6.2

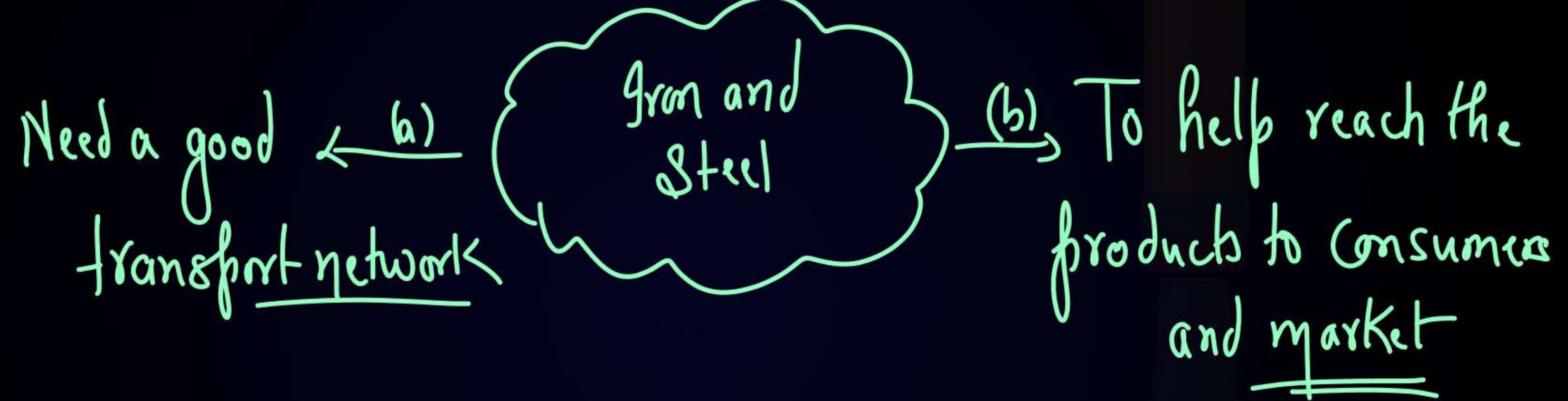
Q For manufacturing of steel \rightarrow Iron Ore, Coking coal and limestone are needed in the ratio —

(a) 4 : 2 : 1

(b) 4 : 4 : 2

(c) 4 : 3 : 1

(d) 1 : 4 : 2



PYQ

"Why are the maximum iron and steel plants concentrated in the Chotanagpur Plateau region? (3)



Chotanagpur Region

- (a) It has the maximum concentration of iron and steel plants
- (b) It has the iron ore producing areas in proximity
- (c) Cost of iron ore is low and high grade material is available
- (d) Cheap labour
- (e) Most products are consumed in local market



Aluminium Smelting

Second Most Important Metallurgical Industry In India





Aluminium Smelting

Aluminium –Properties and Uses

Aluminium –Properties

- It is light ✓ ✓
- Resistant to corrosion ✓
- A good conductor of heat, ✓
- Malleable ✓
- Becomes strong when it is mixed with other metals. ✓



Aluminium –Uses

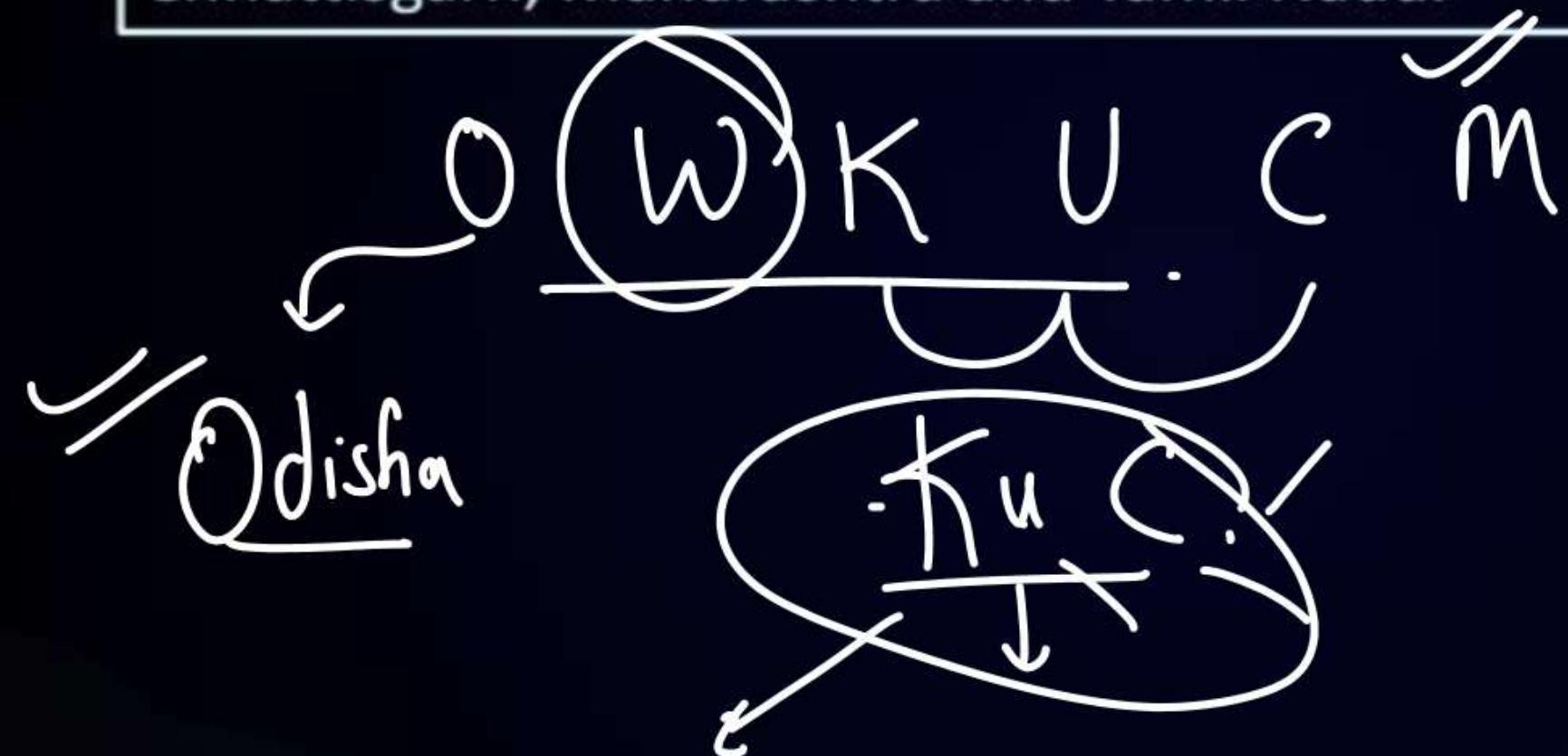
- Manufacture aircraft ✓
- Utensils and wires. ✓
- It has gained popularity as a substitute of steel, copper, zinc and lead in a number of industries.





Aluminium Smelting

Odisha, West Bengal, Kerala, Uttar Pradesh,
Chhattisgarh, Maharashtra and Tamil Nadu.





Aluminium Smelting

Bauxite - raw material used is very bulky, dark reddish coloured rock



→ Heavy ✓
→ Bauxite
↓ Reddish Colour
Aluminium Silicates



Aluminium Smelting

Factors Affecting Industrial Location

Regular Supply of Electricity

Assured source of raw material at low cost

Ques

 is an ore used for extraction of a metal used in aircraft production

✓(a) Bauxite

(b) Steel

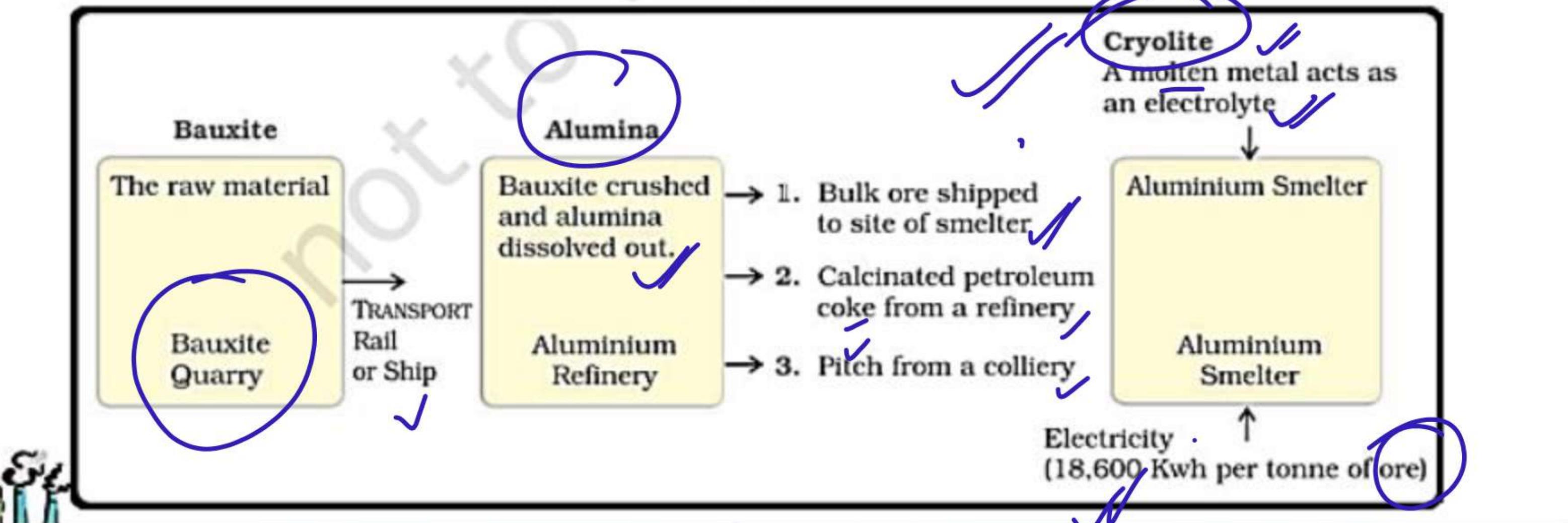
(c) Limonite

(d) None

4 to 6 tonnes of bauxite → 2 tonnes of alumina → 1 tonne of aluminium

Fig. 6.4

Process of Manufacturing in Aluminium Industry



4 to 6 tonnes of Bauxite \rightarrow 2 tonnes of Alumina \rightarrow 1 tonne of Al

(a) 4



(c) 1

(d) 10



Chemical Industry

Fast Growing industry

Produces Both Organic and
Inorganic Chemicals

Has both large and small scale
manufacturing units

Inorganic chemicals include
sulphuric acid, nitric acid,
alkalies, soda ash



Chemical Industry

Inorganic chemicals include

- ❖ sulphuric acid
 - (used to manufacture :
 - fertilizers ✓
 - synthetic fibres ✓
 - Plastics ✓
 - adhesives, paints, dyes stuffs ✓

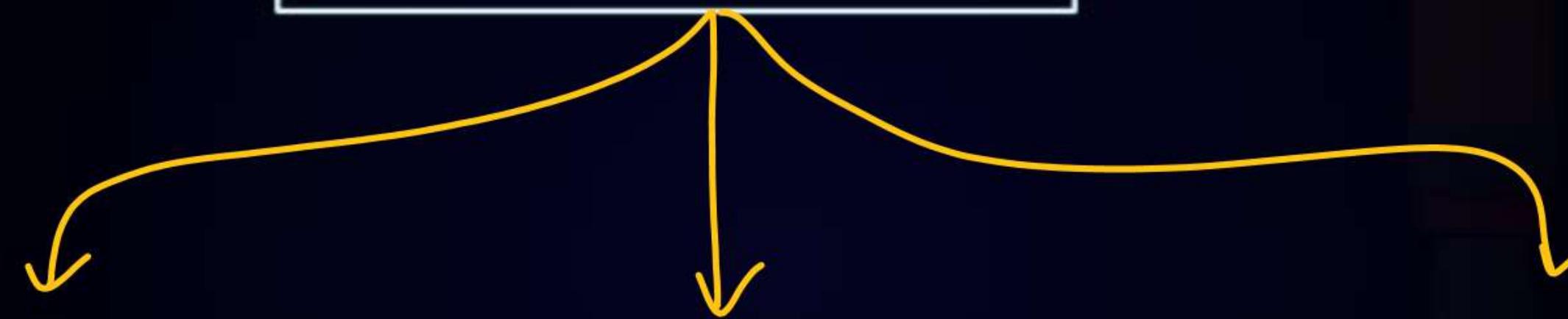
nitric acid, alkalies,

- ❖ soda ash
- ❖ (used to make:
 - glass ✓
 - soaps and detergents, paper ✓
 - caustic soda. ✓



Chemical Industry

Organic chemicals include
petrochemicals



synthetic fibers

synthetic rubber

plastics, dye-stuffs,



Chemical Industry

- Chemical industry is its own largest consumer
- Basic chemicals undergo processing to further produce other chemicals
- These are used for industrial application, agriculture or directly for consumer markets.

Fertiliser
↓
Agriculture



Fertiliser Industry

- ★ The fertilizer industry is centred around the production of :

➤ nitrogenous fertilizers (mainly urea)

➤ phosphatic fertilizers and ammonium phosphate (DAP)

➤ and complex fertilizers which have a combination of nitrogen (N), phosphate (P), and potash (K).

import

- ★ The third, i.e. potash is entirely imported as the country does not have any reserves of commercially usable potash or potassium compounds in any form.



Fertiliser Industry

★ After the Green Revolution the industry expanded to several other parts of the country.

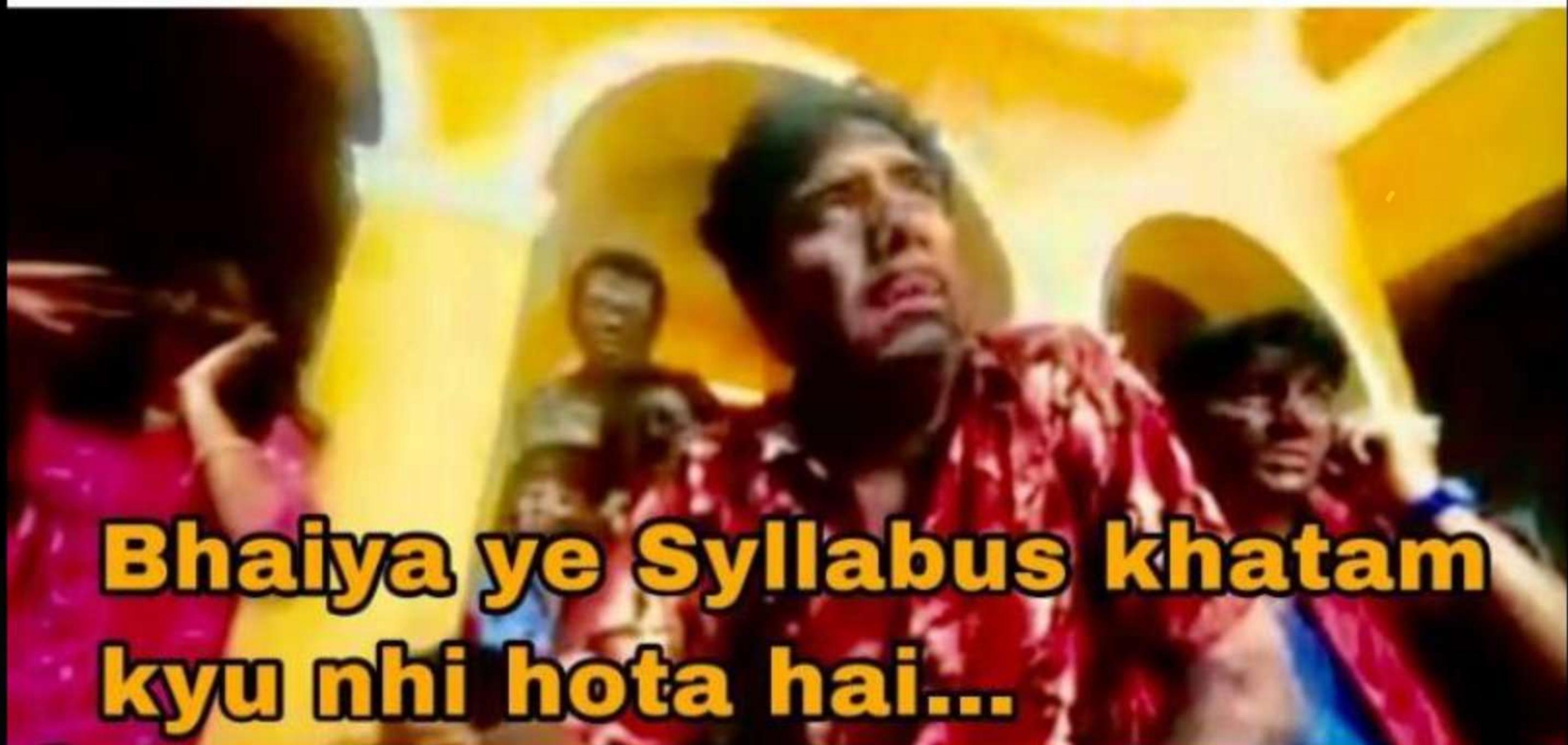
★ Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala contribute towards half of the fertilizer production.

★ Other significant producers are : Andhra Pradesh, Odisha, Rajasthan, Bihar, Maharashtra, Assam, West Bengal, Goa, Delhi, Madhya Pradesh and Karnataka.





Bhaiya, ye deewar tootti
kyun nahi hai?



**Bhaiya ye Syllabus khatam
kyu nhi hota hai...**



Cement Industry

- Cement is essential for construction activity such as **building houses, factories, bridges, roads, airports, dams and for other commercial establishments.**
- This industry requires bulky and heavy raw materials like **limestone, silica and gypsum.**
- Coal and electric power are needed apart from **rail transportation.**
- Major Industrial Location : **Around Gujarat**

Q. Cement Industry is a —

- (a) Cottage
- (b) Agro-Based
- (c) Heavy Industry
- (d) Both b & c



Automobile Industry

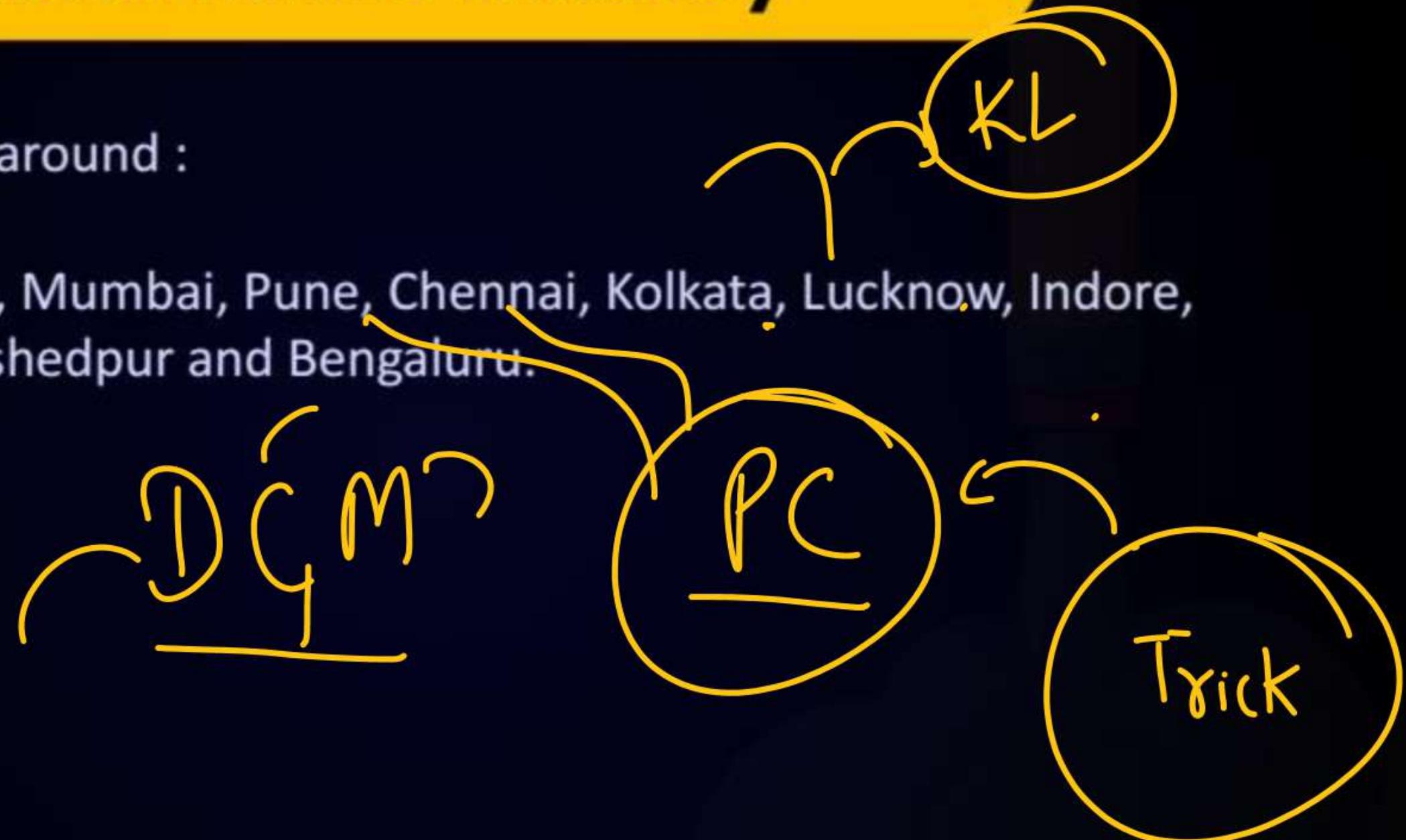
- This industry provides vehicles for quick transport of goods and passengers.
- The industry has experienced rapid growth in last 15 years.
- Foreign Direct Investment brought in new technology and aligned the industry with global developments.
- The Automobile industry in India:
 - ▲ 15 manufacturers of passenger cars and multi-utility vehicles
 - ▲ 9 of commercial vehicles
 - ▲ 14 of the two and three-wheelers.



Automobile Industry

Industry is located around :

- Delhi, Gurugram, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bengaluru.



Last
Industry



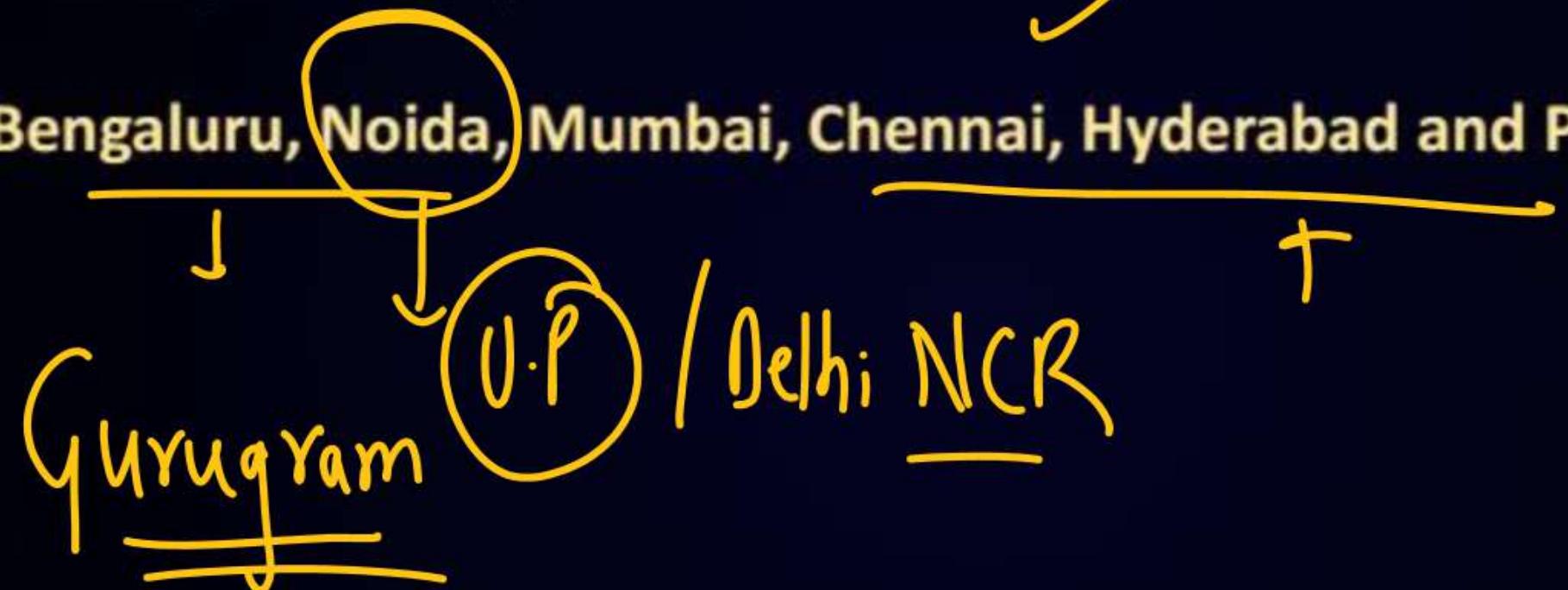
IT and Electronics

- ❖ The electronics industry covers a wide range of products from:
 - transistor sets to television, telephones, cellular telecom,
 - telephone exchange, radars, computers and ✓
 - many other equipments required by the telecommunication industry.
- ❖ Bengaluru has emerged as the electronic capital of India.
- ❖ Other important centres for electronic goods are Mumbai, Delhi,
Hyderabad, Pune, Chennai, Kolkata, Lucknow and Coimbatore.



IT and Electronics

- ❖ The major industry concentration is at:
- ❖ Bengaluru, Noida, Mumbai, Chennai, Hyderabad and Pune.



PW

_____ is the electronic capital of India

- (a) Mumbai
- (b) Noida
- (c) Bengaluru
- (d) Kolkata

Fun Question

Fill up : G — J — R H — L — A

(a) Gulab Jamun

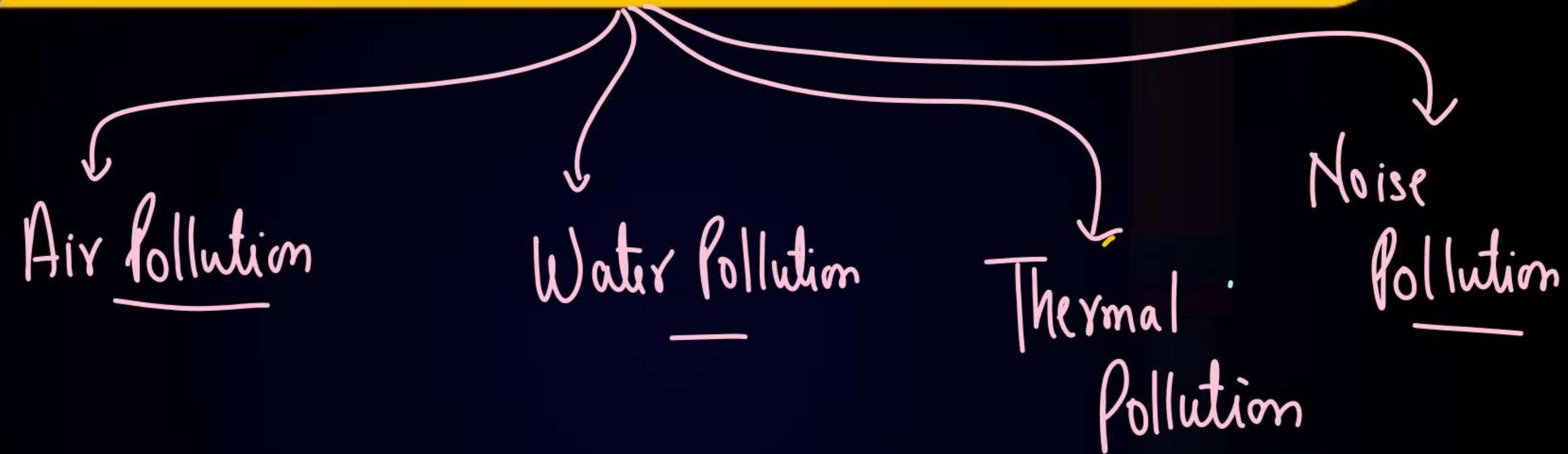
(b) Gajar Halwa

(c) Gajar HuLWA

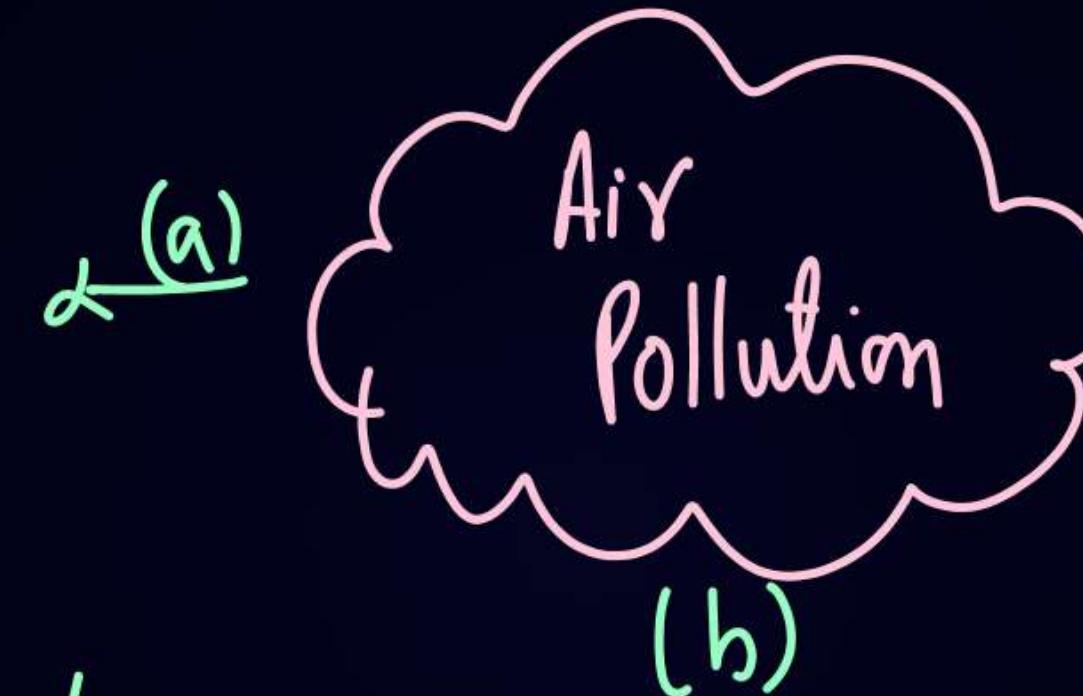
(d) None



Industrial Pollution and Environmental Degradation



Caused By
Presence of gases
like $\rightarrow \text{SO}_2, \text{CO}$
in air in large amounts

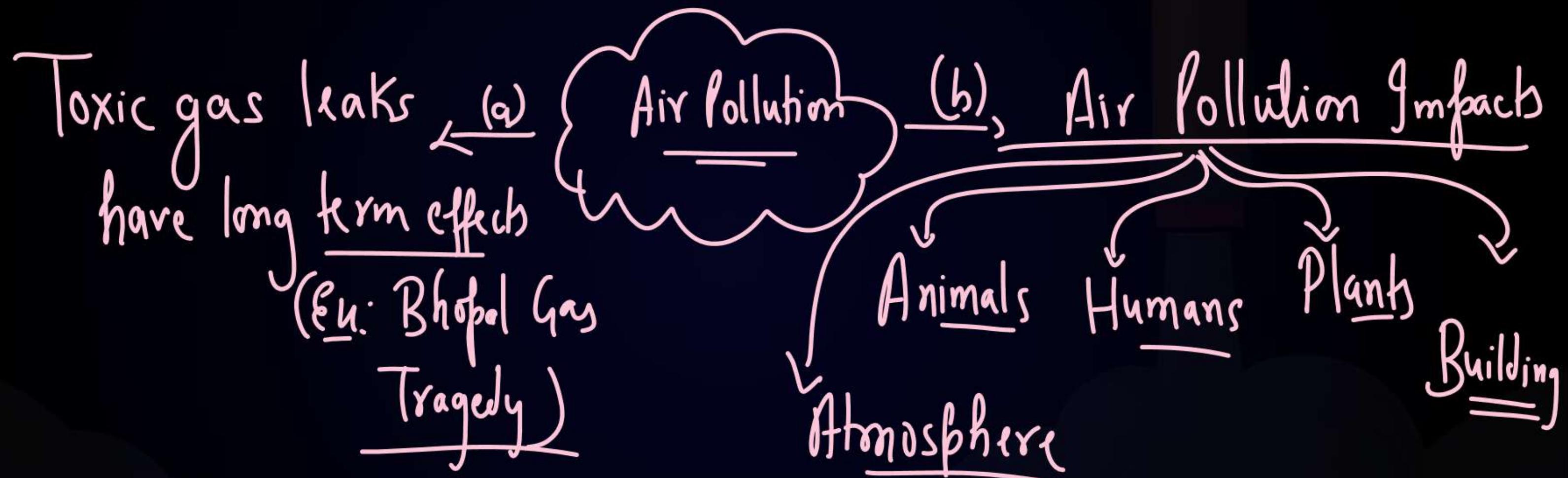


Other Particles

Particulate Matter (PM 10, 2.5)
Dust, mist-

Contributing Factors

↓
Smoke emitted by paper
and chemical factories,
brick kilns,
burning of
fossil fuels



Afforestation

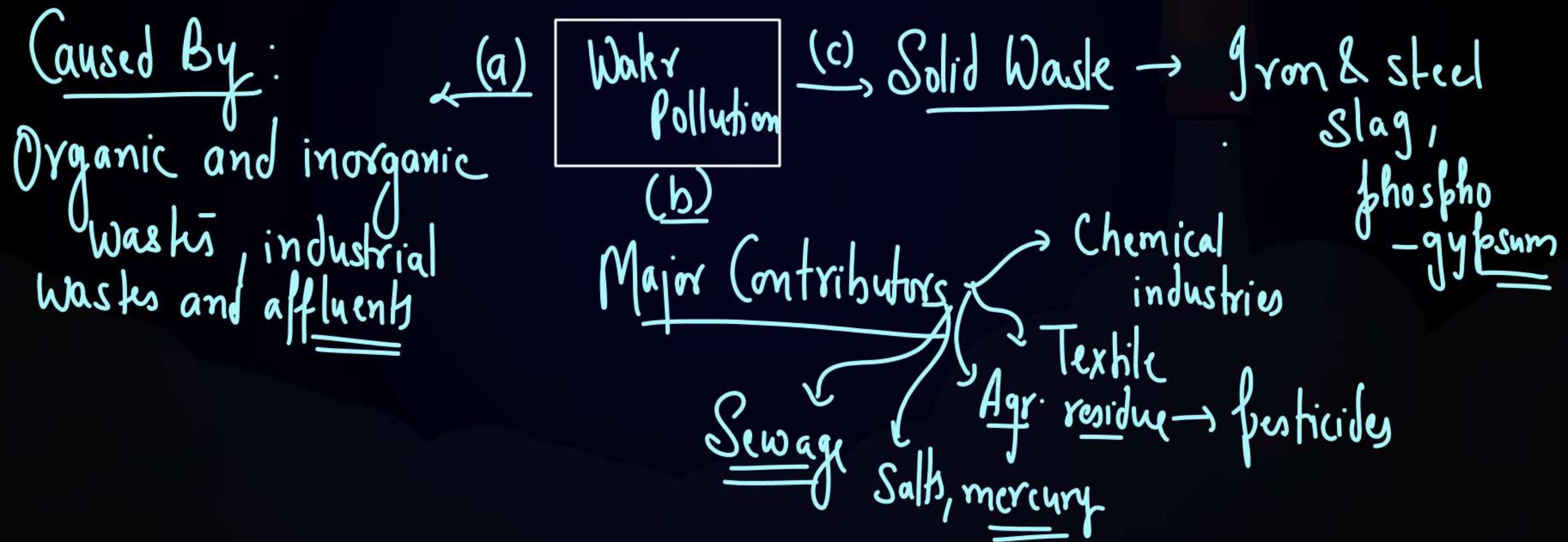


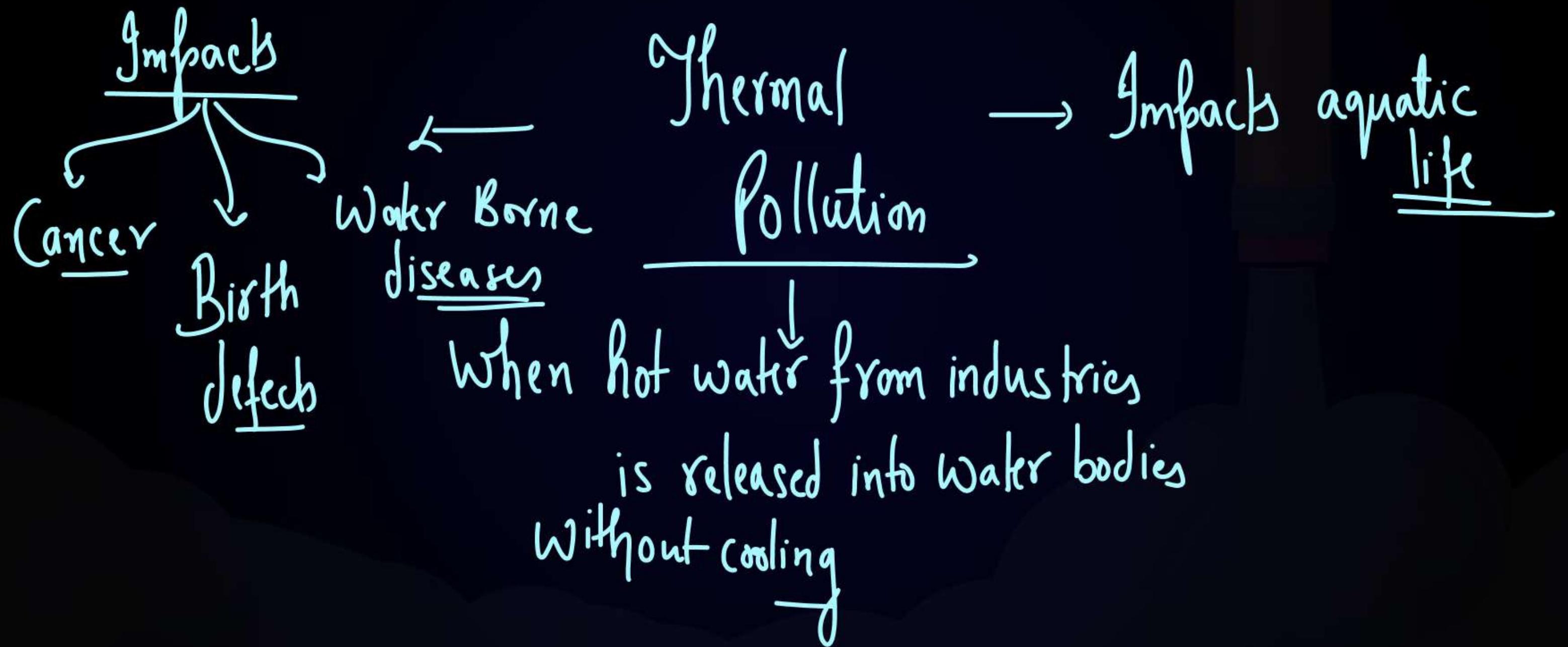
Air Pollution

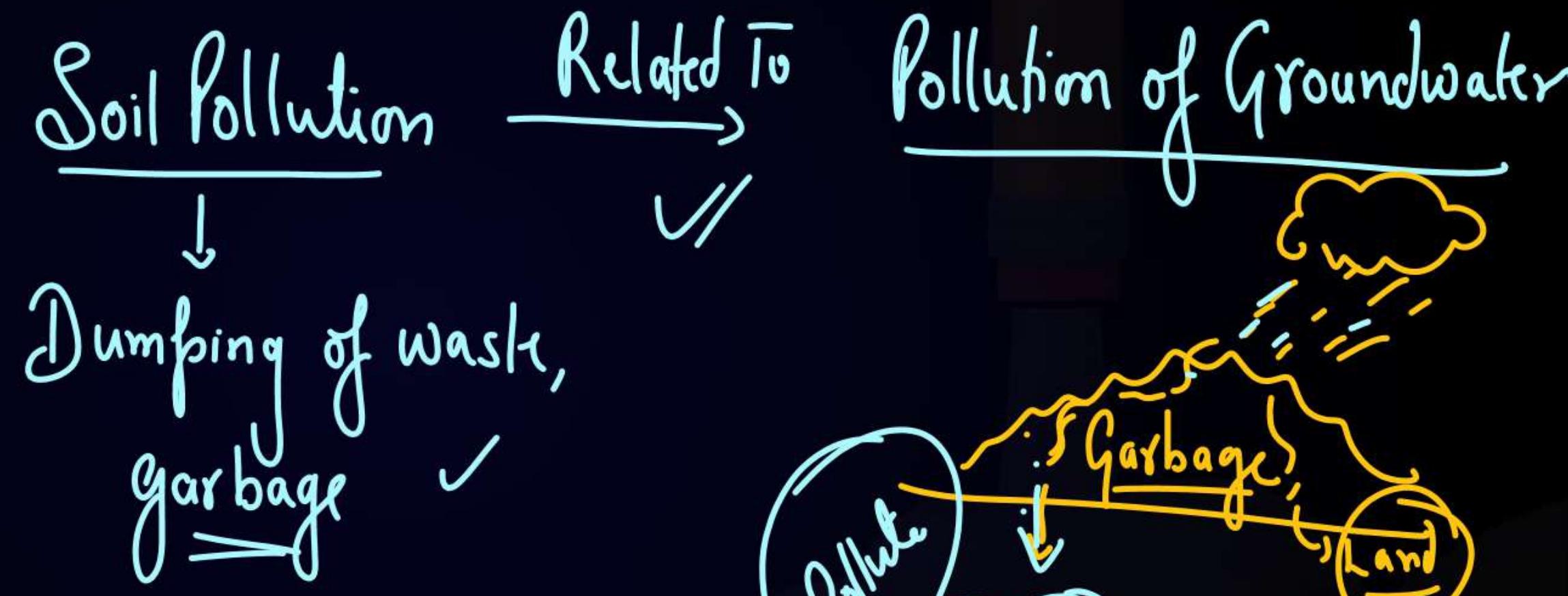
↓
Solution

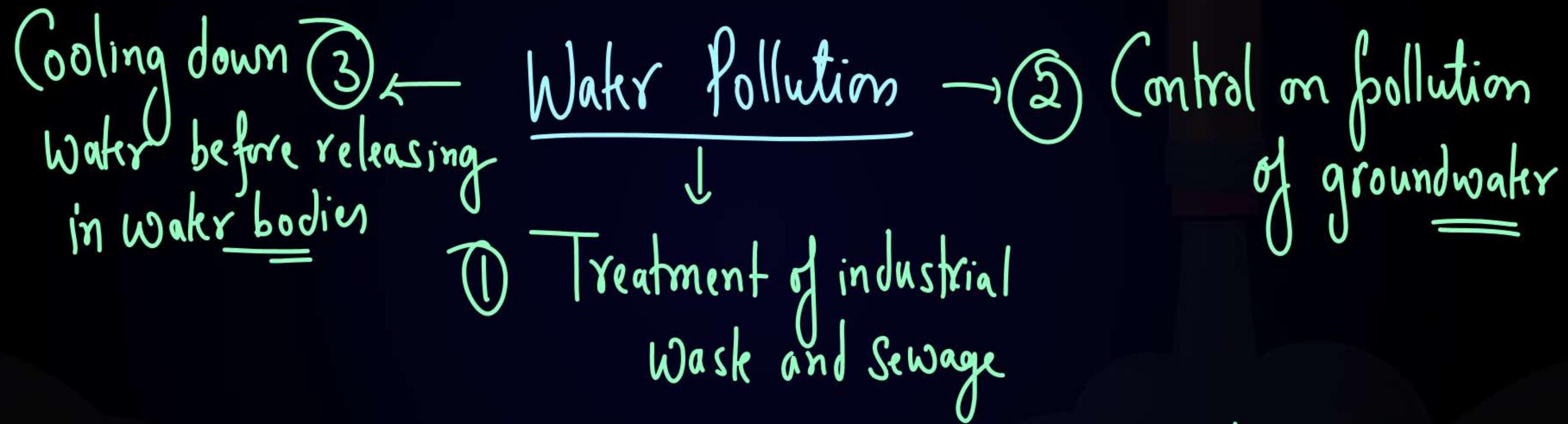
Use of electrostatic precipitators,
smoke stacks, fabric filters
in the chimney.

→ Use renewable sources
and reduce use
of fossil fuels







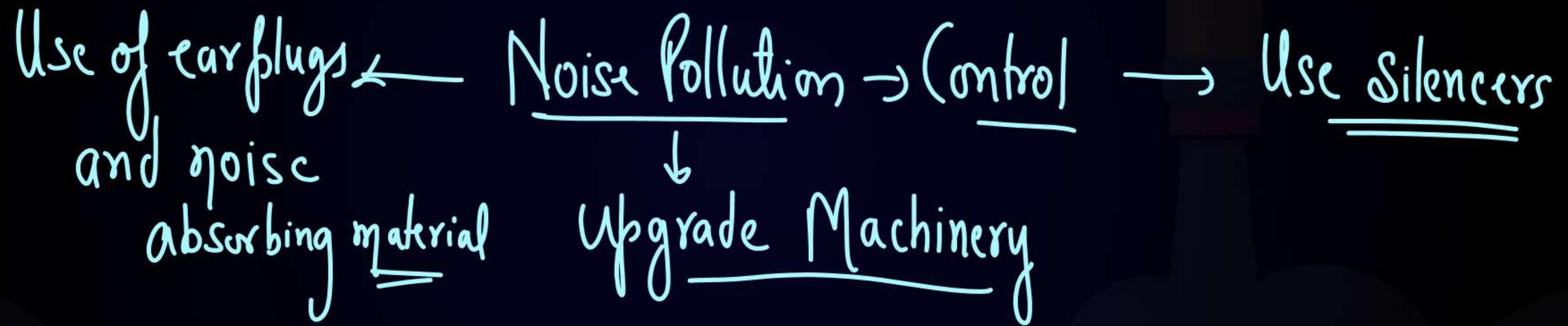


Refers to
unwanted sound

Noise pollution

③ Causes → Noise from
vehicles, machines,
construction
sites





Control of Environmental Degradation

Every litre of waste water discharged by our industry pollutes eight times the quantity of freshwater. How can the industrial pollution of fresh water be reduced? Some suggestions are-

- (i) minimising use water for processing by reusing and recycling it in two or more successive stages ✓
- (ii) harvesting of rainwater to meet water requirements ✓
- (iii) treating hot water and effluents before releasing them in rivers and ponds.
Treatment of industrial effluents can be done in three phases ✓
 - (a) Primary treatment by mechanical means.
This involves screening, grinding, flocculation and sedimentation. ✓
 - (b) Secondary treatment by biological process ✓
 - (c) Tertiary treatment by biological, chemical and physical processes. This involves recycling of wastewater. ✓

Q2023 PYQ

~~Q~~ Discuss the steps to control the pollution of freshwater

(5)

CASE STUDY -NTPC



NTPC shows the way

NTPC is a major power providing corporation in India. It has ISO certification for EMS (Environment Management System) 14001. The corporation has a proactive approach for preserving the natural environment and resources like water, oil and gas and fuels in places where it is setting up power plants. This has been possible through-

- (a) Optimum utilisation of equipment adopting latest techniques and upgrading existing equipment. ✓
- (b) Minimising waste generation by maximising ash utilisation. ✓
- (c) Providing green belts for nurturing ecological balance and addressing the question of special purpose vehicles for afforestation. ✓
- (d) Reducing environmental pollution through ash pond management, ash water recycling system and liquid waste management. ✓
- (e) Ecological monitoring, reviews and on-line database management for all its power stations. ✓



NTPC has earned a certification in _____.

- (a) Environment Meteor System
- (b) Environment Meeting System
- (c) Environment Management System
- (d) Name

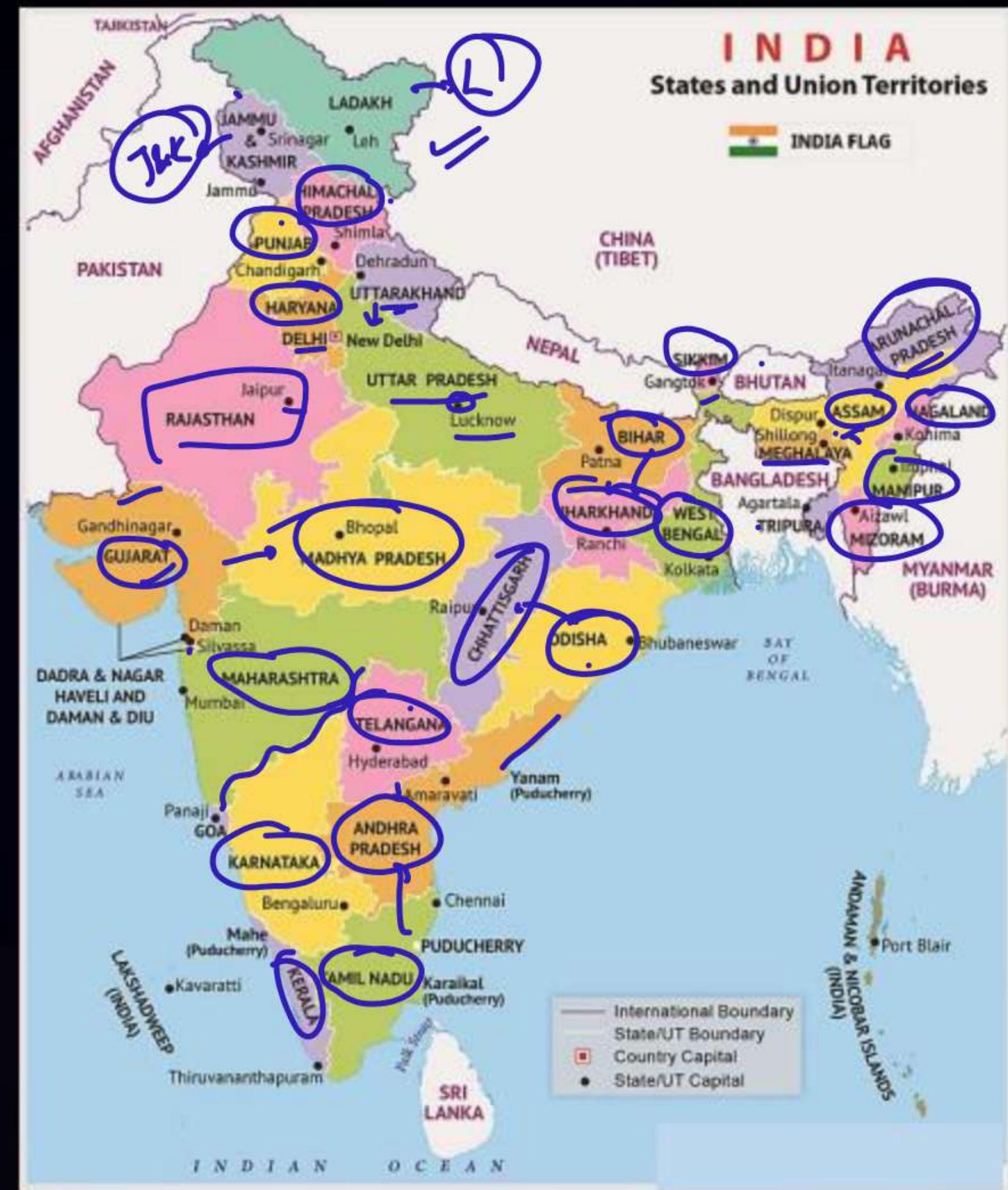


Map Work



INDIA

States and Union Territories



Manufacturing Industries

P
V

I. Manufacturing Industries

(Locating and Labelling only)

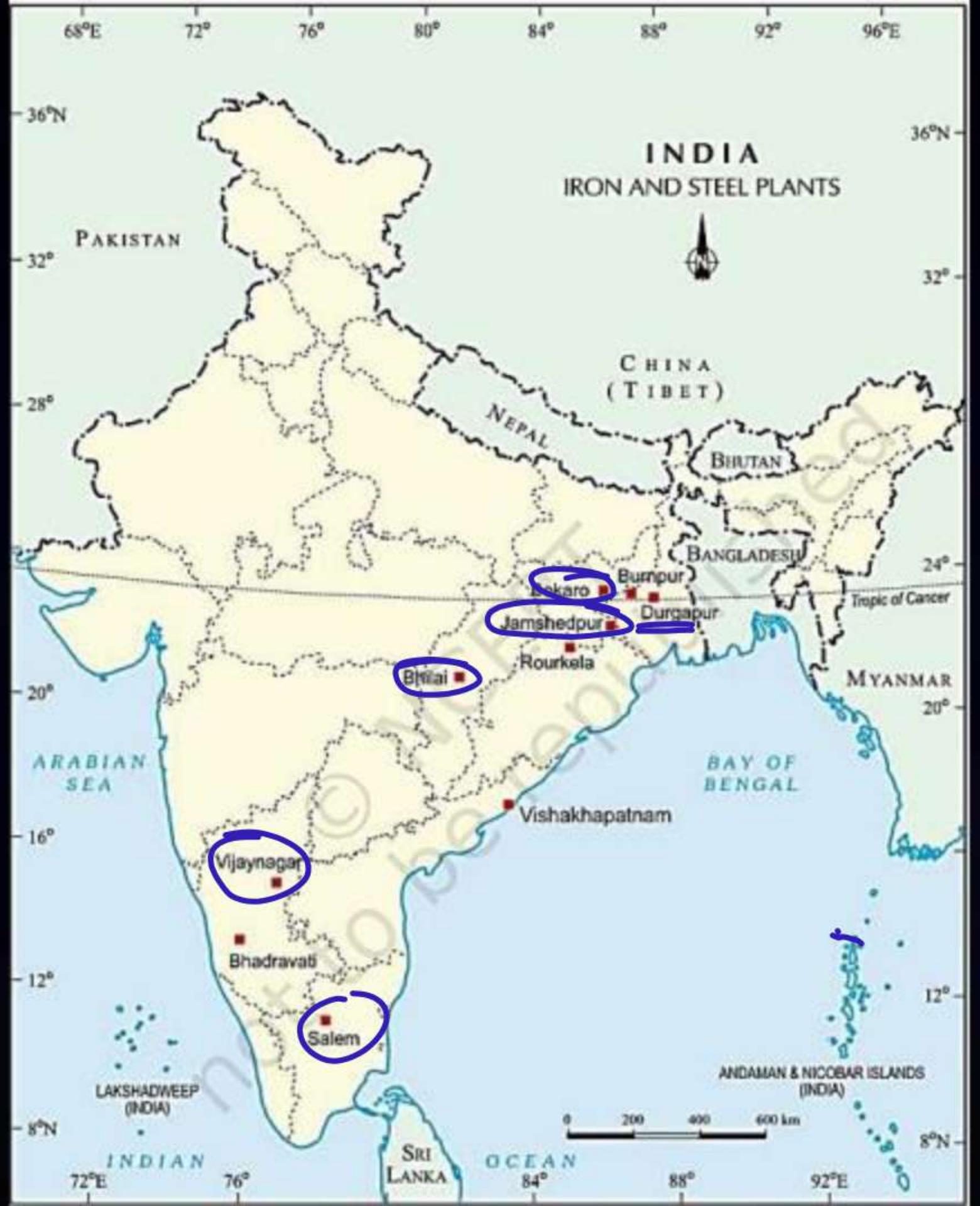
- Cotton Textile Industries: a. Mumbai b.
Indore c. Surat d. Kanpur e. Coimbatore
- Iron and Steel Plants: a. Durgapur b.
Bokaro c. Jamshedpur d. Bhilai e.
Vijayanagar f. Salem
- Software Technology Parks: a. Noida b.
Gandhinagar c. Mumbai d. Pune e.
Hyderabad, f. Bengaluru g. Chennai. h.
Thiruvananthapuram







**INDIA
IRON AND STEEL PLANTS**



(i) Which one of the following industries uses limestone as a raw material.

- a) Aluminium
- b) Cement ✓
- c) Sugar
- d) Jute

(ii) Which one of the following agencies markets steel for the public sector plants?

- a) HAIL
- b) SAIL
- c) TATA Steel
- d) MNCC

(iii) Which one of the following industries uses bauxite as a raw material?

- a) Aluminium
- b) Cement
- c) Jute
- d) Steel

(iv) Which one of the following industries manufactures telephones, computer, etc?

- a) Steel
- b) Electronic
- c) Aluminium
- d) Information Technology

(v) What are the basic industries? Give an example.



Solution:

- o Basic or key industries are the industries which supply their product or raw materials to manufacture other goods.
- o For example, iron and steel industries provide iron and steel to other industries as raw materials.

vi) How do industries pollute the environment?

Solution:

Industries are responsible for four types of pollution:

- Air
 - Water
 - Land
 - Noise
- Air pollution is caused by the presence of a high proportion of undesirable gases, such as sulphur dioxide and carbon monoxide and airborne particulate matter.
- Water pollution is caused by organic and inorganic industrial wastes and effluents discharged into water bodies. Paper, refineries and tanneries are the main culprits.
- Soil and water pollution are closely related. The dumping of waste makes the soil useless for agricultural activities. The pollutants then reach the groundwater through the soil and contaminate it.
- Noise pollution is caused by industrial machinery and construction activities.



(vii) Discuss the steps to be taken to minimise environmental degradation by industry.

Solution:

The steps that can be taken to minimise environmental degradation by industries are given below:

1. Adopting the latest techniques and upgrading existing equipment to improve energy efficiency.
2. Providing green belts for nurturing ecological balance.
3. Particulate matter in the air can be reduced by fitting smokestacks to factories with electrostatic precipitators, fabric filters, scrubbers and inertial separators.
4. Using silencers for noise-generating equipment.
5. Minimising water usage by reusing and recycling it in two or more successive stages.
6. Harvesting of rainwater to meet water requirements
7. Treating hot water and effluents before releasing them in rivers and ponds. Treatment of industrial effluents can be done in three phases:
 1. Primary treatment by mechanical means. This involves screening, grinding, flocculation and sedimentation.
 2. Secondary treatment by biological process
 3. Tertiary treatment by biological, chemical and physical processes. This involves the recycling of wastewater.

PYQ → 5 marks



Thank You



Keep Fighting Warriors...