

UPDAAN

2025

Water Resources

Geography

Lecture - 02

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Topics

to be covered

- 1 Water Scarcity
- 2 Govt. Schemes
- 3 Dams
- 4



Ques

Which of the following defines water scarcity?

- (a) Unavailability of frozen water
- (b) Unavailability of ground water
- ☒ (c) Unavailability of water to meet the needs
- (d) None

Dilo Ka Shooter Hai Mera Scooter

Dilo Ka Shooter

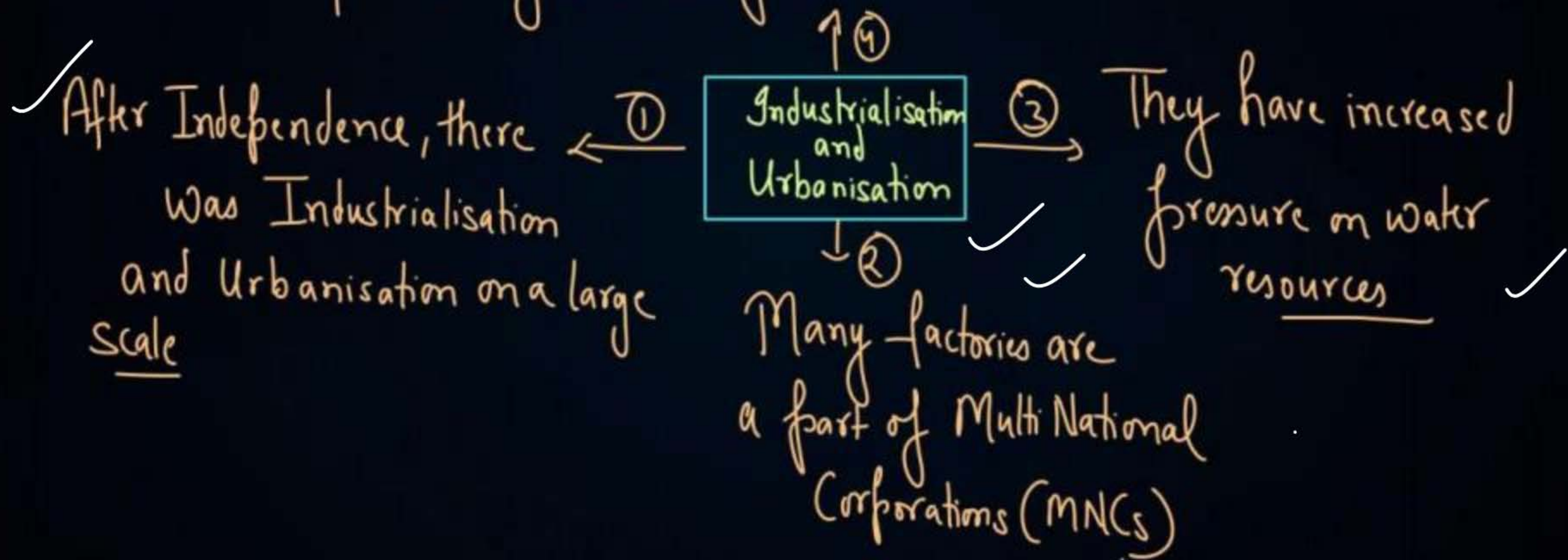




WATER SCARCITY



- * They are heavy users of water ✓
- * They need power (electricity) to run their machines which comes from hydroelectricity ✓



22.1. of India's power needs comes from
hydroelectricity.



Water Scarcity-Quantitative Aspects



- over-exploitation ✓
- excessive use ✓
- unequal access to water among different social groups. ✓



Water Scarcity-Quantitative Aspects



Increased Domestic Use

- Increasing Urban Centres (cities) with large and dense populations and urban lifestyles have added to water and energy requirements.



- Housing societies and colonies in cities – mostly have their own groundwater pumping devices to meet their water needs



- Result**

Fragile water resources are being overexploited and have caused their depletion in many cities

Ques

Dogesh and Dogelina were preparing for class test. In the test they were asked about reasons for quantitative aspect of water scarcity. Dogesh cheated the answers from Vindhyaak Ji. The reasons could be:

- (a) Large growing population
- (b) Increasing Urban centres
- (c) Industrialisation and Urbanisation
- ☒ (d) All



Water Scarcity-Qualitative Aspects



① Sometimes water is available in quantity but still the area faces water scarcity

② This could be because of poor quality of water

③ Nowadays water gets polluted due to

→ Domestic and Industrial Wastes

→ Fertilisers, Insecticides and pesticides from agriculture

Jal Jeevan Mission



→ 2 marks

- Government of India has given highest priority to improve the quality of life and enhance ease of living of people especially those living in rural areas by announcing the **Jal Jeevan Mission (JJM)**.



Har Ghar Jal
Jal Jeevan Mission

- The Goal of JJM is to enable every rural household get assured supply of potable piped water at a service level of 55 litres per capita per day regularly on long-term basis by ensuring functionality of the tap water connections



1. Atal Bhujal Yojana (Atal Jal) is being implemented in 8220 water stressed Gram Panchayats of 229 administrative blocks/ talukas in 80 districts of seven states

Karnataka

2. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh.

(ye Kunal (फि))

Atal Bhujal Yojana

Gaon Hai ✓
→ Guj → Haryana

Trick

(R) U my ✓
Mama?

G H K

M²

R U

3. The selected States account for about 37 per cent of the total number of water—stressed (over-exploited, critical and semi-critical) blocks in India.

4. One of the key aspects of Atal Jal is to bring in behavioural changes in the community, from the prevailing attitude of consumption to conservation and smart water management.

Ques

Atal Bhujal Yojana is being implemented in _____ villages
of 229 Gram Panchayats

- (a) 7220
- ☒ (b) 8220
- (c) 8720
- (d) 8435



What Is Required Now ?



- ① → To safeguard (protect) water resources
- ② → Conserve and Manage → Water Resources
- ③ → Protect ourselves health hazards
- ④ → To ensure food security
- ⑤ → To make sure → development activities are done but without damaging the environment

MULTI-PURPOSE RIVER PROJECTS AND INTEGRATED WATER RESOURCES MANAGEMENT



- Archaeological and historical records show that from ancient times
- we have been constructing sophisticated hydraulic structures like
 - dams built of stone rubble ✓
 - reservoirs or lakes ✓
 - embankments and canals for irrigation. ✓

↓ which stores
or manages water

Hydraulic Structures in Ancient India

- In the first century B.C., Sringaverapura near Allahabad had sophisticated water harvesting system channelling the flood water of the river Ganga.

- harvesting system channelling the flood water of the river Ganga.
- During the time of Chandragupta Maurya, dams, lakes and irrigation systems were extensively built.
- Evidences of sophisticated irrigation works have also been found in Kalinga, (Odisha), Nagarjunakonda (Andhra Pradesh), Bennur (Karnataka), Kolhapur (Maharashtra), etc.
- In the 11th Century, Bhopal Lake, one of the largest artificial lakes of its time was built.
- In the 14th Century, the tank in Hauz Khas, Delhi was constructed by Iltutmish for supplying water to Siri Fort area.

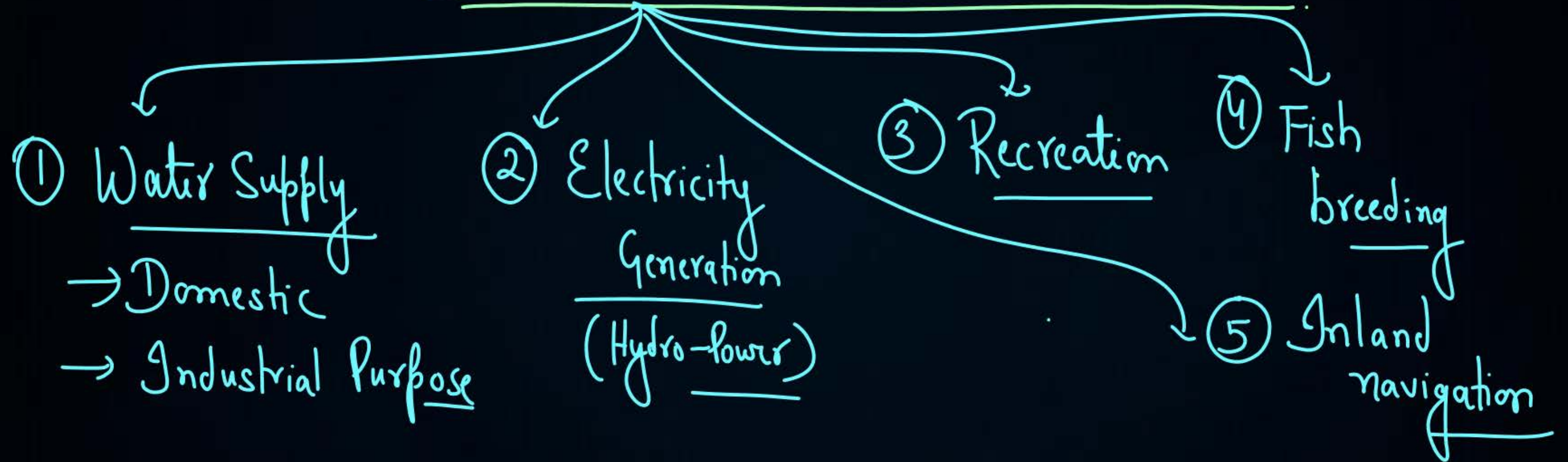
DAMS – AND HOW THEY HELP IN CONSERVING WATER



- ① Dams in ancient times were built to collect rainwater and river water
- ② This water could be used for irrigation
- ③ Now Dams are used for multiple purposes

DAMS AS MULTIPURPOSE PROJECTS

Dams → Now used for multiple purposes

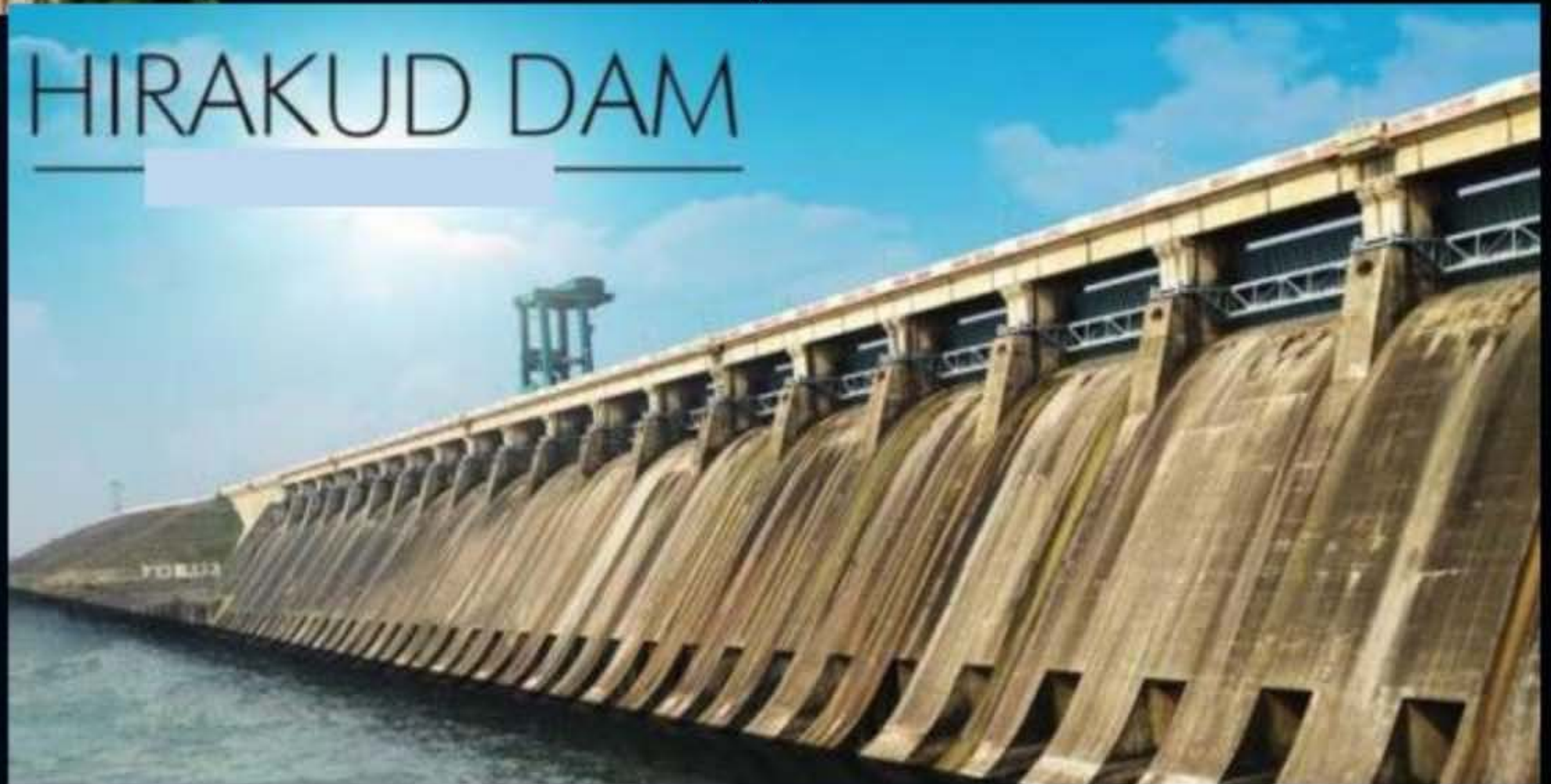




→ Bhakra
Nangal



→ HiraKud Dam



HIRAKUD DAM



BHAKRA NANGAL AND HIRAKUD PROJECTS

Bhakra-Nangal

Constructed across
Beas-Satluj river basin

Two benefits

Water for
irrigation

Hydro power
generation

Hirakud

→ Built across river Mahanadi
in Odisha.

→ Longest dam in India

→ Benefits
 → Water Conservation
 → Flood Control

Ques

The tank in Hauz Khas Delhi was constructed by

- (a) Babur
- (b) Alauddin Khilji
- (c) Baburao Ganpatrao Apte
- ☒ (d) Iltutmish

Q Who called

DAMS –TEMPLES OF MODERN INDIA ? (2)



Multi-purpose projects launched after independence
had integrated water resources management approach



India will
grow and progress



DAMS –TEMPLES OF MODERN INDIA



Jawahar Lal
Nehru



Called Dams – Temples of Modern India



Reason?



Integrate development of agriculture and village economy with

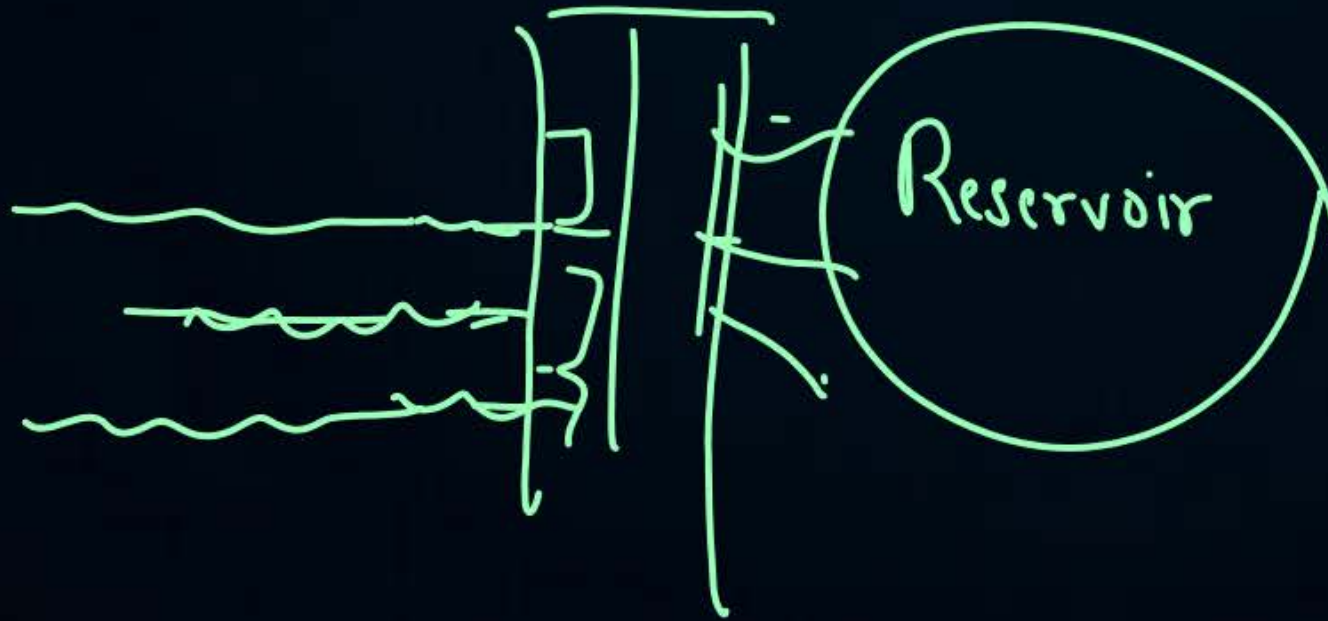


Rapid Industrialisation and urban economy

Read the given passage about dams and answer the questions given:



A dam is a barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment. "Dam" refers to the reservoir rather than the structure. Most dams have a section called a spillway or weir over which or through which it is intended that water will flow either intermittently or continuously. Dams are classified according to structure, intended purpose or height. Based on structure and the materials used, dams are classified as timber dams, embankment dams or masonry dams, with several subtypes. According to the height, dams can be categorised as large dams and major dams or alternatively as low dams, medium height dams and high dams.





↓ Timber
Dam

Embankment Dam.



✓
→ Masonry Dam

QUESTION



Which of the following correctly describes a dam ?

- A** A dam is a barrier across flowing water
- B** It obstructs, directs or retards the flow
- C** Creates a reservoir, lake or impoundment
- D** All

QUESTION



Most dams have a _____ through which the water flows intermittently or continuously



A Spillway or weir

B Reservoir

C Passage

D None

QUESTION



Based on structure and the materials used, dams are classified as

- A** Timber Dams
- B** Embankment Dams
- C** Masonry Dams
- D** All

Hey Udaanians ! Kaisan Ba ?



Tohar Class Monitor Douglas This Side ..



THANK
YOU

