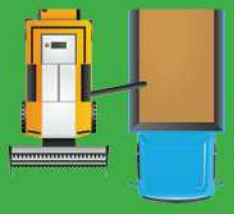
3

Geography * * *

COMPONENTS OF AGRICULTURE

MIND MAP



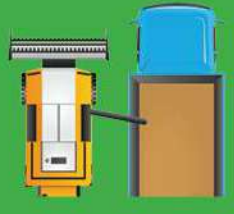
COMPONENTS OF AGRICULTURE

SOIL
- Alluvial soil
- Black soil
- Red soil
- Laterite soil
- Forest and Mountain soil
- Arid and Desert soil
- Saline and Alkaline soil
- Peaty and Marshy soil

IRRIGATION
- Canal Irrigation
  - Inundation Canals
  - Perennial Canals
- Well Irrigation
  - Open Wells
  - Tube Wells
- Tank Irrigation

FARMING
- Subsistence Farming
- Shifting Farming
- Intensive Farming
- Dry Farming
- Mixed Farming
- Terrace Cultivation

CROPS
- Food Crops
  - Rice
  - Wheat
  - Jowar
  - Bajra
  - Barley
  - Pulses
- Cash Crops
  - Sugarcane
  - Jute
  - Oil seeds
- Plantation Crops
  - Tea
  - Coffee
  - Rubber
  - Spices
- Horticulture Crops
  - Fruits
  - Flowers
  - Vegetables



LIVESTOCK & FISHERIES
- Cattle
- Goats
- Buffaloes
- Sheep
- Pigs
- Marine or Sea Fisheries
- Inland or Fresh Water Fisheries

POINTS TO REMEMBER

- Soil is the finest particle found on the earth surface.
- Kharif, Rabi and Zaid are the three cropping seasons of India.
- Fishing in India is categorized into marine fishing and inland fishing.
- Canal irrigation is the second most important source of irrigation in our country.
- Wells are of two types: (i) Open wells and (ii) Tube wells
- Drip system is used to watering like drops at near the roots of plant.
- Shifting agriculture is also called "slash and burn" cultivation.
  This is called under various names in various regions (Jhum - Assam, Poonam - Kerala, Podu - Andhra Pradesh, Odisha, Beewar, Mashan, Penda, Beera - various parts of Madhya Pradesh)
- Rice in India is sown in three ways:
  i) Broadcasting
  ii) Ploughing or drilling and
  iii) transplanting
- First Livestock census in India was conducted with the title of Dairy Cattle Census in 1919. Following this, the 19th Livestock census was conducted in October 2012 and it takes place at every five years.

PLACES AND THEIR IMPORTANCE

As per the Irrigation – Statistical Year Book India – 2017, the top five States with respect to the percentage of areas under well irrigation during 2013-14 are: (1) Uttar Pradesh, (2) Madhya Pradesh, (3) Rajasthan, (4) Gujarat, (5) Punjab.

Five leading states in tank irrigation are: (1) Tamil Nadu, (2) Andhra Pradesh, (3) Madhya Pradesh, (4) Telangana, (5) Karnataka.

PER DROP MORE CROP: (Improving water use efficiency) - Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) Micro Irrigation scheme: Top five States: (1) Andhra Pradesh, (2) Karnataka, (3) Gujarat, (4) Maharashtra, (5) Tamil Nadu.

I. Choose the correct answer:

TEXTUAL QUESTIONS

1. **The soil which is rich in iron oxides is _____.**
   a) Alluvial b) Black c) Red d) Alkaline

2. **Which of the following organizations has divided the Indian soils into 8 major groups?**
   a) Indian Council of Agricultural Research b) Indian Meteorological Department
   c) Soil Survey of India d) Indian Institute of Soil Science

3. **The soils formed by the rivers are:**
   a) Red soils b) Black soils c) Desert soils d) Alluvial soils

4. **_____ dam is the highest gravity in India.**
   a) Hirakud dam b) Bhakra Nangal dam c) Mettur dam d) Nagarjuna Sagar dam

5. _____ is a cash crop.
   a) Cotton b) Wheat c) Rice d) Maize

6. Black soils are also called as:
   a) Arid soils b) Saline soils c) Regur soils d) Mountain soils

7. The longest dam in the world is _____.
   a) Mettur dam b) Kosi dam c) Hirakud dam d) Bhakra-Nangal dam

8. The leading producer of rice in India is _____.
   a) Punjab b) Maharashtra c) Uttar Pradesh d) West Bengal

9. Which crop is called as "Golden Fibre" in India?
   a) Cotton b) Wheat c) Jute d) Tobacco

10. The state which leads in the production of coffee is
    a) West Bengal b) Karnataka c) Odisha d) Punjab

ADDITIONAL QUESTIONS

11. Soil degradation is
    a) an ordinary problem b) an immediate problem
    c) an acute problem d) No problem

12. 'Slash and burn' cultivation is related to
    a) shifting agriculture b) subsistence farming
    c) intensive family d) None of the above

13. Bajra is an indigenous plant of
    a) India b) Africa c) America d) Australia

14. Horticulture crops are
    a) tobacco, sugarcane, cotton, Jute, oil seeds b) wheat, maize, rice, millets, pulses
    c) fruits, flowers and vegetables d) None of the above

ANSWER

1. c) Red 2. a) Indian Council of Agricultural Research
3. d) Alluvial soils 4. b) Bhakra Nangal dam 5. a) Cotton
6. c) Regur soils 7. c) Hirakud dam 8. d) West Bengal
9. c) Jute 10. b) Karnataka 11. c) an acute problem
12. a) shifting agriculture 13. b) Africa
14. c) fruits, flowers and vegetables

II. Fill in the blanks:

ADDITIONAL QUESTIONS

1. Soils are generally formed by the _____.
2. The Indian council of agriculture research was setupin _____.
3. _____ Soil has high degree of moisture retertivity.

4. Watering of Agricultural plants through artifical means is called _____.
5. Irrigation by _____ is a very old system in India.
6. Central pivot irrgation is also called __ _____
7. _____ are the premier source of fat in the Indian diet.
8. _____ is the high quality coffee and _____ is the inferior quality of coffee.
9. _____ is an integral component of the farming system in India.
10. Fishing in India is categorised into ___ _____ and ___ _____.

ANSWER

1. weathering of rocks
2. 1953
3. Black
4. irrigation.
5. tank
6. water wheel and circle irrigation
7. Oil Seeds
8. Arabica, Robusta
9. Live stock
10. marine fishing, inland fishing

III. Consider the given statements and choose the right option given below:

TEXTUAL QUESTIONS

1. **Assertion (A) :** **Horticulture involves cultivation of fruits, vegetables and flowers.**
   Reason (R) : **India ranks first in the world in the production of mango, banana, and citrus fruits.**
   a) Both (A) and (R) are true and (R) explains (A)
   b) Both (A) and (R) are true: (R) does not explain (A)
   c) (A) is correct (R) is false
   d) (A) is false (R) is true

2. **Assertion (A) :** **Alluvial soil is formed by the deposition of eroded and decayed materials brought by the rivers.**
   Reason (R) : **Paddy and wheat are grown well in the soil.**
   a) Both (A) and (R) are true and (R) explains (A)
   b) Both (A) and (R) are true and (R) does not explain (A)
   c) (A) is correct (R) is false
   d) (A) is false (R) is true

ADDITIONAL QUESTIONS

3. **Assertion (A) :** **Spices like pepper, chillies turmeric, ginger, cardamom, clove and areca are cultivated in India.**
   Reason (R) : **Fruits and vegetables are important supplement to the human diet as they provide essential minerals and vitamins.**
   a) Both (A) and (R) are true and (R) explains (A)
   b) Both (A) and (R)are True
   c) (A) is correct (R) does not explain A
   d) (A) is false and (R) is true

4. **Assertion (A) : Alkaline soils cause water logging and salination of soils.**
   Reason (R) : It consists of undecomposed rock and mineral fragments which are weathering.
   a) Both (A) and (R) are true and (R) explains (A)
   b) (A) is correct (R) does not explain (A)
   c) (A) is correct and (R) is false
   d) (A) is correct and (R) is True

ANSWER

1. c) (A) is correct (R) is false
2. b) Both (A) and (R)
3. b) Both (A) and (R)are True
4. a) Both (A) and (R) are true and (R) explains (A)

IV. Circle the odd one out:

TEXTUAL QUESTIONS

1. a) Wheat b) Rice c) Millets **d) Coffee**
2. a) Khadar b) Bhangar c) Alluvial soil **d) Black soil**
3. a) Inundational canals b) Perennial canals **c) Tanks** d) Canals

ADDITIONAL QUESTIONS

4. a) gunny bags, b) carpets, c) ropes **d) rubber**
5. a) goats, b) buffaloes, c) pigs, **d) peacock**
6. a) poultry, b) fisheries, c) dairy, **d) tannery**
7. a) tea, b) coffee, c) rubber, **d) wheat**

V. Match the following:

TEXTUAL QUESTIONS

A)

				Ans:
1.	Sugar bowl of India	a.	Mahanadi	1) d
2.	Coffee	b.	Golden revolution	2) c
3.	Tehri	c.	Karnataka	3) e
4.	Hirakud	d.	Uttar Pradesh and Bihar	4) a
5.	Horticulture	e.	Highest dam in the India	5) b

ADDITIONAL QUESTIONS

B)

				Ans:
1.	Arid and desert soil	a.	planting and growing trees	1) c
2.	Afforestation	b.	tribal people	2) a
3.	Drip system	c.	Rajasthan and Gujarat	3) d
4.	Nagarjana Sagar project	d.	drops at the roots of the plants	4) e
5.	Shifting agriculture	e.	Krishna river	5) b

C)

1.	terrace cultivation	a.	sutlej
2.	Barley	b.	largest producer of tea
3.	Sugarcane	c.	hilly areas
4.	Assam	d.	poor man's diet
5.	Indian Gandhi canal project	e.	cash crop

Ans:
1) c
2) d
3) e
4) b
5) a

D)

1.	Kachch	a.	Assam
2.	Panna	b.	Kerala
3.	Manas	c.	Gujarat
4.	Nanda Devi	d.	Uttarakhand
5.	Agasthya malai	e.	Madhya Pradesh

Ans:
1) c
2) a
3) b
4) d
5) e

VI. Answer the following in brief:

TEXTUAL QUESTIONS

1. **Define soil.**

Soil is the uppermost layer of the land surface, usually composed of minerals, organic matter, living organisms, air and water.

2. **Name the types of soil found in India.**

1. Alluvial soil, 2. Black soils, 3. Red soils, 4. Laterite soils, 5. Forest and mountain soil, 6. Arid and desert soils, 7. Saline and alkaline soils, 8. Peaty and marshy soils

3. **State any two characteristics of black cotton soil.**

It consists of calcium and magnesium carbonates, high quantities of iron, aluminium, lime and magnesia. It is rich in potash lime, aluminium, calcium and magnisium.

4. **What is Multipurpose Project?**

- It is a scientific management of water resources in our country. Construction of dam across rivers is aimed at many purposes.
- The various purposes of a dam serves are irrigation, hydro power generation, water supply for drinking and industrial purpose, controlling floods, development of fisheries, navigation, etc. Irrigation and hydro-power are the major aims of the projects.

5. **Define Agriculture.**

Agriculture is the process of producing food for people, fodder for cattle, fiber and many other desired products by the cultivation of certain plants and the raising of domesticated animals.

6. **State the types of agriculture practices in India.**

Subsistence Farming, Shifting Agriculture, Intensive Farming, Dry Farming, Mixed Farming Agriculture and Terrace Cultivation.

7. **Name the seasons of agriculture in India.**

1. Kharif season – June – September
2. Rabi season – October – March
3. Zaid season – April – June

8. **Mention the plantation crops of India.**

Tea, coffee, rubber, and spices are the major plantation crops of india.

9. **What do you mean by livestock?**

Livestock is an integral component of the farming system in India. The livestock sector is socially and economically very significant due to its multi-functional outputs and contribution to socio-cultural security. Livestock includes domesticated animals such as goats, buffaloes, sheep, pigs etc.

10. **Write a brief note on the categories of fisheries in India.**

- Fisheries in India are a very important economic activity and a flourishing sector with varied resources and potentials.
- There are 2 types of fishing categories. They are
  1) Marine or Sea Fisheries
  2) Inland or Fresh Water Fisheries

ADDITIONAL QUESTIONS

11. **Write a short note on challenges faced by farmers today.**

- Small and fragmented land holdings
- High costs of inputs
- Infertile soil
- Lack of irrigation
- Lack of mechanization
- Soil erosion
- Agricultural marketing
- Inadequate storage facilities
- Inadequate transport
- Scarcity of capital

12. **What are the methods of conservation and management of soil.**

- Afforestation
- Constructing dams and barrages
- Prevention of over grazing
- Contour method
- Rotation of crops
- Strip cropping
- Contour bunding

13. **What is irrigation? Why is it needed?**

Watering of agricultural plants through artifical means is called irrigation. Being a hot country with seasonal and irregular rainfall, it always needs irrigation to carry out agricultural activities during dry period.

14. **Mention the sources of irrigation.**

- Canal irrigation
- Well irrigation
- Tank irrigation

15. **Write a short note on Rain Gun.**

Rain gun is used to spread water like rain and used to serve for crops which used to grow upto 4 feets or high also but the sprinklers height has to be adjusted as per crop size.Typical usage of Rain guns are in sugarcane and maize crops.

16. **Write a short note on centre pivot irrigation.**

- It is also called water wheel and circle irrigation.
- It is a method of crop irrigation in which equipment rotates around a pivot and crops are watered with sprinklers.

17. **What are the determinants of agriculture in India?**

Agriculture in India is determined by a set of factors.

They are

1. Physical factors : Relief, climate and soil
2. Institutional factors : Size of farm holdings, land tenure and land reforms.
3. Infrastructural factors : Irrigation, power, transport, credit, market and insurance.
4. Technological factors : High yielding varieties of seeds, chemical fertilisers etc.

18. **Define Mixed farming.**

Mixed farming is defined as a system of farm which includes crop production, raising live stock, poultry, fisheries, beekeeping, etc, to sustain and satisfy as many needs of the farmer as possible.

19. **What are the major crops cultivated in India?**

- Food crops – wheat, maize, rice, millets, pulses
- Cash crops – sugarcane, tobacco, cotton, jute, oilseeds
- Plantation crops – tea, coffee and rubber
- Horticulture crops – fruits, flowers and vegetables

20. **Point out the main problems of Indian soil.**

- Soil erosion
- Degradation of soil
- Water logging
- Saline and alkaline
- Salt flats.

21. **What are the factors on which different sources of irrigation depend upon?**

- Topography
- Soil
- Rainfall
- Availability of surface or ground water
- Nature of river
- Requirement of crops.

22. **Why is tank irrigation popular in the peninsular India?**

- The undulating relief and hard rocks make difficult to dig canals and wells.
- Natural depressions serve as reservoirs
- Absence of perennial rivers
- Impermeable rock structure which donot permit percolation
- The scattered nature of population and agricultural fields.

VII. Give reasons:

TEXTUAL QUESTIONS

1. **Agriculture is the backbone of India.**

Agriculture in India employs more than 50 percent of the population of the country and accounts for about 25 percent of the national income. So agriculture is considered as the backbone of India.

2. **Rain water harvesting is necessary.**

In India rainfall is not uniform and is highly erratic. Most of the time the rainfall is scanty. So it is necessary to save the available rainwater. In order to prevent surface run off rainwater harvesting is necessary.

3. **Small farms are predominant in India.**

In India most of the farmers are poor and so their land holding is small. Hence small farms and predominant in India.

ADDITIONAL QUESTIONS

4. **Irrigation is necessary in India.**
India is a hot country with seasonal and irregular rainfall. So irrigation is necessary in India.

5. **The livestock sector is socially and economically very significant.**
The livestock sector is very significant due to its multifunctional outputs and contribution to socio cultural security. It also helps to improve food and nutritional security by providing nutrient - rich food products, generate income and employment.

6. **Well irrigation is the most common mode of irrigation.**
It is because well irrigation is cheap, dependable and popular source of irrigation.

VIII. Distinguish between the following:

TEXTUAL QUESTIONS

1. **RABI AND KHARIF CROP SEASONS**

Rabi crop season	Kharif crop season
1. The season is from October to March	The season is from June to September
2. Wheat, gram, Rapeseeds, Mustard and Barley are grown in the northern states.	Rice, Cotton, Bajra, Maize, Jowar and Tur are grown in northern states.
3. Rice, Maize, Ragi, Groundnut and Jowar are grown in southern states.	Rice, Maize, Ragi, Groundnut and Jowar are grown in southern states.
4. Crops grow in warm weather	Crops grow in hot weather.

2. **INUNDATIONAL CANAL AND PERENNIAL CANAL**

Inundational canal	Perennial canal
1. Water is taken out directly from the rivers without making any kind of barrage or dam.	These are developed from perennial rivers by constructing barrage to regulate the flow of water.
2. Such canals are useful for the diversion of flood water from the rivers. They remain operational during rainy season.	These canals are useful for irrigation. Most of the canals of India fall under this category.

3. **MARINE FISHERIES AND INLAND FISHERIES**

Marine or Sea Fisheries	Inland or Fresh Water Fishers
1. It includes coastal, off-shore and deep sea fisheries mainly on the continental shelf upto a depth of 200 m.	Rivers, lakes, canals, reservoirs, ponds, tanks, etc. are the sources of freshwater and provide freshwater fisheries.
2. Kerala leads in the marine fish production in India.	Andhra Pradesh leads in the inland fish production in India.
3. In 2014-15, the total marine fish production was 34.91 lakh tonnes.	In 2014-15, the total Inland or freshwater fish production was 65.77 lakh tonnes.

4. ALLUVIAL SOILS AND BLACK SOILS

Alluvial soils	Black soil
1. It is formed by sediments deposited by streams and rivers.	It is derived from basalts of Deccan trap.
2. It is sandy-loam-silt-clay in nature.	It is sticky when wet in nature.
3. Its profile shows no marked differentiation.	It has high degree of moisture retentivity.
4. Rich in Potash, Phosphoric acid, limes and Carbon compounds.	Rich in Potash lime, Aluminium, Calcium and Magnesium.
5. Crops like Rice, Wheat, Sugarcane & Oil seeds grow here.	Crops like Cotton, Millets, Tobacco and Sugarcane grow here.

ADDITIONAL QUESTIONS

5. WELL IRRIGATION AND TANK IRRIGATION

Well irrigation	Tank irrigation.
1. Well irrigation is the most important source of irrigation.	Tank irrigation is used to collect and store water for irrigation and other purposes.
2. It contributes about 62% of net irrigated area in India.	It contributes 3% of net irrigated area in India.
3. It is a cheap, dependable, and popular source of irrigation.	It is popular in the peninsular India.
4. Uttar Pradesh is the leading state in well irrigation.	Tamilnadu is the leading state in tank irrigation.

6. CASH CROPS AND PLANTATION CROPS

Cash crops	Plantation crops
1. The crops which are cultivated for commercial purpose are called cash crops.	Crops which are cultivated for the purpose of exports are called plantation crops.
2. Carried on where labour is comparatively less.	Carried on where there is abundant cheap labour.
3. Crop is cultivated mainly for the local market in the country.	It is cultivated for export and for the country's market.
4. Sugarcane, tobacco, cotton, jute and oilseesd are important cash crops of India.	Tea, coffee, rubber and spices are important plantation crops of India.

7. SUBSISTENCE AND INTENSIVE FARMING

Subsistance farming	Intensive farming
1. The farmers are poor and they can't apply modern methods of agriculture Traditional methods are followed.	Intensification and mechanization of agriculture is followed.
2. Crops are produced on a small scale mainly for consumption.	Crops are produced on a large scale.
3. Subsistance farming is practised in punjab, Uttar Pradesh and Madhya Pradesh.	Intensive farming is practised in Punjab, Uttar Pradesh and Madhya Pradesh.

8. BLACK SOIL AND RED SOIL

Black soil	Red soil
1. It is derived from basalts of Deccan trap.	It is formed by decomposition of ancient crystalline rocks like granites and gneisses.
2. It is rich in potash, lime, aluminium and maganese.	It is rich in minerals like iron and magnesium.
3. It is poor nitrogen, phosphoric acid and humus.	It is poor in nitrogen, humus, phosphoric acid and lime.
4. It is found in Deccan plateau, Malwa plateau and Kathiawar peninsula.	It is found in Kerala, Tamilnadu, Karnataka and Chota Nagpur plateau.
5. Crops like cotton, millet, tobacco and sugarcane are grown in this soil.	Wheat, rice, cotton, sugarcane and pulses are grown in this soil.

IX. Answer in detail:

TEXTUAL QUESTIONS

1. **State the types of soil in India and explain the characteristics and distribution of soil.**

Types of soil:

Soil Type	Characteristics	Distribution	Crops growing
Alluvial soil	Khadar – light coloured, more siliceous. Bhangar – the older alluvium composed of lime nodules and has clayey composition. It is dark in colour. **Formation** - sediments deposited by streams and rivers. **Chemical properties** - rich in potash, phosphoric acid, lime and carbon compounds but poor in nitrogen **Nature** –Sandy-loam-silt-clay	Ganga and Brahmaputra river valleys; Plains of Uttar Pradesh, Uttaranchal, Punjab, Haryana, West Bengal and Bihar	Rice, Wheat, Sugarcane and Oilseeds
Black soils	**Formation** - Derived from basalts of Deccan trap. **Colour** - black colour, due to presence of titanium, iron. **Chemical properties** - Consist of calcium and magnesium carbonates, high quantities of iron, aluminium, lime and magnesia.	Maharashtra and Malwa plateaus, Kathiawar peninsula, Telangana and Rayalaseema region of Andhra Pradesh and northern part of Karnataka	Cotton, Millets, Tobacco and Sugarcane

Soil Type	Characteristics	Distribution	Crops growing
Red soil	**Formation** - decomposition of ancient crystalline rocks like granites and gneisses and from rock type **Chemical properties** -Rich in minerals such as iron and magnesium. Deficient in nitrogen, humus, phosphoric acid and lime. **Nature** - Light texture, porous friable presence of limited soluble salts Clay fraction of the red soils generally consists of Kaolinitic minerals.	Eastern parts of Deccan plateau southern states of Kerala, Tamil Nadu, Karnataka and Chota Nagpur plateau (Jharkhand)	Wheat, Rice, Cotton, Sugarcane and Pulses
Laterite soils	**Formation** - formed in the regions where alternate wet and hot dry conditions prevail. It is formed by the process of leaching. **Chemical properties** - Composed mainly of hydrated oxides of iron and aluminium. **Nature** - More acidic on higher areas poor in high level, cannot retain moisture while plains they consist of heavy loam and clay and easily retain moisture	Assam hills, hill summits of Kerala and Karnataka and eastern Ghats and region of Odisha	Coffee, Rubber, Cashew nut and Tapioca

2. **Write about any two Multipurpose projects in India.**

Multipurpose project is a scientific management of water resources in India. Construction of dams across rivers is aimed at many purposes. Hence it is termed as multipurpose projects. The other purpose are irrigation, hydropower generation, water supply, drinking, industrial purpose, controlling floods, development of fisheries, navigation etc...

There are many multipurpose projects in India. Let us see two of them

Bhakra Nangal project:

- Bhakra Nangal project is constructed across the river Sutlej.
- It is the highest gravity dam in India.
- The states of Punjab, Haryana and Rajasthan are benefited by this project.
- The area of irrigation is 52609 sq.km.
- 1500 Megawatt electricity is produced from this dam.

Hirakud project:

- Hirakud project is constructed across the river Mahanadhi in Odisha.
- This is the longest dam in the world.
- The state benefited by this project is Odisha.
- The area of irrigation is 1,41,600 sq.km.
- 347.5 megawatt electricity is produced from this dam.

3. **Bring out the characteristics of Intensive and Plantation farming.**

Intensive farming:

- Intensive farming is an agricultural intensification and mechanization system. It aims to maximise yields from available land through various means, such as heavy use of pesticides and chemical fertilizers.
- This intensification and mechanisation has also been applied to the raising of livestock with billions of animals, such as cows, pigs and chickens, being held indoors.
- They have become known as factory farms. Intensive farming is practiced in Punjab, parts of Rajasthan, Uttar Pradesh, and Madhya Pradesh in India.
- Plantation forming is practised in West Bangal, Kerala, Tamilnadu and Karnataka.

Plantation farming:

- Plantation crops are cultivated for the purpose of exports. These are cultivated in large estates on hilly slopes. Cultivation near the coast is preferable as it facilitates exports. Tea, coffee, rubber and spices are the major plantation crops of India.
- Plantation farming is practised in West Bengal, Kerala, Tamilnadu and Karnataka.

4. **Examine the geographical conditions favourable for the cultivation of rice and wheat.**

Rice:

- Rice is an indigenous crop.
- India is the second largest producer of rice in the world after China. It is mainly a tropical crop, growing mainly with mean temperatures of 24°C and annual rainfall of 150 cm.
- Deep fertile clayey or loamy soils are suited well for rice cultivation. It also needs abundant supply of cheap labour.

Wheat:

- Wheat is the second most important food crop of the country, after rice.
- It accounts for 22% of the total area and 34 % of the total production of food grains in the country.
- It requires 10-15°C at the time of sowing and 20-25°C at the time of ripening of grains.
- Over 85% of the India's wheat production comes from 5 states namely Uttar Pradesh, Punjab, Haryana, Rajasthan and Madhya Pradesh. Apart from these regions, the black soil tract of the Deccan covering parts of Maharashtra and Gujarat also contribute a major wheat production.

ADDITIONAL QUESTIONS

5. **Write a short note on subsistance farming.**

- A considerable proportion of farmers in the country practice subsistence farming.
- In this, agricultural land holding is small. As the farmers are poor, they can't apply the modern inputs which cost more. They grow crops with the help of family members and consumes almost the entire farm produce with little surplus to sell in the market.
- Preference is given to food crops.
- In addition to the food crops, sugarcane, oilseeds, cotton, jute and tobacco are also cultivated.
- Subsistence farming is practised in Punjab, some parts of Rajasthan, Uttar Pradesh and Madhya Pradesh subsistence farming is practised.

6. **Explain about Dry Farming and Mixed Farming Agriculture.**

Dry Farming

- This type of farming is practiced in arid areas where irrigation facilities are lacking.

- Crops cultivated in these areas can withstand dry conditions.
- The crops grown generally with the help of irrigation are also grown under dry farming. In such circumstances, the yields are generally low. Most of the areas under dry cultivation entertain only one crop per year.
- This is practiced in drier parts of Rajasthan, Gujarat, Madhya Pradesh, etc.

Mixed Farming Agriculture

- Mixed farming is defined as a system of farm which includes crop production, raising livestock, poultry, fisheries, bee keeping, etc.
- It sustains and satisfies the needs of the farmer as far as possible.

7. **Narrate fisheries in India.**
   - Fisheries in India are a very important economic activity and a flourishing sector with varied resources and potentials.
   - Fishing in India is a *major industry in its coastal states*, employing over 14 million people. It produces about 3% of World's fish and occupies second place among the fish producing nations of the world after China.
   - It also helps increasing food supply, generating employment, raising nutritional level and earning valuable foreign exchange. The length of Indian coastline is 7,517 km including the coastline of the islands.
   - In India, fishing is categorised into 2 types: they are

Marine or Sea Fisheries:

- It includes coastal, off – shore and deep sea fisheries mainly on the continental shelf upto a depth of 200 m.
- Among the coastal states, Kerala leads in the marine fish production in India.

Inland or Fresh Water Fisheries:

- Rivers, lakes, canals, reservoirs, ponds, tanks, etc. are the sources of fresh water and provide fresh water fisheries. About 50% of the country's total fish production comes from the inland fisheries. Andhra Pradesh is the leading producer in India.

8. **Enumerate the major issues faced by farmers in India.**
   - Indian agriculture and Indian farmers are plagued by several problems. Some of them are natural and some others are manmade.

Small and fragmented land-holdings:

- The problem of small and fragmented holdings is more serious in densely populated and intensively cultivated states in India. About 67% of operational land holdings in India are marginal holdings (< 1 hectare).

High costs of inputs:

- Seed is a critical and basic input for attaining higher crop yields and sustained growth in agricultural production. Unfortunately, good quality seeds are out of reach for many small and marginal farmers due to their high price.

Infertile Soil:

- Indian soils have been used for growing crops over 1000 of years without *caring much for replenishing*. This has led to depletion and exhaustion of soils resulting low productivity.

Lack of Irrigation:

- Only 1/3 of the cropped area falls under irrigated area. To make agriculture reliable, irrigation facility has to be developed.

Lack of mechanization:

- In spite of the large scale mechanization of agriculture in some parts of the country, most of the agricultural operations in larger parts are carried on by human hand using simple and conventional tools.

Soil erosion:

- Large tracts of fertile land suffer from soil erosion by wind and water. Such kind of areas must be properly treated and restored to its original fertility.

Agricultural marketing:

- Due to the absence of sound marketing facility, the farmers have to depend on local traders and middlemen for the disposal of their farm products sold at low price.
- Besides, there is a fluctuation in the prices of agriculture products.

Inadequate storage facilities:

- Storage facilities in the rural areas are either totally absent or grossly inadequate. Under such conditions the farmers are compelled to sell their products immediately after the harvest irrespective of the condition of market.

Inadequate transport:

- One of the main handicaps with Indian agriculture is the lack of cheap and efficient means of transportation.
- Even at present there are lakhs of villages which are not well connected with main roads or with market centres.

Scarcity of capital:

- The role of capital plays a major role in the purchase of advanced farm machineries and equipments.

X. HOTS:

TEXTUAL QUESTIONS

1. **Can you imagine a world without agriculture?**
   - It is impossible to imagine a world without agriculture. Just a hundred year ago, four out of five in the world would have been engaged primarily in farming.
   - Now in rich countries farmers are tiny shares of the work force. Indeed in the United States today there are more lawyers than farmers, more dry – cleaning establishments than farms.
   - The structural transformation is truly a radical force, and it is propelling the global economy towards a world without agriculture.
   - There is a condition of unstable prices for staple agricultural commodities in the world market since 2007.
   - A dynamic agricultural sector raises labour productivity in the rural economy, pulls up wages and gradually eliminates the most dimensions of absolute poverty.
   - Somewhat pathetically the process also leads to a decline in the relative importance of agriculture to the over all economy as industrial service sectors grow more rapidly. Agriculture modernization and rural workers migrate to urban jobs.
   - Apart from these factors there are horrible range of farmers committing suicide when drought or flood spoils their crops. Waivering loans alone will not be a standing solution but a substantial war footing level of action by the government only can save agriculture from ruins.

2. **Can you give solutions for the prevailing water disputes in South India?**
   a) **Construction of dams**
   b) **Raising of dams / cleaning of tanks**
   - Considering the ineffectiveness of tribunals, there is a need to look for community based approaches to resolve such disputes effectively, amicably and sustainably.
   - Conflicts over water are preventable provided the communities involved become responsible water managers.
   - As the issue is protracted over centuries, the solution available is that new dams can be constructed to store the rainwater that wastefully mingles in oceans.
   - The state government must propel the action to allocate and identify the places where the dams can be constructed to store the water during heavy rainfall.
   - These wise actions will reduce the water dispute to a greater extent, when there are ways to save the running rain water, we need not fight with neighbouring states to spare water for irrigation.
   - The expert committees must have a thorough survey of the land forms to build dams.
   - This is absolutely an implementable solution.

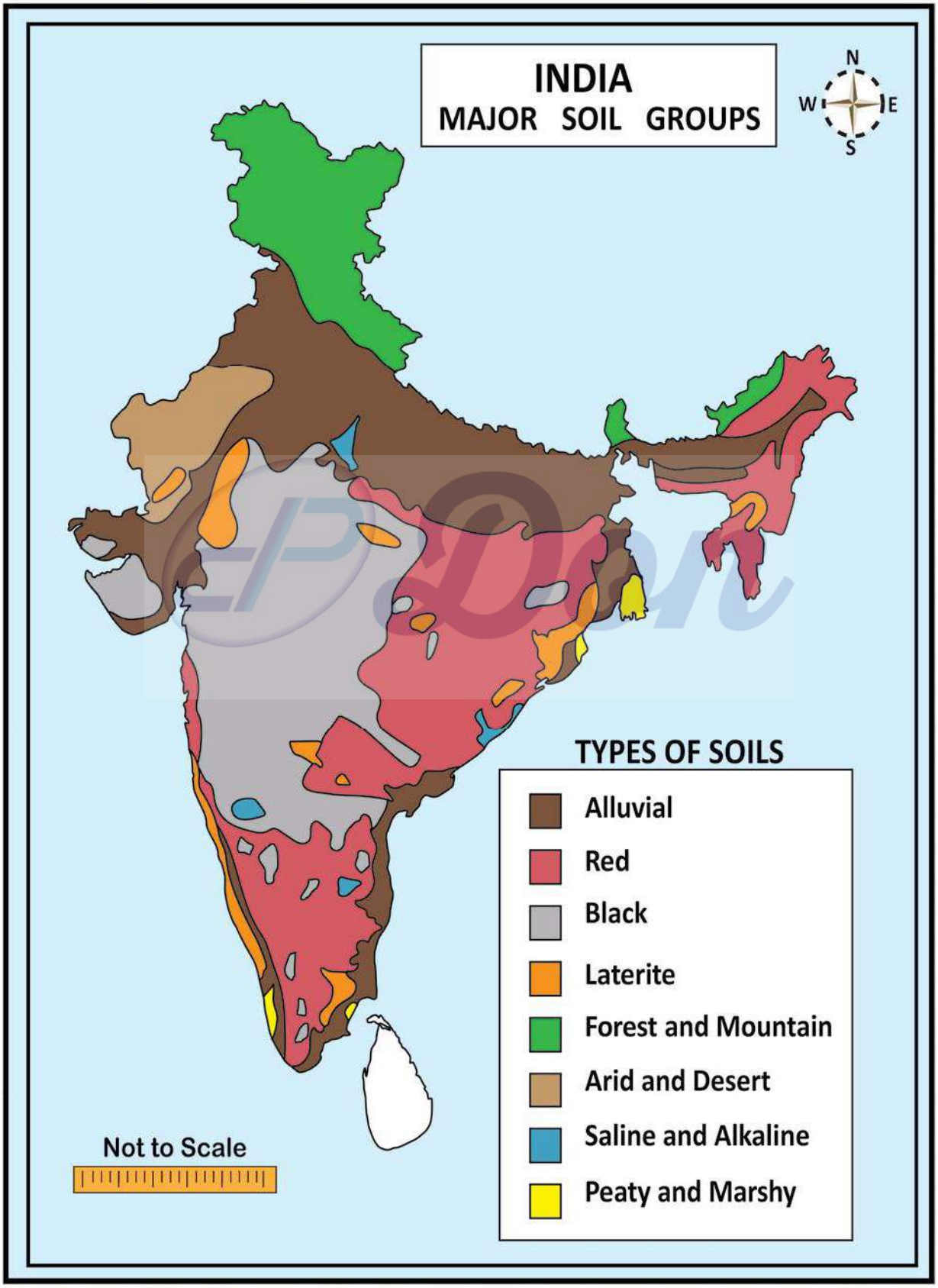
ADDITIONAL QUESTION

3. **List out the important Agricultural Revolutions in India.**

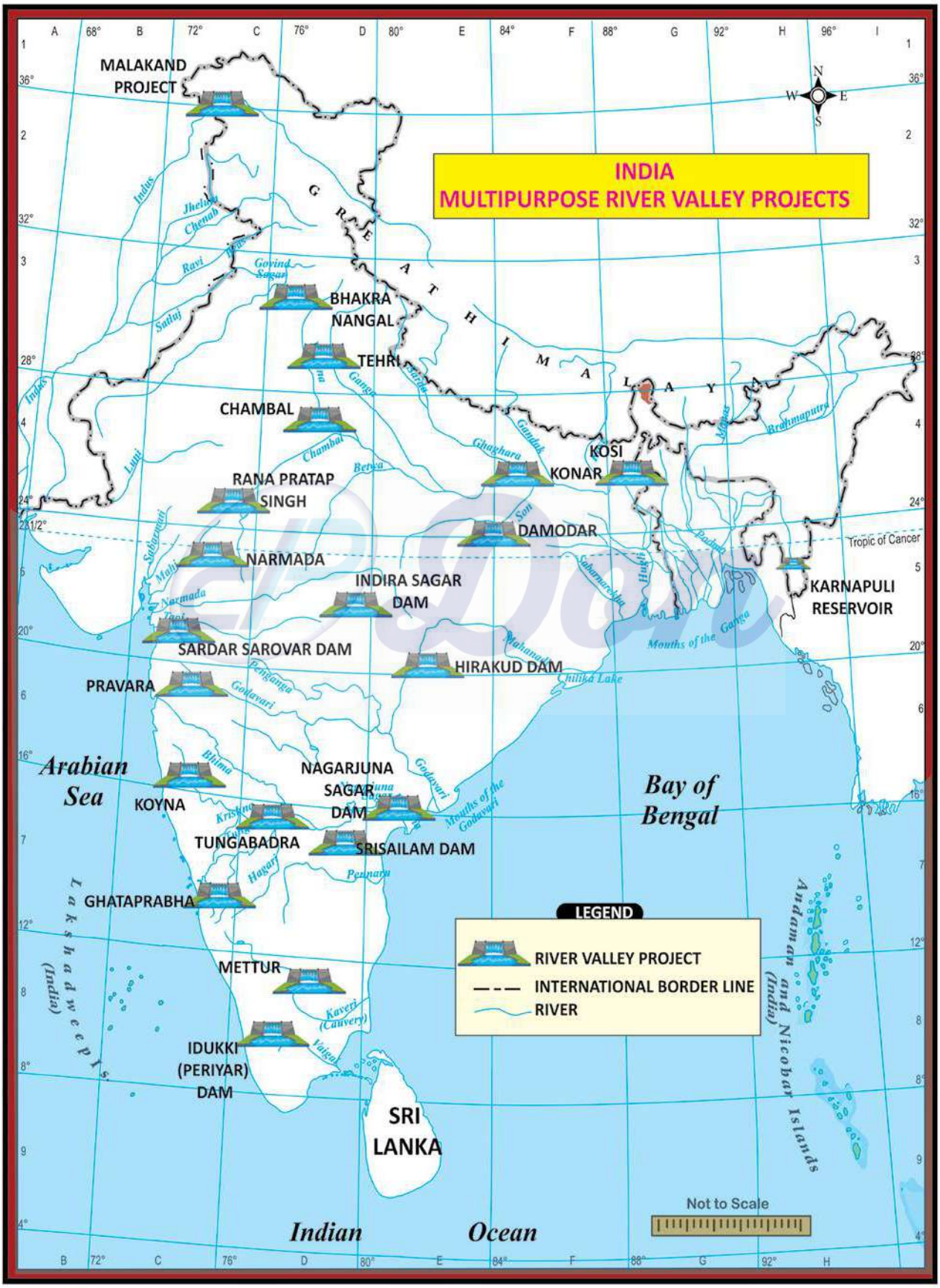
No.	Revolution	Related Product
1.	Yellow Revolution	Oil seed production (especially Mustard and Sunflower)
2.	Blue Revolution	Fish production
3.	Brown Revolution	Leather / Cocoa / Non-conventional products
4.	Golden Fibre Revolution	Jute production
5.	Golden Revolution	Fruits / Honey production / Horticulture development
6.	Grey Revolution	Fertilizers
7.	Pink Revolution	Onion production / Pharmaceuticals / Prawn production
8.	Evergreen Revolution	Overal production of Agriculture
9.	Silver Revolution	Egg production / Poultry production
10.	Silver Fibre Revolution	Cotton
11.	Red Revolution	Meat production / Tomato production
12.	Round Revolution	Potato
13.	Green Revolution	Food grains
14.	White Revolution	Milk production

MAP WORK

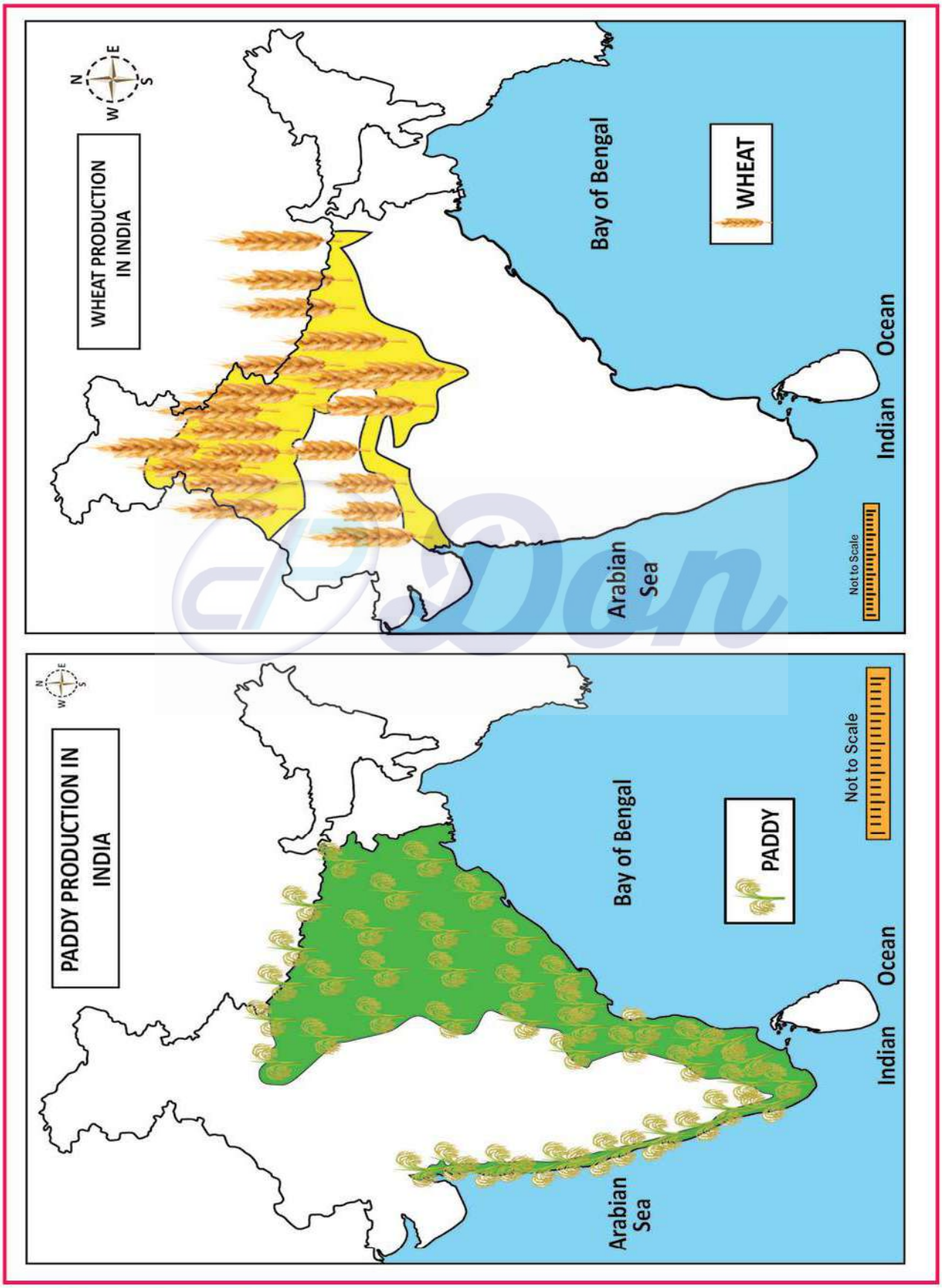
1. India - Major Soil Groups



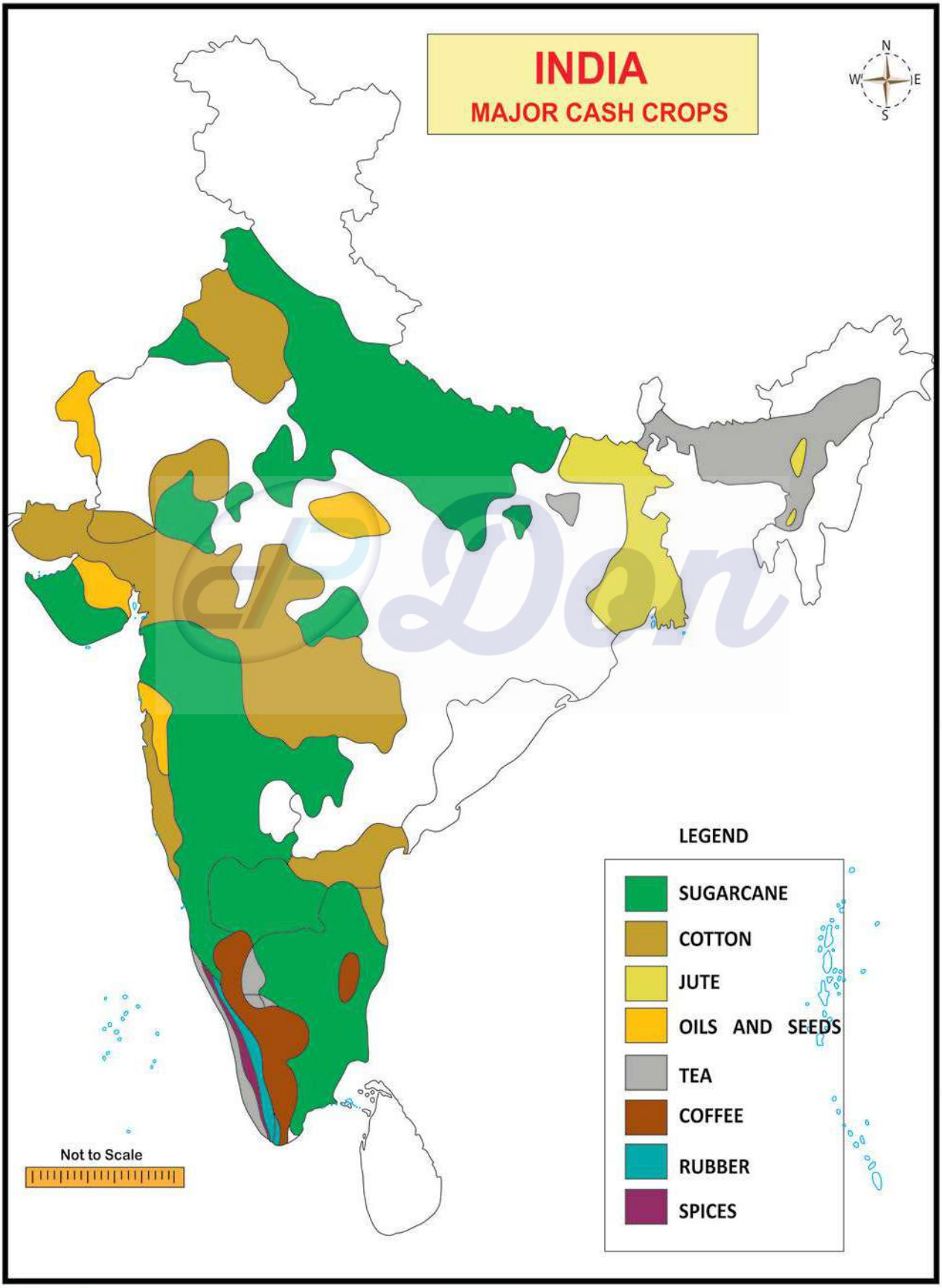
2. India - Multipurpose River Valley Projects



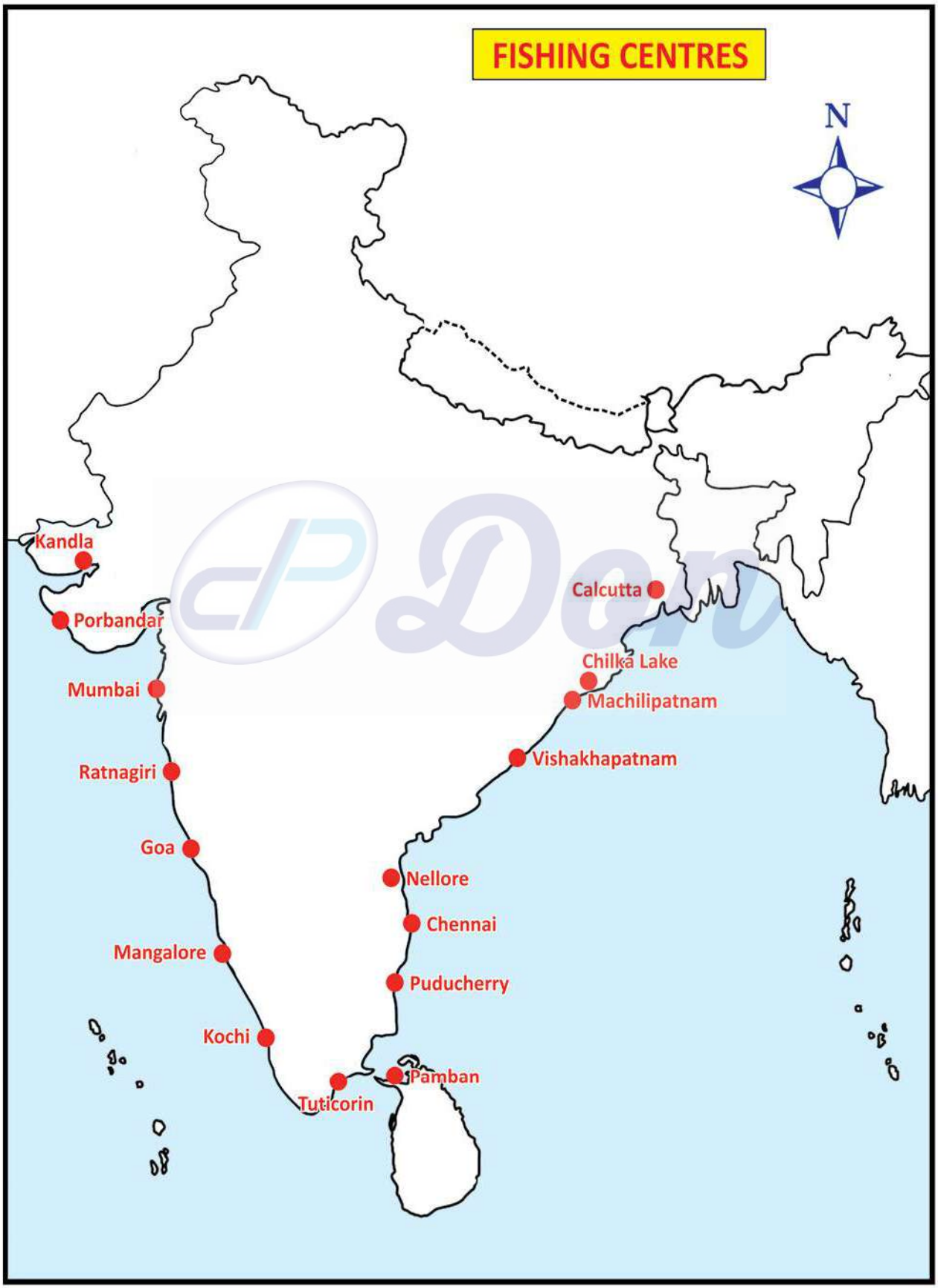
3. India - Paddy Production & Wheat Production



4. India - Major Cash Crops



5. India - Fishing Centres



10

Unit Test

Time : 1.00 hr. Marks : 30

UNIT - III – Components of Agriculture

I. Choose the correct answer: 3 × 1 = 3

1. The soil which is rich in iron oxide is
   a) Alluvial b) Black c) Red d) Alkaline
2. Which of the following organizations has divided the Indian soils into 8 major groups?
   a) Indian Council of Agricultural Research b) Indian Meteorological Department
   c) Soil Survey of India d) Indian Institute of Soil Science
3. The leading producer of rice in India is _____.
   a) Punjab b) Maharashtra c) Uttar Pradesh d) West Bengal

II. Fill in the blanks: 3 × 1 = 3

1. Grains in the soil are of 3 categories namely _____ , _____ , _____.
2. _____ is an acute problem in India.
3. Shifting agriculture is performed by _____.

III. Distinguish between (ANY TWO): 2 × 2 = 4

1. Rabi and Kharif crop season.
2. Marine fishing and inland fishing.
3. Cash crop and plantation crop.
4. Alluvial soils and Black soils.

IV. Give brief answers to the following (ANY THREE): 3 × 2 = 6

1. Name the types of soil found in India.
2. What is Multipurpose project?
3. Define Agriculture.
4. Mention the planatation crops of India.
5. What do you mean by livestock?

V. Match the following: 4 × 1 = 4

1. Red soil	–	second most important food crop
2. Kosi	–	October - March
3. Rabi	–	Sorrow of Bihar
4. Wheat	–	iron and magnesium

VI. Answer the following in a paragraph (ANY ONE): 1 × 5 = 5

1. Write about any two multipurpose projects of India.
2. Bring out the characteristics of intensive and plantation farming.

VII. Map Questions (ANY ONE): 1 × 5 = 5

1. Demarcate the major tracts of alluvial soils.
2. Locate the fishing hubs: Tuticorin, Chennai, Cochin, Mumbai, Machilipatnam.