

**Biyani's Think Tank**

*Concept based notes*

# **Geography of Rajasthan**

*[BA Part-II]*

*Paper-I*

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 **Preface**

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**I** am glad to present this book, especially designed to serve the needs of the students. The book has been written keeping in mind the general weakness in understanding the fundamental concept of the topic. The book is self-explanatory and adopts the “Teach Yourself” style. It is based on question-Answer pattern. The language of book is quite easy and understandable based on scientific approach.

Any further improvement in the contents of the book by making corrections, omission and inclusion is keen to be achieved based on suggestions from the reader for which the author shall be obliged.

I acknowledge special thanks to Mr. Rajeev Biyani, *Chairman* & Dr. Sanjay Biyani, *Director (Acad.)* Biyani Group of Colleges, who is the backbone and main concept provider and also have been constant source of motivation throughout this endeavor. We also extend our thanks to Biyani Shikshan Samiti, Jaipur, who played an active role in coordinating the various stages of this endeavor and spearheaded the publishing work.

I look forward to receiving valuable suggestions from professors of various educational institutions, other faculty members and the students for improvement of the quality of the book. The reader may feel free to send in their comments and suggestions to the under mentioned address.

**Author**

## Syllabus

### Paper-II Geography of Rajasthan

#### Section-A

Physical aspects of Rajasthan : Geological Structure, Relief, Climate, Drainage, Natural Vegetation, Soils. Environmental Pollution—Causes and types. Drought, Desertification, Soil erosion and conservation. Water Resources: Availability, Problems and Conservation of water.

#### Section-B

Economic Aspects: Irrigation, Sources, types, irrigation intensity, cropwise irrigation, quality of irrigation water, problems. Irrigation Projects: Detailed study of Indira Gandhi Canal Project, Chambal Valley Project, Mahi Bajaj Sagar Project, Impact of these projects on physical and socio-economic aspects.

Agriculture : Development under Five Year Plans, Problems of Agriculture Development Plans.

General Land Use: Live-Stock and Dairy Development, Minerals.

Industries: Textile, Sugar, Cement, Marble and Granite, Fertilizer, Zinc and Copper smelting.

Power & Energy : Hydro-electricity, Coal, Petroleum, Solar energy, Bio-energy. Transport & Trade. Development of Tourism. Desert development programme. Tribal Areas development programme, Aravali Hill Development programme.

#### Section-C

Cultural and Demographic Aspects : Population-number, growth, distribution and density, Rural and urban, Male and female population, Literacy status, Occupational structure, Schedule castes and schedule tribes. Study of Bhils, Meena and Garasias. Population Problems.

Settlement Pattern : Types of settlements, building materials and house types in Rajasthan with examples. Factors affecting settlements.

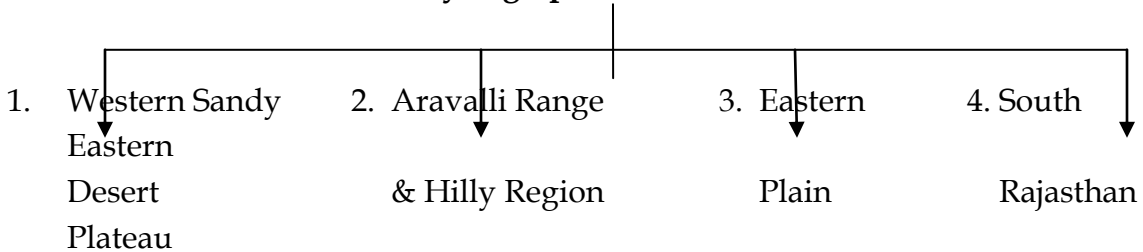
**Chapter-1**

**Que.1** Divide Rajasthan into physical divisions?

**Physiographic of Rajasthan**

There are four physiographic divisions of Rajasthan

**Physiographic Divisions**



**Que.2** Divide Rajasthan into major physical divisions and describe “Western desert “ region in details.

**Ans.** **Western Sandy Plain:**

**District:** - Hanumangarh, Sriganganagar, Bikaner, Jaisalmer, Barmer, Jalore, Sirohi, Pali, Jodhpur, Nagaur, Churu, Sikar &

Jhunjhunu

**Area:** - 1, 96,747 Sq. Km.

**Length:** - 640 Km.

**Breadth:** - 300 Km.

**River:** - **Luni-** It rises in the Aravallis South West of Ajmer & flows toward South West.

Tributaries- Sukri & Jawai

Reaches/Fall in the Rann of Kutch (Arabian Sea) only during rainy season

It is a wide expanse of windblown sand, poorly watered & sterile  
Its eastern portion is known as Thar Desert which is perfectly dry & with desert plants.

Western Sandy Plain & Pakistan face each other across International boundary for about 1070 Km.

Western Sandy Plain further divided into two parts

**Western Sandy Plain**

|

- 
- i. Sandy Arid Plain                      ii. Semi-Arid Plain/Bangur Region

i. **Sandy Arid Plain:**

District -

Area- 61% of total area of W.S.P.

Population- 40%

Minimum Rainfall- 50 Cm

There are vast expanses of sand & rock outcrops mainly limestone are found in Jaisalmer, Barmer, Bikaner, Churu, Hanumangarh & Sriganganagar.

Sandy Arid Plain further Sub-divided into two parts.



a) **Marusthali:**

District- Bikaner, Barmer, Jaisalmer, Jodhpur, Nagaur, Churu

Area - 120500 Sq. Km (Thar Desert)

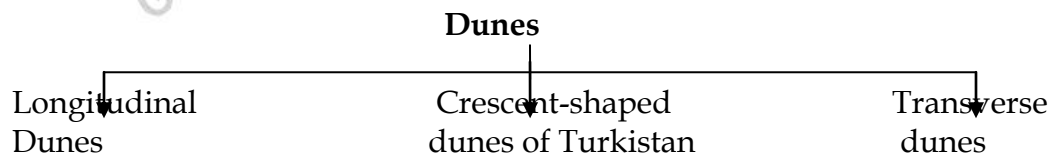
Height of sand dunes - 6 m to 60 m

Length of sand dunes - 3 km to 5 km

Towards west this sandy arid Marushthali is known as Thar Desert.

Shifting sand dunes is locally terms as Dharians.

There are three types of dunes on the basis of shape size, wind direction



**Longitudinal Dunes:**

Run South West to North East

Parallel to the prevailing winds & mostly Sword-Shaped

Longer axis is parallel to the direction of wind

**Crescent Shaped Dunes:**

Width of dunes -100 m to 200 m

Height of dunes-10 m to 20 m

Dunes have a gently sloping convex windward side & steep leeward side.

These dunes are mobile

These are found in isolation or occasionally side by side in lines.

**Transverse Dunes:**

Dunes are formed across the wind direction

Commonly found in eastern & northern parts of Marusthali

Windward side is long & gently sloping, while leeward side is steep & abrupt

These are U-shaped dunes.

b) **Dune Free Tract:**

Districts- Bikaner, Jaisalmer, Phalodi & Pokhran

Area - 65 Sq. Km.

Limestone & Sandstone rocks exposes (to lay open) here belong to Jurassic & Eocene formations.

It is rocky but dune free tract.

Small hills are found within a circle of 64 Km of Jaisalmer town

Dry beds & banks could easily be tapped for ground water

Grid conglomerate, gneiss, schist & granite rocks are also exposed at places.

ii. **Semi-Arid Plain:**

District - Jaipur, Jodhpur, Nagaur, Pali, Jalore, Barmer

Area - 7500 Sq. Km

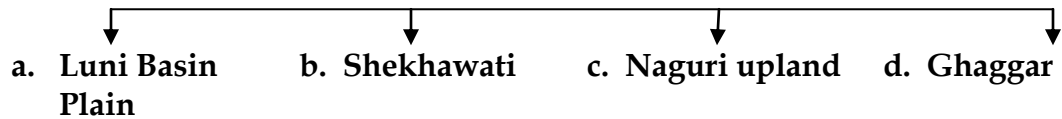
Rainfall - 20 cm

In it lies in the eastern part & drained by the Luni in its south-eastern portion.

Gullying has given rise to conglomerate landscape. Its eastern part is covered with superficial sand deposits.

Towards north lies the Shekhawati tract which is semi arid transitional plain characterized by inland drainage & stream with salt lakes like Sambhar, Didwana etc.

In the extreme north lies the Ghaggar Plain



a. **Luni Basin:**

District - Barmer, Jalore, Jodhpur, Nagaur

Area - 34866 .4 Sq. Km

- Basin is drained by the Luni River & its tributaries Bandi, Sagi, etc.
- Covers the area from its source to **Tiwara** (Barmer) where **Sukari** river meets it.
- It is a seasonal river
- Floods occur during the rains in Luni
- Topography is marked by hills with steep slopes & extensive alluvial plains.
- This area is locally known as Naid (Rel) & is one of best alluvial plains.

b. **Shekhawati Region:**

District- Churu, Sikar, Jhunjhunu & Nagaur

- Live stock, Milk production & dairy are the occupation of this region
- Aravalli hills runs through this region from south to north, cutting into almost two halves.
- Topography of the Shekhawati tracts is characterized by an undulating sandy terrain traversed by longitudinal sand dunes.
- There is only one seasonal river **kantli**
- Here the sand dunes are of transverse type
- The calcareous substratum is exposed of the tract from the sea level is 450m.

c. **Nagauri upland:**

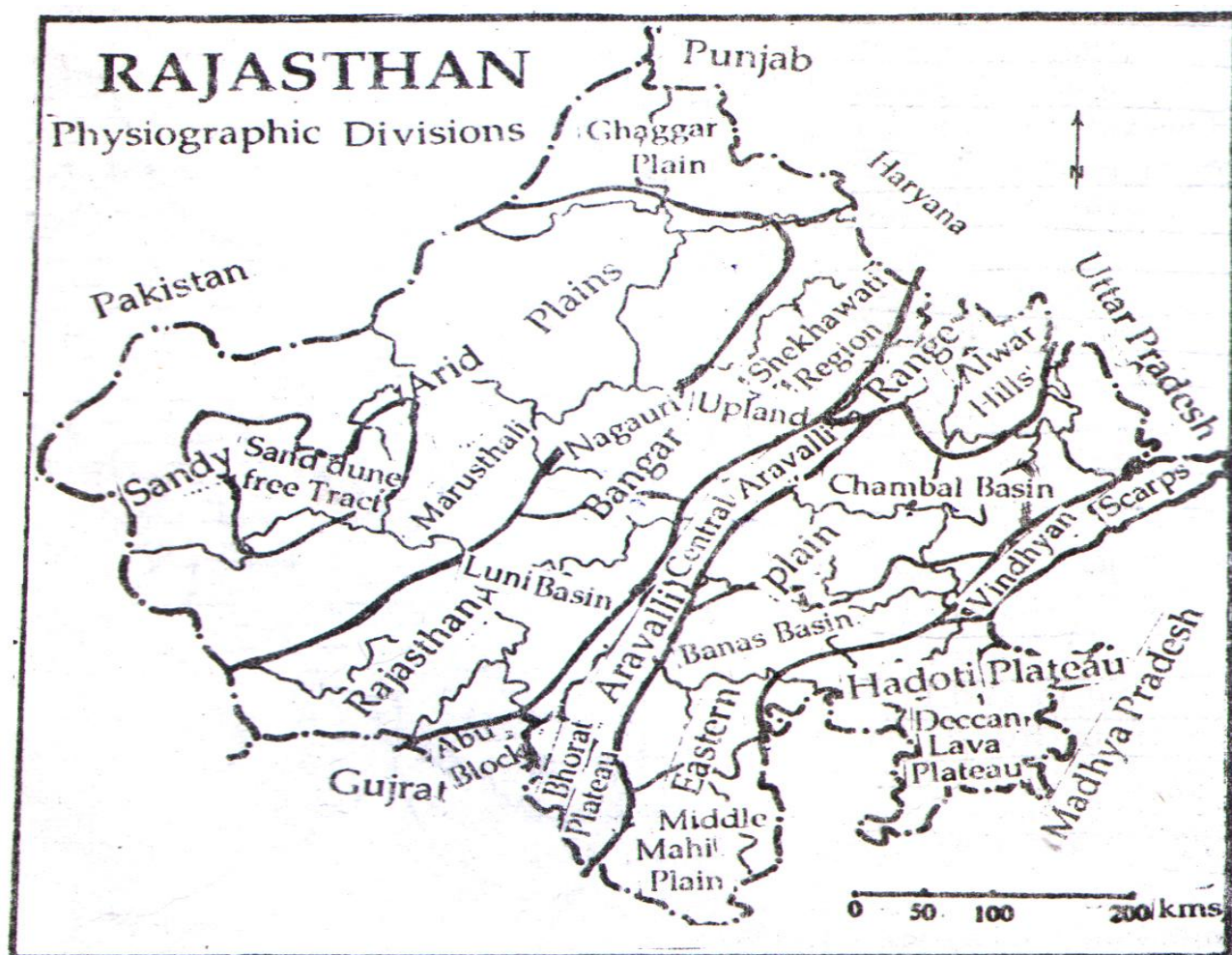
- District- Nagaur
- Average Height of this region from sea level - 300 m to 500 m
- Rainfall - 25 cm in west to 50 cm in east
- This region is full of sand hills & low depressions.
- The temp being High, the evaporation of the saline flood water results in the deposits of the salt & soda in these depressions.

d. **Ghaggar Plain:**



Districts- Hanumangarh & Sriganganagar

- There is no stream or river except Ghaggar Nali which flows through the ancient bed of Ghaggar river which is now extinct & hence, this region is known as 'Ghaggar Plain'.
- This plain is a sandy plain interspersed with sand-dunes & small sand-hills.
- A large part of it is (dreary &) full of sand dunes.
- Northern part of this region is fully canalled & thus is made productive.
- Sand ridge dunes are found on the bank of ancient rivers
- Height of sand ridge dunes-6 m to 30 m.



**Que 4.** Explain the expanse of Aravalli mountain region & its economic importance?

**Ans. Aravalli Range & Hilly Region:**

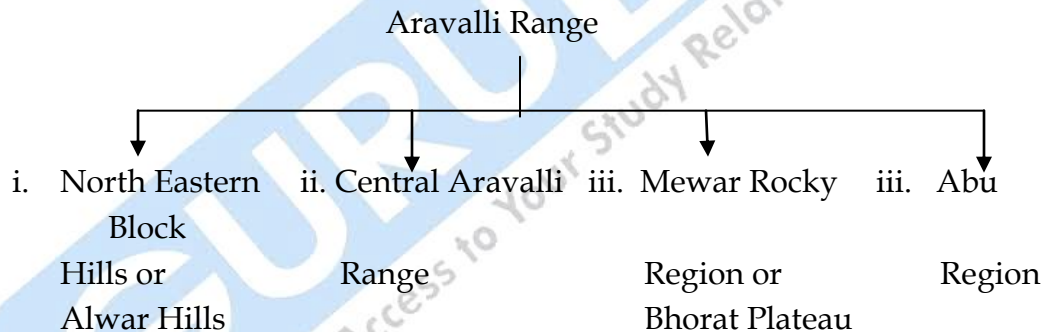
District- Alwar, Jaipur, Ajmer, Rajsmand, Udaipur, Sirohi and south west part of Tonk.

Length – 692 Km (from Palanpur in Gujrat to Delhi)

Average Height- 600 m

Highest Peak- Gurushikhar (1722 m)

- In Rajasthan Aravalli Range starts from Sirohi & end at Khetri in Jhunjhunu.
- Aravalli range is not continues
- Structurally- It is composed of rocks which are originally related to the Delhi System.
- In south the range opens out to form several ridge.
- Aravalli range & hilly tract can be divided into following four parts.



i. **North Eastern Hills:**

Districts- Jaipur, Sikar, Khetri, Alwar, Sawai Madhopur

Average Height- 300 m to 670 m

- Valleys between the hills are wide & in some cases stretch for many kilometer
- Flattered hill tops- form small plateau.
- To the east & north- it merge with Ganga- Yamuna plain
- Lake- Sambhar, Ramgarh, Pandupole
- Highest Peak- Raghunathgarh **1055 m** in Sikar

ii. **Central Aravalli Range:**

Districts- Ajmer, Jaipur South Part of Tonk

Length- 100 Km

width- 30 Km

Height/Elevation- 700 m

Depth of valley- 550 m

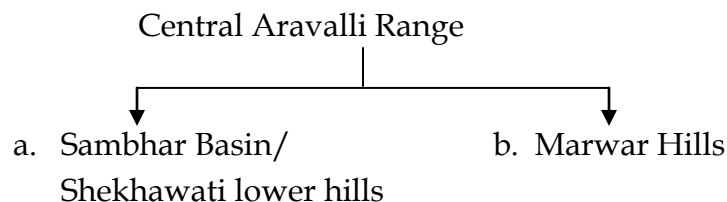
Highest Peak/elevation- 799 m in Rajgarh

The central/ Aravalli extends from Sambhar Lake to the bhorat Plateau, South of Deogarh Peak.

The characteristics of this region are-

- i. A sharp & well defined boundary in west
- ii. Eastward followed by a system of two to three parallel ridges rising to an altitude of 600 m.
- iii. The edge of Mewar Plateau represented in large sections by a prominent scarp that is often coincident with the shear zone.
- iv. The south east directed transverse drainage.

Central Aravalli Range is further sub-divided into 2 geomorphic units.



a. **Sambhar Basin:**

District- Churu, Sikar, Jhunjhunu, Nagaure

Average of Region- 400 m

This region is full of sand hills & with in land drainage.

b. **Marwar Hills:**

District- Jodhpur, Barmer, Jaisalmer, Nagaur, Ajmer

Area- 4400 Sq. Km

Average level- 550 m

S.F.:- The Taragarh (873 m) overlooks the city of Ajmer.

Marwar Hills appear in the parallel succession of hills in the vicinity of Ajmer city.

iii. **The Mewar Rocky Region:**

**Districts-** Udaipur, Rajsamand, Dungarpur, Sirohi, Bhilwara and Chittorgarh

**Area-** 17007 Sq. Km

**Location-** It is located from South East to South East

**Average Height-** 1225 m

**S.F. -** The highest portion of Aravalli range lies between the forts of Kumbhalgarh & Gogunda in the form of plateau locally known as 'Bhorat'

Altitude of Bhorat- 1225 m

Bhorat plateau is one of the highest table lands of Aravalli.

iv. **The Abu Block:**

District- Abu, Sirohi

Area 5180 Sq. Km

Length- 10 km

Breadth- 8 Km

Location- West to Abu in Sirohi

Sea Level- 1200 m

S.F.: It contains granite

It has been separated from the main Aravalli range by the wide valley of the West Banas.

**Que 5.** Divide Rajasthan into major physical divisions and describe Eastern plain in detail.

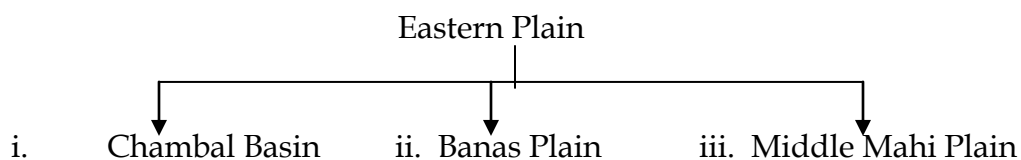
**Ans. Eastern Plain:**

District- Tonk, Bundi, Amjer, Jaisalmer, Sawaimadhopur, Bhilwara, Chittorgarh, Kota, Bhatratpur

Percentage- 23.3% of total area of Rajasthan

Location- South West of Rajasthan

Eastern plain subdivided into three parts



i. **Chambal Basin:**

**District-** Kota, Bundi, Baran, Tonk, Sawaimadhopur, Dholpur

**Area-** 4500 Sq. Km  
**Average width-** 10 Km  
 Enter- From M.P.  
**Tributanies-** Kali Sindh, Parbati

**ii. Banas Plain-**

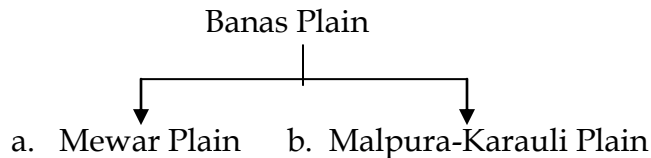
District- Udaipur, Chittorgarh, Bhilwara, Tonk, Jaipur, Alwar, Sawaimadhapur

Average height- 280 – 500 m

Area- 187400 Km<sup>3</sup> is an elevated plain drained by Banas & its tributaries.

It is essentially a peneplain

Banas plain further sub-divided into-



**a. Mewar Plain:**

It is a dissected plain.

Mewar plain gradually slopes towards the east & north east.

Average height- 280-500 m

The bonus & its tributaries Berach, Menal, Bandi, Mansi, Kothari, Khori flow through this plain

**b. Malpura-Karauli Plain:**

It is flat upland which recognized a “Tertiary Peneplane”.

It is composed of schist & gneiss.

Elevation- 250-350 m

Alluvial deposits are thick in larger parts of Kishangarh and Malpura.

**iii. Middle Mahi Plain:**

Area- 7056 Sq. Km

It is lying east of the Mewar hills & south of the Banas plain.

District- Dungarpur

The central & eastern parts, known as Chhappan

Average Elevation- 200-400 m

This dissected plain along with hill tracts of Banswara are Dungarpur are locally known as Bagar.

**Que.6** Divide Rajasthan into major physical divisions and describe Hadoti Plateau region in detail.

**Ans. South-East Rajasthan Plateau (Hadoti Plateau):**

This region locally called Pathar and Uparmal

It comprises of the eastern & South-eastern part of the state & is known as Hadoti.

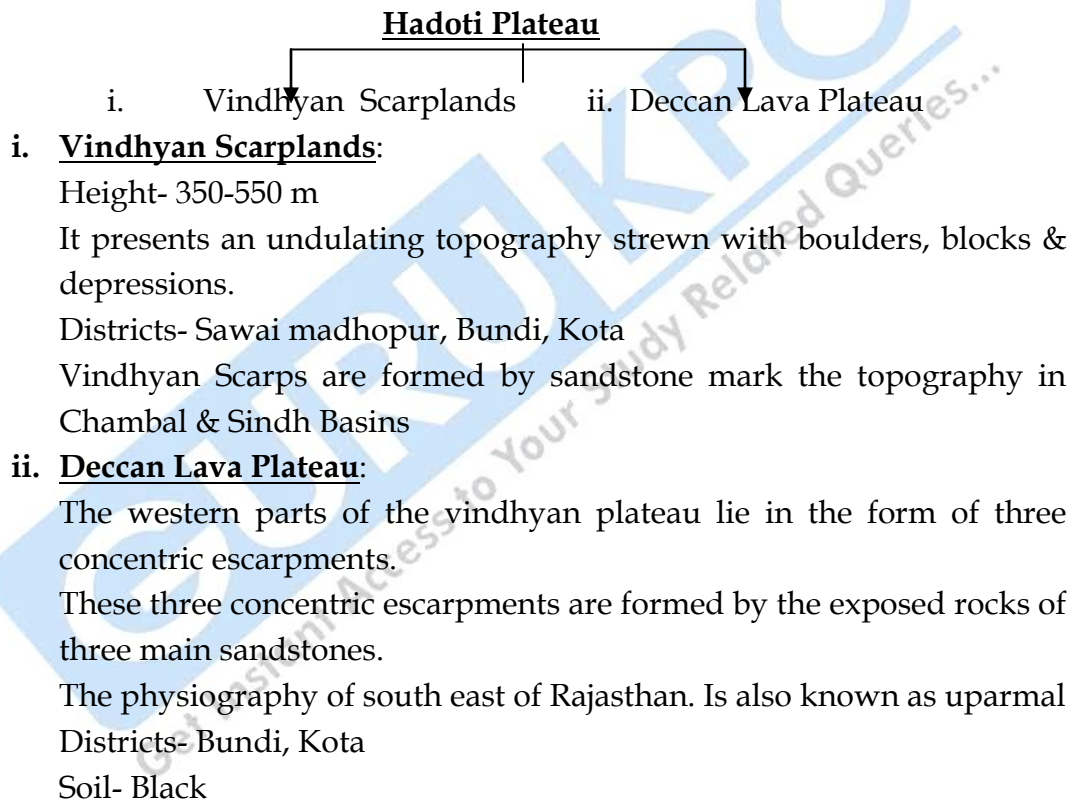
Districts- Bhilwara, Bundi, Kota, Baran & Jhalawar districts

It contains about 9.6% of the area of whole Rajasthan

East of the plateau has a general slope toward

Gwalior & catchment of river Betwa

This plateau is further sub-divided into two units.



### MCQ's

1. The total area of Rajasthan is

- 3, 42,239
- 3, 24,433
- 4, 45,345
- 3, 45,456

2. The north to south extension of Rajasthan is

- a) 672
- b) **826**
- c) 345
- d) 845

3. The east to west extension of Rajasthan is

- a) 544
- b) 845
- c) **869**
- d) 845

4. Rajasthan joins the boundary from which country

- a) Sri lanka
- b) **Pakistan**
- c) China
- d) Afghanistan

5. The international boundary lies between Rajasthan and Pakistan is

- a) Mac Mohan line
- b) Palk strait
- c) **Red cliff line**
- d) None of these

6. The length of international line is

- a) **1070**
- b) 1010
- c) 1040
- d) 1050

7. Which district having area in Rajasthan

- a) Ajmer
- b) Jaipur
- c) **Jaisalmer**
- d) kota

8. Smallest district of Rajasthan is

- a) Ajmer
- b) Jaipur
- c) **Dholpur**

d) Chomu

9. The total land boundary of Rajasthan is

- a) **5920**
- b) 3850
- c) 5403
- d) 4509

10. Which line is passes from Rajasthan

- a)  $66\ 1/2^\circ$
- b)  **$23\ 1/2^\circ$**
- c) all
- d) None of these

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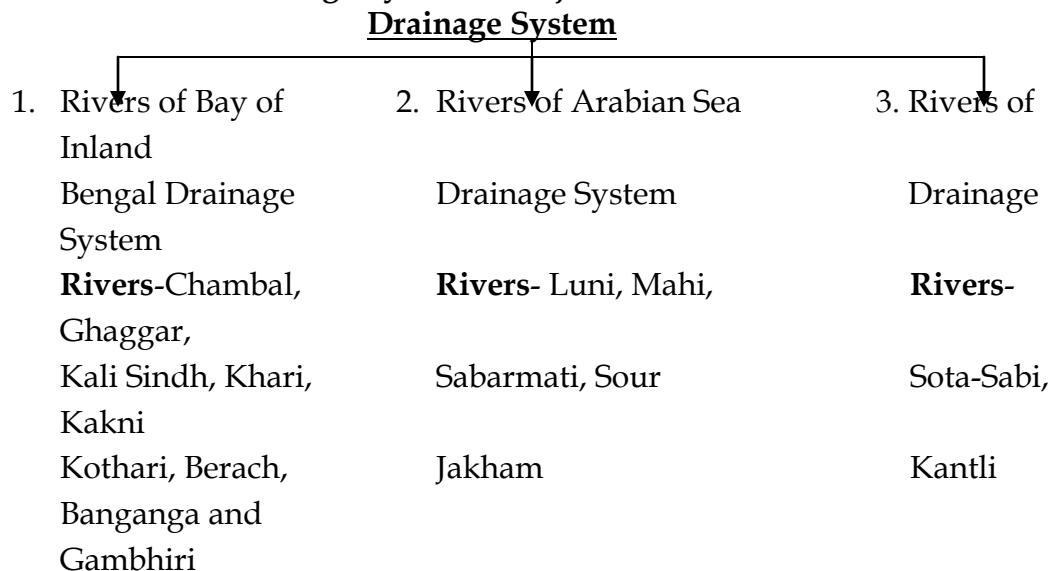
## Chapter-2 Drainage Systems & Lakes

**Que. 1** Describe the drainage pattern of Rajasthan in detail.

**Ans. Drainage System:**

The most characteristic feature of the drainage system of Rajasthan is that nearly 60.2% of the area of the state has an inland drainage system.

**Classification Drainage System of Rajasthan**



### 1. Rivers of Bay of Bengal Drainage System

#### i. Chambal River:

- Origin- Janpao Hills (Vindhayan Range) Over Madhya Pradesh
- Length- 965 Km & Length in Rajasthan-370 Km
- Districts- Kota, Bundi, Barana, Sawaimadhampur, Dholpur
- Tributaries- Kali Sindh, Parbati
- Other Name- Charmawati
- Dam- i. Rana Pratap Sagar in Chittorgarh  
ii. Kota Baraj in Kota

- iii. Jhewah sagar
- iv. Gandhi Sagar in Madhya Pradesh

**Special Feature:**

- It is the only Perennial River of Rajasthan
- Kota Baraj is only used for Irrigation
- Development of cheap Hydropower

ii. **Kali Singh River:**

- Origin – Dewas Hills (Madhya Pradesh)
- Length- 278 Km
- Districts- Jhalawar, Baran
- Tributaries- Parwan, Niwaj, Aahu
- Special Feature: It is tributary of Chambal & it meet near Nonera village in Baran.

iii. **Parbati River:**

- Origin- Northern slopes of Vindhyan Range
- Length in State- 65 Km
- Districts- Kota (Karyahat village) and in Madhya Pradesh
- Special Feature: It is the tributary of Chambal and it meet near Poh village

iv. **Banas River:**

- Origin – Khamnor Hills near Kumbhalgarh Fort in Rajsamand
- Length- 480 Km
- Districts- Tonk, Sawaimadhampur, Rajsamand, Bhilwara, Nathdwara, Kankroli, Railmagra, Ajmer and Chittorgarh
- Tributaries- Bearch, Kothari & Khari, Dhund, Moral
- Other name- 'Hope of the Forests'
- Dam- i. Bisalpur Dam in Tonk
- ii. Bisalpur Dam in Sawaimadhampur

To provide drinking facility

**Special Features:**

- It is the only river of state which has its entire course in Rajasthan
- It finally meets the Chambal river near Rameshwaram very close Khandhar (Sawai Madhopur)

v. **Berach River:**

- Origin- Gogunda Hills, North of Udaipur district
- Length- 190 Km
- Districts- Udaipur, Chittorgarh
- Other name- It is known as Aayar River from its origin to Udai Sagar Lake & thereafter, it is called Berach.
- It is a tributary of Banas River & it meet near Bigod.

**vi. Kothari River:**

- Origin - Diwer Hills, North of Rajsamand district
- Length- 145 Km
- Districts- Udaipur, Bhilwara
- It is a tributary of Banas River & it meet near Bhilwara city

**vii. Khari River:**

- Origin- Hills of Bijral village, North of Rajsamand district
- Length- 80 Km
- Districts- Rajsamand and Deogarh Town. It is a tributary of Banas River and it meet near Deoli (Tonk)

**viii. Banganga River:**

**Origin-** Hills of Bairath of Jaipur district

**Length-** 380 Km

**District-** Bharatpur

- It is a tributary of Yamuna River and it meet in Fatehabad (Agra U.P.)
- It causes floods & changes its course many times in Bharatpur district.
- Its water spreads cut into several channels in Bharatpur and one main channel has now been diverted to Ajan Band (Bharatpur) which supplies water to Keoladev National Park.

**ix. Gambhiri River:**

- Origin- Hills of Sawai Madhopur district
- Length- 110 Km

- Districts- Karauli, Bharatpur
- Dam- Panchna Dam in Sawai Madhopur  
Band Baretha have been built over it to tame its water.
- It is a tributary of Yamuna River & it meet in Agra district.
- It changes its course in many years.

## 2. Rivers of Arabian Sea Drainage System:

### i. Luni River:

- Origin- Nag Pahar Hills near Ana Sagar of Ajmer district
- Length- 350 Km
- Districts- Nagaur, Jodhpur, Barmer, Jaore
- Tributaries- Jawai, Sukri, Jojri, Bandi, Sagi, Litri & Ghuhia
- Reaches/Fall in- Rann of Kutch (in brine)
- It flows in West of Aravalli Hills
- Its water is sweet in Balotra but lower down it becomes more and more saline till the river ends.
- At the source, the river has a small catchment area of about 32 Sq. Km at Talod Road formed of Murran and Laterite.
- Pali city is situated on the bank of Bandi River.  
Jalore is on the bank of Sukri River  
Sheoganj city is on the banks of Jawai River.

### ii. Sabarmati River:

- Origin- near Padrara near Kumbhalgarh
- Length-317 Km (length in Rajasthan- 29 Km)
- District- Udaipur, Dungarpur
- Tributaries- Hathmati, Meshwa, Betrak, Majam, Baval,
- Reaches/Fall in- Gulf of Cambay. It is mainly a river of Gujarat

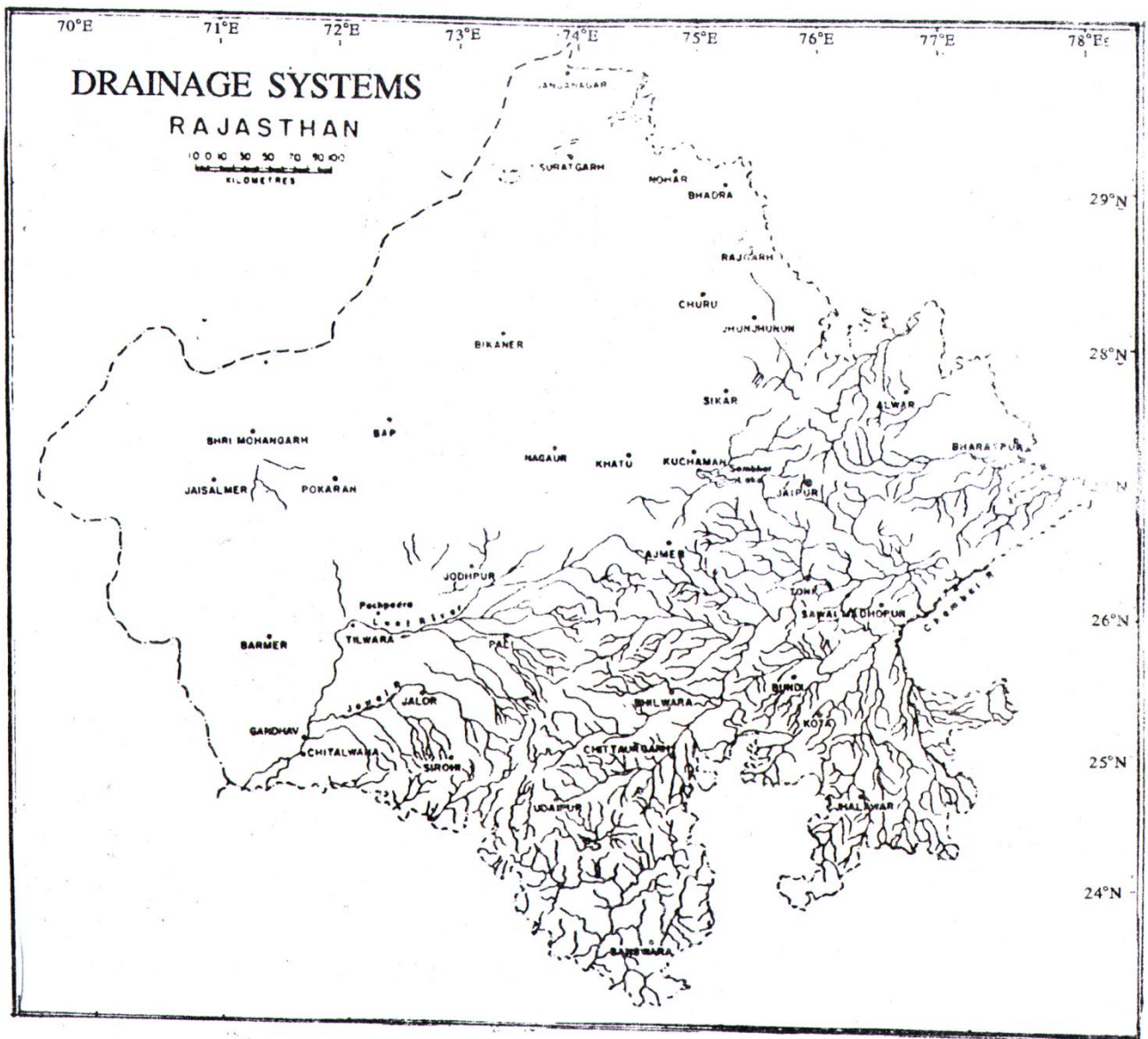
### iii. Mahi River:

Origin- Hills of Ammoru near Mhow (M.P.)  
Length- 576 Km  
Districts- Banswara, Dungarpur

Tributaries- Som, Jakham, Anas, Erau

Fall into- Gulf of Cambay

- It enters Rajasthan in Banswara district near Khandu village
- The Mahi Bajaj Sagar Multipurpose project has been constructed on it near Borkhera village
- Jakham flows through Pratapgarh Tehsil of Chittorgarh district.



**Que.2** Write short notes on Inland drainage system of Rajasthan ?

**Rivers of Inland Drainage System**

**i. Ghaggar River:**

Origin- Kalka Hills (Himachal Pradesh)

Length- 465 Km

Max. Width- 7 Km

Districts- Hanumangarh, Talwara, Anupgarh, Suratgarh

Other name- Ancient Saraswati River which is now lost

- It often causes floods during heavy rainfall
- It enters Rajasthan in Tibbi Tehsil (Ganganagar)
- It finally enters into the Bhawalpur district of Pakistan where it lost in the vast array of sand dune.

**ii. Sota Sabi Rivers:**

Origin- Sota from the hills of Bairath, Sabi from Sewar hills

Flowing through- Kotputli tehsil, Bansur, Behror Kishangarh, Mundawar (Haryana) Rewari and Gurgaon

- In Rewari & Gurgaon it causes floods.

**iii. Kakni River:**

- Origin- Kotari village

- Length- 27 Km

- District- jaisalmer

- Other name- Masurdi

- Fall into- Bhuj Lake. It flows only during rainy season

**iv. Kantli River:**

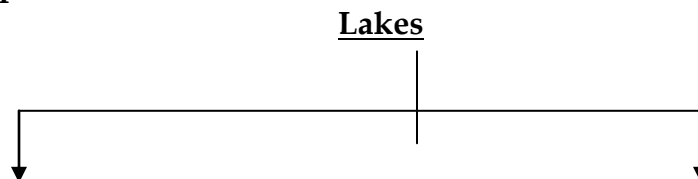
- Origin- Hills of Udaipurwati (Jhunjhunu district)

- Length- 48 Km

- District- Jhunjhunu, Churu, Bagar. Finally terminates in the sand dunes of Churu

**Que.3** writes an essay on the lake system of Rajasthan?

**Ans** Types of Lakes



<p>i. Saline Water Lakes</p> <p>Water Lakes</p> <p>Lakes- Sambhar, Deedwana Pichhola, Panchpadra, Lunkaransar</p>	<p>ii. Sweet</p> <p>Lakes- Jaisamand, Rajsamand, Fateh Sagar, Udai Sagar, Ana Sagar, Nakki, Pushkar, Siliserh, Kolayat, Balsamand</p>
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1. **Saline Water Lakes:**

i. **Sambhar Lake:**

Situated- on the border of Jaipur and Nagaur districts

Length- 32 Km

Breadth- 3 Km to 12 Km

Max. Lake Area- 234 Sq. Km

Districts- Jaipur, Nagaur

- It is the largest Lake of Rajasthan
- It produces/makes 35 crore tons of common Salt (NaCl,  $\text{NO}_2$   $\text{SO}_4$ )
- Salt is manufactured by Solar Evaporation method from March to July

ii. **Deedwana Lake:**

Situated- near Deedwana Town in Nagaur district

Length- 4 Km

Breadth- 2 Km

District-

- Depression is surrounded by sand dunes/Hills but in west surrounded by isolated spur of the Aravalli.
- Bed of the depression shows the presence of block clay.

iii. **Pachpadra Lake:**

Situated- near Pachpadra in Barmer district

Districts- Barmer

Area- 25 Sq. Km

Area of salt pits in this lake- 5000 Sq. m

Its salt corresponds more to the sea salt



iv. **Lunkaransar Lake:**

Situated- near Lunkaransar Town in Bikaner district

Area- 6 Sq. Km

District- Bikaner

- Mainly sodium chloride (NaCl) is produced.

2. **Sweet Water Lakes:**i. **Jai Samand Lake:**

Built by- Maharana Jai Singh in the year 1691

Situated-

Breadth- 1 Km to 8 Km, with circumference of 50 Km

- It is a manmade lake/artificial lake
- It is the largest fresh water lake of Rajasthan
- It contain seven islands inhabited by Bhils, they use rough boats, called Bhil for transportation
- Two canals (i) Shyampura, (ii) Bhat canals built for irrigation purposes

ii. **Raj Samand Lake:**

Built by- Maharaja Raj Singh of Udaipur in 1662 A.D.

Length- 6.5 Km

Breadth- 3 Km

Districts- Raj Samand district

- It is used for irrigation
- It is feed by Banas feeder canals
- Raj Samand is famous for one of the largest literary works ever inscribed on stone.

iii. **Pichhola Lake:**

Built by- Banjara in the 15<sup>th</sup> century

Renovated by- Maharaja Udai Singh in early 20<sup>th</sup> century

Length- 7 Km

Breadth- 2 Km

Situated- Near Udaipur city

- Fateh Sagar and Swaroop Sagar are parts of the same lake

iv. **Fateh Sagar Lake:**

Situated- In North of Pichhola Lake

Area- 3 Sq. Km



It is a artificial Lake

- It has a small island which has been made a public park with a fountain

v. **Udai Sagar Lake:**

Built by- Maharana Udai Singh between 1559 and 1565

Situated- 15 Km east of Udaipur

Length- 4 Km

Breadth- 3 Km

- It is the site of famous meeting between Maharana Pratap and Kunwar Man Singh

vi. **Ana Sagar Lake:**

Built by- Ana Ji the Lord of Ajmer in 1137 A.D.

Situated- Ajmer city

- It emperor Jahangir built Daulat Bagh (Subhash Garden) near this lake
- Emperor Shahjahan built 378 m long 'Baradari' on the lake to have a scenic view.

vii. **Nakki Lake:**

Situated- Near Mount Abu

Area- 9 Sq. Km

Deep- 35 m

It is a small Natural Lake

viii. **Pushkar Lake:**

Situated- 11 Km west of Ajmer City

Area- 3 Sq. Km

It is small Natural Lake

- It is of an irregular elliptical shape surrounded by hills except in the east
- Around its bank are big temples cenotaphs and bathing Ghats.
- Hindu submerges the ashes of their departed relatives in the lake, as it is considered to be very holy.

ix. **Siliserh Lake:**

Situated- 12 Km west of Alwar City

Area- 10 Km

It is a small Natural Lake

- It is surrounded on all sides by low hills
- King Jai Singh of Alwar built a system of canal irrigation from this lake in early 20<sup>th</sup> century

x. **Kolayat Lake:**

Situated- Near Kolayat Town about 48 Km South West of Bikaner City

It is-

- Here is the famous Kapil Muni Ashram
- Every year on Kartik Purnima, there is a fair attended by Hindu worshippers.

xi. **Bal Samand Lake:**

Situated- About 6 Km from Jodhpur City

It is a large Artificial Lake

- It has got a small palace & small pavilions living on its banks.
- It is just near the famous Mandore Gardens.

**MCQ's**

**1. The highest number of state level animal fairs in Rajasthan is held in the district?**

- (A) Jhalawar
- (B) **Nagour**
- (C) Barmer
- (D) Hanumangarh

**2. Which one amongst the following is incorrect?**

- (A) In the western part of Rajasthan generally salty lakes are available
- (B) Sambhar lake is the biggest salty lake in India
- (C) Nakki Lake is the deepest lake in Rajasthan
- (D) **Rajsamand Lake is 64 kilo meters from Udaipur and it is in Udaipur district**

**3. Mewa-nagar in Rajasthan is famous for?**

- (A) **Jam temple of Parshwanath**
- (B) Exports of dry fruits
- (C) Production of cumin seed
- (D) Exports of Kathputli items

4. Gang canal, is among the oldest canals was constructed by Maharaja Ganga Singh in?

- (A) 1930
- (B) **1927**
- (C) 1944
- (D) 1932

5. Which one of the following is incorrectly matched?

- (A) Mahi Bajaj Sagar Project – Gujarat and Rajasthan
- (B) Chambal Project – Rajasthan and Madhya Pradesh
- (C) Beas Project. – Rajasthan, Punjab and Haryana
- (D) **Indira Gandhi Canal Project – Rajasthan and Punjab**

6. Which one among the following statement is 'incorrect'? New Industrial and Investment Policy of Rajasthan 2010 is introduced and it states that –

- (A) During next five years 51 lakh persons will get employment
- (B) 13 sectors are more important to be focused
- (C) Land will be available to industrialists on easy terms
- (D) **Incentive will not be accorded to Private Public Partnership**

7. Rajasthan State Industrial Development and Investment Corporation (RIICO) have signed a MOU with a Japanese company for establishment of Japanese units in Neemrana Industrial area. That Japanese company is?

- (A) Jetro
- (B) Hetro
- (C) Honda Cial
- (D) **Mitsubishi**

8. Which automobile company has been allotted 600 Acres land of Khushkeda (Bhiwadi) for manufacturing cars?

- (A) Ford
- (B) Toyota
- (C) **Honda Cial**
- (D) Volkswagen

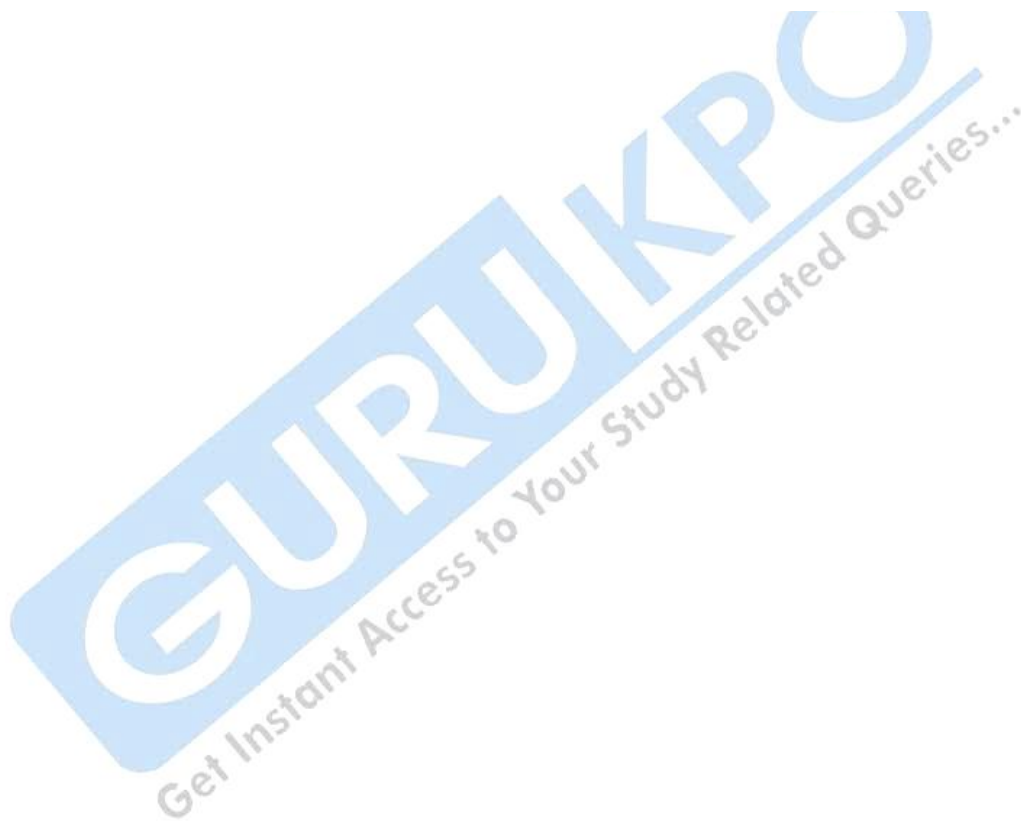
9. 14 N.E.L.P. Blocks, 1 J. V. Blocks, 2 Nomination Blocks and 4 C.B.M. Blocks are related to:

- (A) Gypsum belt

- (B) Gold belt
- (C) **Petroleum Exploration**
- (D) Lignite belt

10. Which train was introduced for tourists with the help of Railway Ministry in Rajasthan on January 11, 2009?

- (A) Princely Rajasthan on wheels
- (B) Royal Rajputana on wheels
- (C) Great Rajputana on wheels
- (D) **Royal Rajasthan on wheels**



**Chapter-3**  
**Soils of Rajasthan**

**Que. 1 Write an essay on soil resource of Rajasthan?**

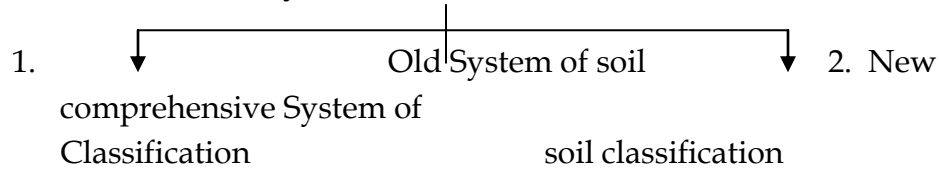
**Ans . Soil:**

It is the top most layer of earth which is very fertile and most important natural resources.

**Classification of Soils:**

There are different ways of classifying soils & each system has its merit. In India two systems of soil classification are in common use.

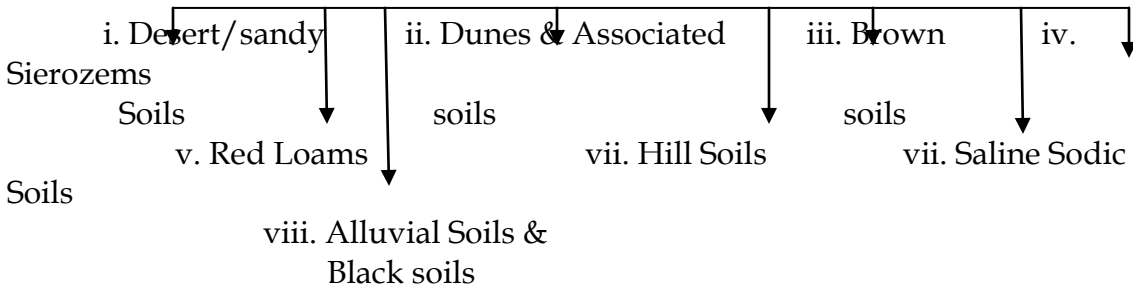
**Two Systems of Soil Classification**



**1. Old System of Soil Classification:**

This system of soil classification is based on the soil as a natural body concept and has a strong genetic bias. According to this classification soils of Rajasthan are classified into eight soil groups.

**Soils**



**i. Desert Soils:**

Districts- Nagaur, Jodhpur, Jalore, Barmer, Hanumangarh, Sriganganagar, Churu, Jhunjhunu and Sikar.

Rainfall- Less than 400 mm

Texture- Sandy to Sandy loam

- It contains a high percentage of soluble salt & has high Ph value.

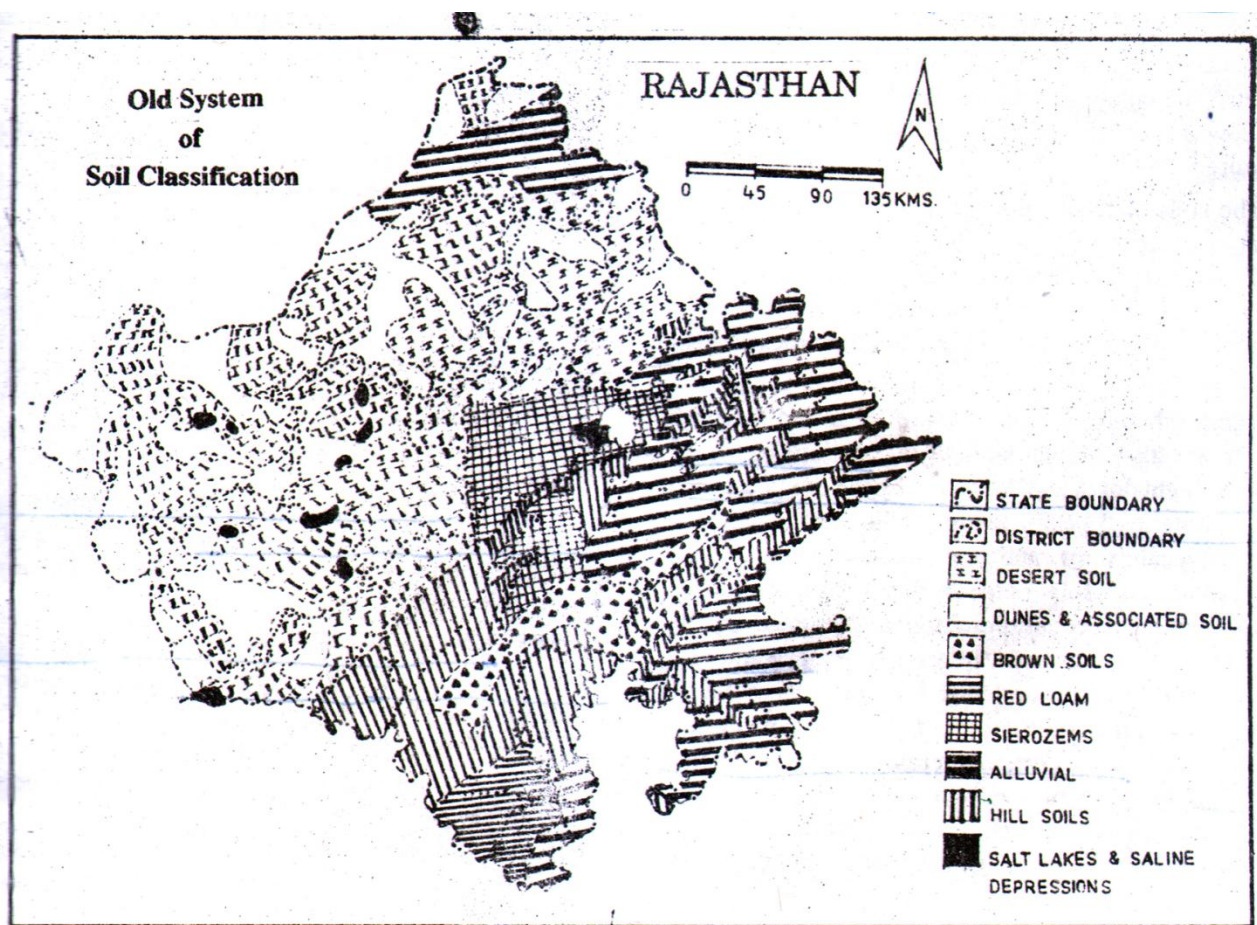
- It has varying percentage of calcium carbonate & generally poor in organic matter.
- These soils are pale brown, single grained, deep and well drained.
- Calcium carbonates sometime occur in form of Kankar nodules which increases with depth.
- In most of the desert soils nitrogen is low.  
Range- 0.02% to 0.07%
- It is not fertile but it can be made fertile for agricultural crops and plants where water supply is regular by putting phosphates with nitrates
- Under normal rainfall Kharif crops (summer) are grown but failure of crops due to low rainfall is common.

ii. **Dunes and Associated Soils:**

Districts- Barmer, Bikaner, Jaisalmer, Jaipur, Jodhpur, Churu

Texture- loamy fine sand to coarse sand and may or may not be calcareous.

- These soils are yellowish brown in colour sandy to sandy loam, deep and well drained
- Calcium carbonate, sometime occur in the form of Kankar nodules which increases with depth.
- Cultivation is practiced in rainy season on the slopes of low to medium high dunes and usually rainfed Bajra or Kharif pulse are grown.
- These have been grouped separately from desert soils as they are only deposited sand and little profile development has taken place.
- Dunes are of varying heights from low shifting dunes to high and very high stabilized dunes.



Soil Map of Rajasthan

### iii. Brown Soils:

Districts- Tonk, Bundi, Sawai Madhopur, Bhilwara, Udaipur and Chittorgarh

Annual Rainfall- 50 cm to 75 cm is sufficient for Kharif crops.

Texture- Sandy loam to clay loam

- The colour of soils ranges from grayish brown to yellow brown.
- Major area of these soils is in the catchment area of Banas River.
- They are rich in calcium salts but have poor organic matter
- Use of fertilizers becomes essential to get good harvest
- As the ground waters are saline, soils irrigate with these waters have accumulated salts



- Tank irrigated soils have also developed problem of high water table.

- Rabi crops are grown under irrigation.

v. **Sierozems:**

Districts- Pali, Nagaur, Ajmer, Jaipur, Dausa (lies on both the side of Aravalli Hills)

Annual Rainfall- 50 cm to 70 cm

Texture- Sandy loam to Sandy clay

- They are mostly yellowish brown
- The rainfall in the area is higher than the desert of the extreme west
- Natural vegetation is also seen at some places.
- The soils are suitable for cultivation but for low rainfall and high evaporation.
- Kharif crops are rainfed and Rabi crops are grown through well irrigation.
- In the Kharif crops Bajra, Jowar, pulses are grown and in Rabi crops wheat, mustard & vegetables are grown.

vi. **Red Loams:**

Districts- Dungarpur, Banswara & parts of Udaipur, Chittorgarh

Rainfall- 70 cm to 100 cm

Texture- Sandy loam to sandy

- These soils are reddish in colour with granular/crumb structure & well drained.
- These soils have rich content of iron-oxide and devoid of calcium salts because calcium salts soluble in water and are easily washed away.
- Soils are suitable for maize, chilies, wheat, barley and rapeseed cultivation
- Parent material of these soils is the red sandstone or yellow sandstone which is found in Vindyan rocks.

vii. **Hill Soils (Lithosols):**

Districts- At the foot hills of Aravalli in Sirohi, Pali, Nagaur, Udaipur, Rajsamand, Chittorgarh, Bhilwara and Ajmer

Colour- Reddish to yellowish red to yellowish brown



Texture- Sandy loam to clay and well drained.

- Cultivation of crops in these soils is very much restricting due to shallow nature of these soils and presence of stones on the surface.
- Soil erosion due to water is another problem of these soils

viii. **Saline Sodic Soils (Solonchaks):**

Districts- In the natural depressions like the Pachpadra, Sambhar, Deedwana, Ranns of Jalore and Barmer

- Saline Sodic soils are seen in the far flood plains of river Ghaggar and in Luni Basin.
- Colour- Dark grey to pale brown
- Water table is sometime close to surface
- Cultivation is not possible due to the impeded drainage and high degree of salinity
- The only vegetation consists of some salt tolerant grasses and shuribs

ix. **Alluvial Soils/and Black Soils:**

Districts- Sriganganagar in soil deposited by Ghaggar, Kota, Bundi, Baran, Jaipur

**Que.2** Explain the various soil problems of Rajasthan?

**Ans.** **Soil Problems:**

1. **Salinity and Alkalinity:**

S & A of soils is a serious problem in some parts of Rajasthan

Salinity is due to high water table permanent.

Under this condition cultivation of some crops possible through certain specific cultural practices

2. **Wind Erosion & Shifting Sand Dunes:**

Shifting sand dunes poses a constant threat to crop production and also to general public facilities like rail tracks, highways and buildings etc.

- The wind work as a powerful agent for erosion. Its action is twofold.

The problem is two folded: to save the topsoil of arable land from erosion and to prevent the deposition of an agriculturally useless sandy cover.

3. **Ravine Lands:**  
R. L. along the Chambal River & its tributary occupy considerable area.  
Shallow gullies can be made cultivable by leveling followed by contour bonding.  
The medium and deep gullies can also be converted into productive wood lands.
4. **Water Logging:**  
With the introduction of canal irrigation system water table of the area is rising at an average rate of about 0.8 m per year. As a result of this large area has become water-logged and this area is increasing every year, it is a serious problem particularly in deep black soils. It is also known as war stagnation.
5. **Low Soil Moisture Storage:**  
Sandy soils have low moisture storage.  
High evaporation & low capacity limit the availability of rain water for plant use.
6. **Sodality of Soil:**  
Sodality of the soil and high residual sodium carbonate content of irrigation water are the main problems.

**Que.3** Define the soil conservation techniques adopted in the Rajasthan?

**Ans. Soil Conservation:**

1. **Adequate Drainage:**  
The solution for salinity & Alkacity of soil is to provide of soil is to provide adequate drainage.
2. **Use of Gypsum:**  
Use of gypsum which is abundantly and cheaply available in Rajasthan, is economical and long term solution to the problem
3. **Afforestation:**  
Large scale planting of saplings which act as wind breaks

4. **Shelter Belts:**  
In dry regions rows of trees are planted to check wind movement to protect soil cover.
5. **Contour Barriers:**  
Stone, gross, soils are used to build barrier along contours. Trenches are made in front of the boomers to collect water.
6. **Grass Development:**  
Plantation of trees & grasses on marginal and sub marginal land.
7. **Wind strip cropping:**  
Grass and crop strip at right angle to wind direction.
8. **Stubble Mulching:**  
Crop stubbles are left in the field and next crop planted with minimum tillage.
9. **Contour Bonding:**  
Ravine land can be made cultivable by leveling followed by contour bonding  
The medium and deep gullies can also be converted into productive wood lands.
10. **Proper Drainage System in canal Project Area:**  
The problem of water logging can be checked and overcome by introducing proper drainage system in the canal project area.
11. **Dry Farming:**  
D.F in and region is a method of conserving soil moisture preventing soil erosion.
12. **Rock Dam:**  
Rock Dam is built to slow down its flow of water.
13. **Mulching:**

A layer of organic matter is made on soil. It helps to retain soil moisture.

14. **Intercropping:**

Different crops are grown in alternative rows to protect the soil from rain wash.

15. **Terrace Farming:**

Broad flat steps or terraces are made on the steep slopes so that flat surfaces are available to grow crops.

They reduce surface run off & soil erosion.

16. **Contour Plugging:**

Plugging parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope

MCQ's

1. The great famine known as 'Chhapania-kal' among Rajasthan people occurred during –

- (A) **1899-1900 AD**
- (B) 1905-1906 AD
- (C) 1956-1958 AD
- (D) 1888-1889 AD

2. The district through which 70°E longitude passes is?

- (A) Jodhpur
- (B) **Jaisalmer**
- (C) Dholpur
- (D) Nagaur

3. The district having North-South elongation, is?

- (A) Jhalawar
- (B) Bhilwara
- (C) **Chittorgarh**
- (D) Jhunjhunu

4. An approximate area of Rajasthan covered under western desert, is?

- (A) **More than 60%**
- (B) Less than 30%
- (C) 40%
- (D) 50%

5. 'Chhappan' basin is in the district of?  
(A) Alwar  
(B) **Banswara**  
(C) Pali  
(D) Tonk
6. The lowest air pressure in the month of June in Rajasthan is probable in the district of?  
(A) Bundi  
(B) Baran  
(C) **Jaisalmer**  
(D) Rajsamand
7. River Khari is part of the drainage system of?  
(A) Arabian Sea  
(B) Inland drainage  
(C) Indeterminate drainage  
(D) **Bay of Bengal**
8. Kahrani in Bhiwadi came into news recently because of?  
(A) **Saint Gobain Glass Factory**  
(B) Divya Pharmacy  
(C) Toyota Motors  
(D) Rajiv Gandhi Rural LPG Distribution Plan
9. National Institute of Ayurveda, an autonomous body of Ministry of Health and Family Welfare, Government of India is located at?  
(A) Udaipur  
(B) Jodhpur  
(C) Banswara  
(D) **Jaipur**
10. One amongst the following is not true?  
(A) New investment policy is introduced by State Government recently  
(B) 30 per cent deductions on sales tax to continue for 10 years  
(C) 20 per cent subsidy will be provided on new employment  
(D) **Previous policy was introduced in 2008**

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**Chapter-4**  
**Climate of Rajasthan**

**Que.1 Describe the climate regions of Rajasthan by Koppen?**

Ans . **Climate:**

It is generally defined as the average state of the weather.

Or

It means the average conditions determined by observations made over long period.

**Weather:**

It refers to short periods

**Climatic Regions:**

Rajasthan state can broadly be divided into arid, semi-arid and sub-humid regions.

**Climatic Regions**

Arid Region	Semi-Arid Region
Area- 1,43,842 Sq. Km	66,830 Sq. Km
Jaisalmer, Barmer etc	Ajmer, Tonk etc.

**Koppen’s Classification:**

This classification is totally based on the vegetation because through it, the effects of temperature and rainfall are found out keeping in view the bases of vegetation as used by Koppen’s for his climatic regions; the author did the efforts to classify the climatic regions of the Rajasthan as follows:

- |  |                            |                            |                  |
|--|----------------------------|----------------------------|------------------|
| 1. Tropical Humid<br>Climatic<br>Region (AW) | 2. Bshw Climatic<br>Region | 3. Bwhw Climatic<br>Region | 4. Cwg<br>Region |
|--|----------------------------|----------------------------|------------------|

**1. AW or Tropical Humid Region:**

- Districts- Southern part of Dungarpur and Banswara.
- Summers- experience scorching heat
- Winters- Arid and cool
- Rainfall- Mainly occurs in summer season also
- Vegetation- Arid tropical grassland
- Type of Region- Monsoon type of deciduous trees are found.

**2. Bshw Climatic Region:**

- Districts- Barmer, Jalore, Jodhpur, Nagaur, Churu, Sikar, Jhunjhunu & Hanumangarh
- Summers- No sufficient amount of rainfall occurs
- Winters- Dry
- Vegetation- Steppe type which is characterized with thorny bushes and grasses
- Type of Region- Semi- Arid Region

**3. Bwhw Climatic:**

- Districts- North-West Jodhpur, Jaisalmer, Western Bikaner and Western parts of Ganganagar.
- Rainfall- It has very meager rainfall
- Type of Region- It has the conditions of arid- hot desert climate.
- The process of evaporation is very active. Thus, these areas are known as desert region.
- Such types of Areas are limited to western parts of Thar desert.

**4. Cwg Climatic Region:**

- Districts - Udaipur, Dungarpur, Banswara, Pratapgarh, Jhalawar, Kota and Baran.
- Summers- Rains are limited to a few months of summer season
- Winters- Seasonal winds do not bring rains during winters.
- Rainfall Rains occur in rainy season.

**Types of Region:**

- It has the conditions of arid- hot desert climate.
- The process of evaporation is very active. Thus these areas are known as desert region.
- Such types of areas are limited to western parts of Thar Desert.

**4. Cwg Climatic Region:**

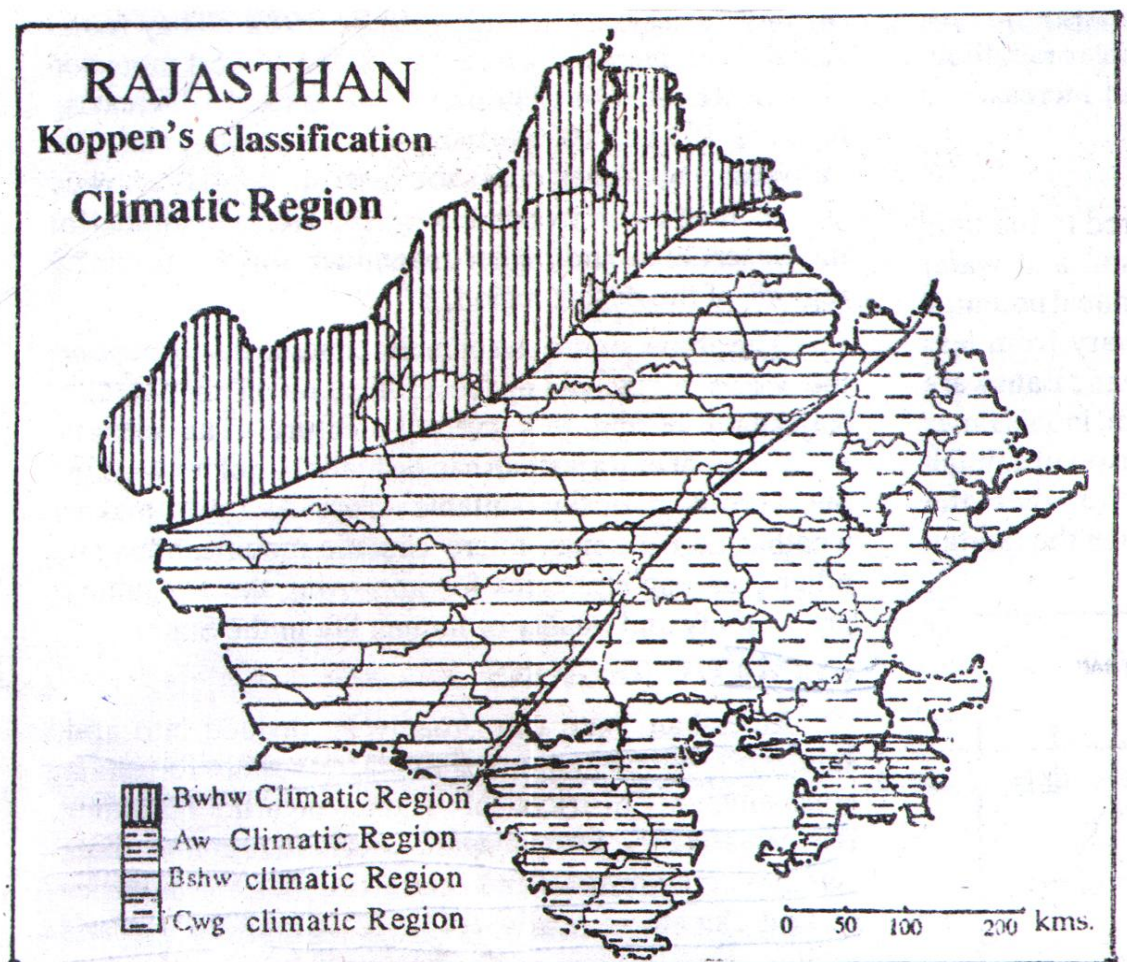
- Districts- Udaipur, Dungarpur, Banswara, Pratapgarh, Jhalawar, Kota & Baran



- Summer- Rains are limited to a few month of summer season.
- Winters- Seasonal Winds do not bring rains during winters.
- Rainfall- Rains occur in rainy season

In aforesaid classification more emphasis has been given on the vegetation and climatic data but the influences of surface features, variation in air pressure and the direction of winds have been ignored.

Koppen’s formula may be considered less proper for lower plains but are not appropriate for high lands.



**Que.2 Describe the climate regions of Rajasthan by THORNWAITE'S?**

**Ans. THORNWAITE'S CLASSIFICATION**

The base of this classification is same as Koppen's classification but Thornwaite also took into account the amount of rainfall and evaporation as well as seasonal and monthly distribution of temp. and rainfall. Thus, it has become more popular and been accepted widely.

According to Thornthwaite Rajasthan may broadly be divided into four regions.

1. CA'w Climatic Region      2. DA'w Climatic Region      3. DB'W Climatic Region      4. EA'd Desert Climatic Region

**1. CA'w Climatic Region:**

- Districts- South-Eastern parts of Udaipur, Banswara, Dungarpur, Kota and Jhalawar.
- Summers- Rain occur
- Winters- Dry
- Vegetation- Savana & Monsoon type of vegetation of found.

**2. DA'w Climatic Region:**

- Districts- Sirohi, East Jalore, Pali, Ajmer, Chittore, Bundi, Sawai Madhopur, Tonk, Bhilwara, Bharatpur, Jaipur, Dausa, Alwar, Sikar and Jhunjhunu.
- Rainfall- Rainfall is meager
- Vegetation- Semi-desertic vegetation

**3. DB'W Climatic Region:**

- Districts- Ganganagar, Hanumangarh, Churu and Bikaner
- Summers- Long with good rains
- Winters- Short and dry

- Vegetation- Thorney bushes and semi- arid vegetation are found in the region.

4. **EA'd Tropical Desert Climatic Region:**

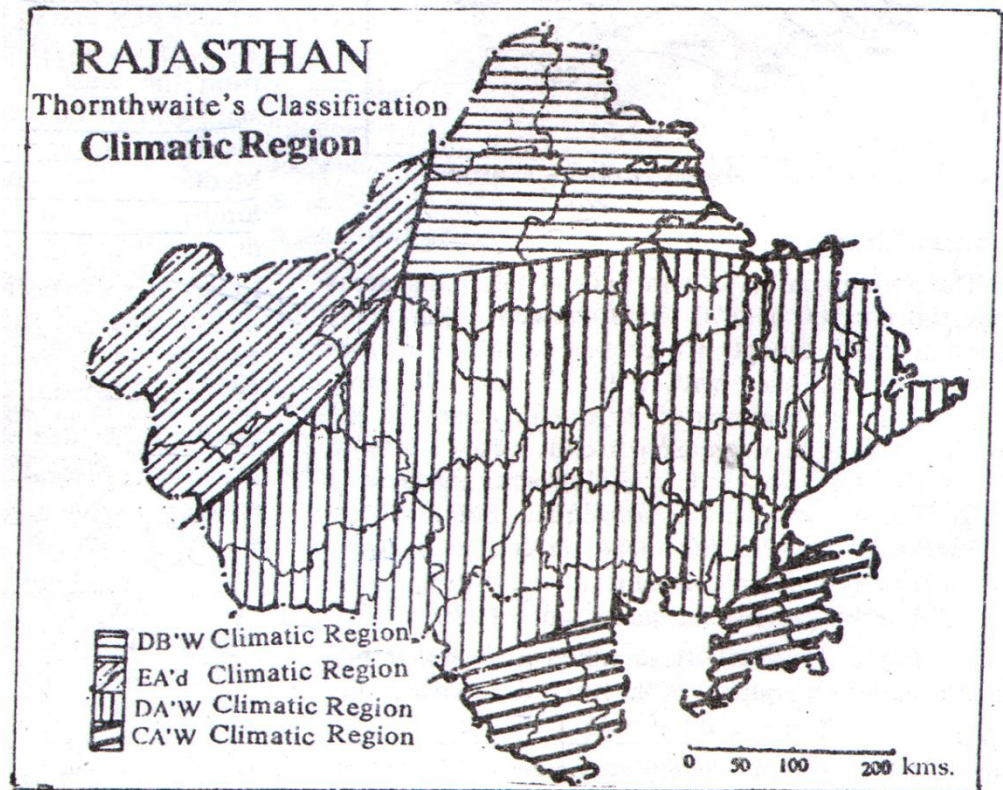
- Districts- Barmer, Jaisalmer, Western Jodhpur, South-Western Bikaner.
  - Rainfall- Rains deficiency in every season.
  - Vegetation- Xerophytic vegetation is grown only.
  - This climatic region is very hot & arid
- Rajasthan state has also divided into the following climatic regions on the basis of the distribution of rainfall and the variations of temperature as well as their effects on the type of vegetation found in the different parts of Rajasthan.

1. **Arid Region:**

- Districts- Jaisalmer, northern part of Barmer, Jodhpur, western part of Bikaner and southern parts of Ganganagar.
  - Winters- Very short and arid in the northern parts of this region.
  - Rainfall- 20 cm to 40 cm and its nature is erratic as well as torrential.
  - Thus, whenever rain occurs it brings floods also.
  - Average temperature in summers- 32°C to 36°C
2. Average temperature in winters- 10°C to 17°C

**Sub-humid Region:**

Districts- Western parts of Ganganagar, Hanumangarh, Jodhpur and Barmer.



**Que.3** Explain the various factors affecting the climate of Rajasthan?

**Ans**

**Factors - Affecting Climate of Rajasthan**

1. **Temperature:**

The temperature sometimes falls below the freezing point in Raj at Ganganagar & Bikaner  $2.8^{\circ}\text{C}$ . In summer temperature rises above  $40^{\circ}\text{C}$  Maximum temperature reading  $50^{\circ}\text{C}$  at Marusthali in Ganganagar.

The mean maximum temperature in May and June is about  $45^{\circ}\text{C}$  and mean minimum about  $23^{\circ}\text{C}$  over a large part of Rajasthan. December and January is the coldest month, the mean monthly temperature being  $12.9^{\circ}\text{C}$

2. **Rainfall:**

Rainfall is very low highly erratic and variable throughout the Rajasthan plain mean Annual Rainfall is from 10 cm to 40 cm on eastern edge of Indo-Pak border.

Rainfall decreases from East to West and from South West to North East.

Most of rains occurs in the rainy months of July and August. July to September the three monsoonal months provide 75% to 90% of annual total rainfall. There are years in the heart of Marusthalil where no rainfall occurs.

**3. Humidity:**

The highest mean relative humidity is found in months from July to September. It varies between 55% to 70% from March and May. It is lowest varying from 30% to 40% in general.

The mean cloud formation is highest in July and August, varying from 2 to 6. October is cloud free month.

**4. Dust Storms:**

Dust storms are common which suddenly bring down the temperature, causing occasional showers. These storms decrease in no. and intensity towards east.

Ganganagar has on an average 27 days of dust storms during a year, 18 days in Bikaner and 8 days in Jodhpur.

Maximum no. of dust storms occur in June in North West and in May in South and South East.

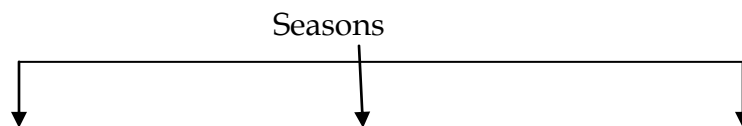
**5. Thunder Storms:**

Thunder storms show a reverse tuned of spatial distribution. Jodhpur experience 25 days of T.S. in a year and Barmer, Bikaner only 10 days.

**6. Wind:**

The wind blows from west and south west during the hot and rainy season with high velocity.

Climatically, the year in Rajasthan, has been divided into three major conventional seasons.



1.

**The Hot-Weather Season:**



▪	Month- March and prevails from April to June.	Start in
▪	Maximum Temp.- 45°C	40°C to
▪	Humidity- by 1%	Decrease
▪	Dust storm- days in Ganga nagar 8 days in Jodhpur	For 27
▪	Pressure- heated land	Falls over
▪	Winds- warm in April and winds flow from west to east.	Dry to
▪	Rainfall- sudden rainfall in this season due to dust storm	Sometime
▪	Day- heat and glare during the day	Intense
▪	Night- even cool in summer	Nights
▪	Sun is almost overhead from April to May.	

### MCQ's

- Who was the first historian who wrote about 'Feudalism' in Rajasthan during the 19th century?
  - Col. James Tod
  - Dr. L. P. Tessitori
  - George Grearson
  - John Thomas
- Who was the famous ruler of Mewar who repaired the fort of Achalgarh?
  - Rana Ratan Singh
  - Maharana Kumbha**
  - Rana Sanga
  - Maharana Raj Singh
- The famous historian of Rajasthan who was also a social reformer was?
  - Mankaran Sarda
  - Harbilas Sarda**
  - C.K.F. Waltier
  - Jamnalal Bajaj

4. The longest folk song of Rajasthan is associated with which of the following Lok Devis /Devtas?
- (A) **Jeena Mata**  
 (B) Aai Mata  
 (C) Mallinathji  
 (D) Ramdevji
5. Who was the ruler of a state in Rajasthan who played a very significant role in the establishment of Banaras Hindu University?
- (A) Maharana Fateh Singh (Udaipur)  
 (B) Maharaja Ummed Singh (Jodhpur)  
 (C) Maharaja Man Singh-II (Jaipur)  
 (D) **Maharaja Ganga Singh (Bikaner)**
6. Who was made the Raj Pramukh of united Rajasthan which came into existence of March 25, 1948?
- (A) Maharaja of Dholpur  
 (B) Maharaja of Karauli  
 (C) **Maharao of Kota**  
 (D) Maharaja of Sirohi
7. Sariska and Ranthambore are the reserves for which of the following animals?
- (A) Lion  
 (B) Deer  
 (C) **Tiger**  
 (D) Bear
8. Recently the Bank of Rajasthan has been merged with?
- (A) H.D.F.C.  
 (B) **ICICI**  
 (C) State Bank of Bikaner and Jaipur  
 (D) State Bank of India
9. The first cooperative society in Rajasthan was established in 1905 of?
- (A) **Bhinai in Ajmer district**  
 (B) Jaola in Nagour district  
 (C) Gulabpura in Bhilwada district  
 (D) Bassi in Jaipur district

10. Dhaman, Karad and Anjan are the?
- (A) Varieties of Sheep in Rajasthan
  - (B) Varieties of Caster seed of Gujarat
  - (C) **Varieties of Grass in Rajasthan**
  - (D) Three heroes of Gawari dance







## Chapter-5

### IRRIGATION DEVELOPMENT IN RAJASTHAN

**Que. 1** Write an account of Chambal valley project?

**Ans. INTRODUCTION:**

The agriculture production the state mainly depends upon South-East monsoon rain.

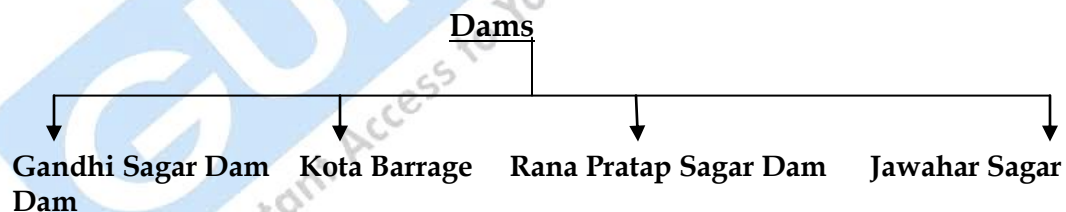
The Average rainfall for the state is 58.64 cms

Chambal, Banas, Mahi and all other rivers add prosperity to this region.

**Major Irrigation Projects:**

**I. Chambal Project (1935-54)**

- Started in 1935-54
- It is a joint project of MP and Rajasthan to control flood in Chambal.
- Irrigation facility to 10 lakh hectares of land.
- Start from Janapur hills in MP.
- Four dams are constructed on it.



**1. Gandhi Sagar Dam:**

- Built in 1959 in 1<sup>st</sup> phase in M.P.
- Biggest water reservoir
- Hydroelectricity production
- Irrigation

**2. Kota Barrage:**

- Built in 1960 in 1<sup>st</sup> phase in Kota
- Irrigation
- It is the largest Hydroelectricity project of state

**3. Rana Pratap Sagar Dam:**

- In Chittorgarh in 2<sup>nd</sup> phase
- It was constructed 33 Kms downstream on Chulia fall (Rawatbhata)
- Maximum catchment area of state
- Used for irrigation.
- Production of Hydroelectricity

4. **Jawahar Sagar Dam:**

In Kota, in 3<sup>rd</sup> phase

It is a pick up dam

Used only for irrigation to 10 lakh hectare of land.

**Que.2. write a short note on various multi purpose project of Rajasthan?**

Ans .

**Mahi Bajaj Sagar Project:**

- This project was started in 1971
- Joint project- It is a joint project of Government of Rajasthan and Gujarat.
- The main dam built on R Mahi near Banswara
- Length- 3019 Km
- River Mahi starts from Vindhyan RTange in M.P. and it fall in Gulf of cambay through Gujarat
- Districts- Banswara, Dungarpur.
- There are four units of Mahi Bajaj Sagar Project. They are as follows:

1. **First Unit:**

- The First Unit is meant entirely for irrigation.

2. **Second Unit:**

- The Second Unit belongs entirely to Rajasthan and it receives power and irrigational water.

3. **Third Unit:**

- In Third Unit Rajasthan is entitled for power.

- In Third Unit power generation scheme was taken up with the construction of 2 power houses.
- The capacity of 2 power houses is 140 mw.
- For extending irrigation facility in the command area, **Bhikabhai Sagwara Canal is under construction.**
- It will provide additional irrigation facility to an area of 11818 hectares.

#### 4. **Fourth Unit:**

- In Fourth Unit Rajasthan is authorized to receive irrigational water.
- The original project was for 46.558 hectare, but its scope was further increased to 80000 hectares.
- Looking to the increased availability of water, the CCA of the project was again from 80000 hectares to 123500 hectares up to March, 2009 irrigation in the area of 84707 hectares has been achieved.
- Mahi Bajaj Sagar Project has its own command depend program under this programme, construction of water routes, roads, crossing, lining of water tracks etc. are being taken up.
- This minimizes the loss of water.
- Tribals of Banswara and Dungarpur are benefitted to a large extent.

#### **Impact on Socio-Economic Development:**

## II. **Bhakra Nangal Canal Project:**

- It is joint project of Punjab, Rajasthan, Haryana
- Bhakra dam is situated on Sutlej River
  - Height of Bhakra dam – 518 Km
  - Intensity of Irrigation – 62%
  - Share of Rajasthan – 15.2%
  - Rajasthan get 227 MW electricity
- lakh hectares of irrigation capacity.
- Nangal dam is situated on Sutlej River
  - Length- 503
  - Height – 29 m
  - It is on downstream at a distance of 12 Km from Bhakra dam.
- It balances the water of Bhakra dam.

- It provides irrigation to Ganganagar and Hanumangarh.
- There are three canals
  - i) Nohar
  - ii) Bhadra
  - iii) Hanumangarh

### III. Narmada Project:

- It is joint project of Rajasthan, Gujarat and Maharashtra.
- It has benefitted 76 village of Jalore and Barmer districts. It provide water supply to Jalore and Barmer.

### IV. Bilaspur Project (1986-87):

- It was started in 1986-87
- It was made on Banas River in Tonk.
- The dam was constructed to provide drinking water scheme for Ajmer, Beawar, Bundi, Tonk, Sawaimadhopur.
- It provides irrigation in 81800 hectare area of Tonk.
- Total storage capacity of dam is 38.70 TMC
- Other activities like diary development, food industry may also be developed.

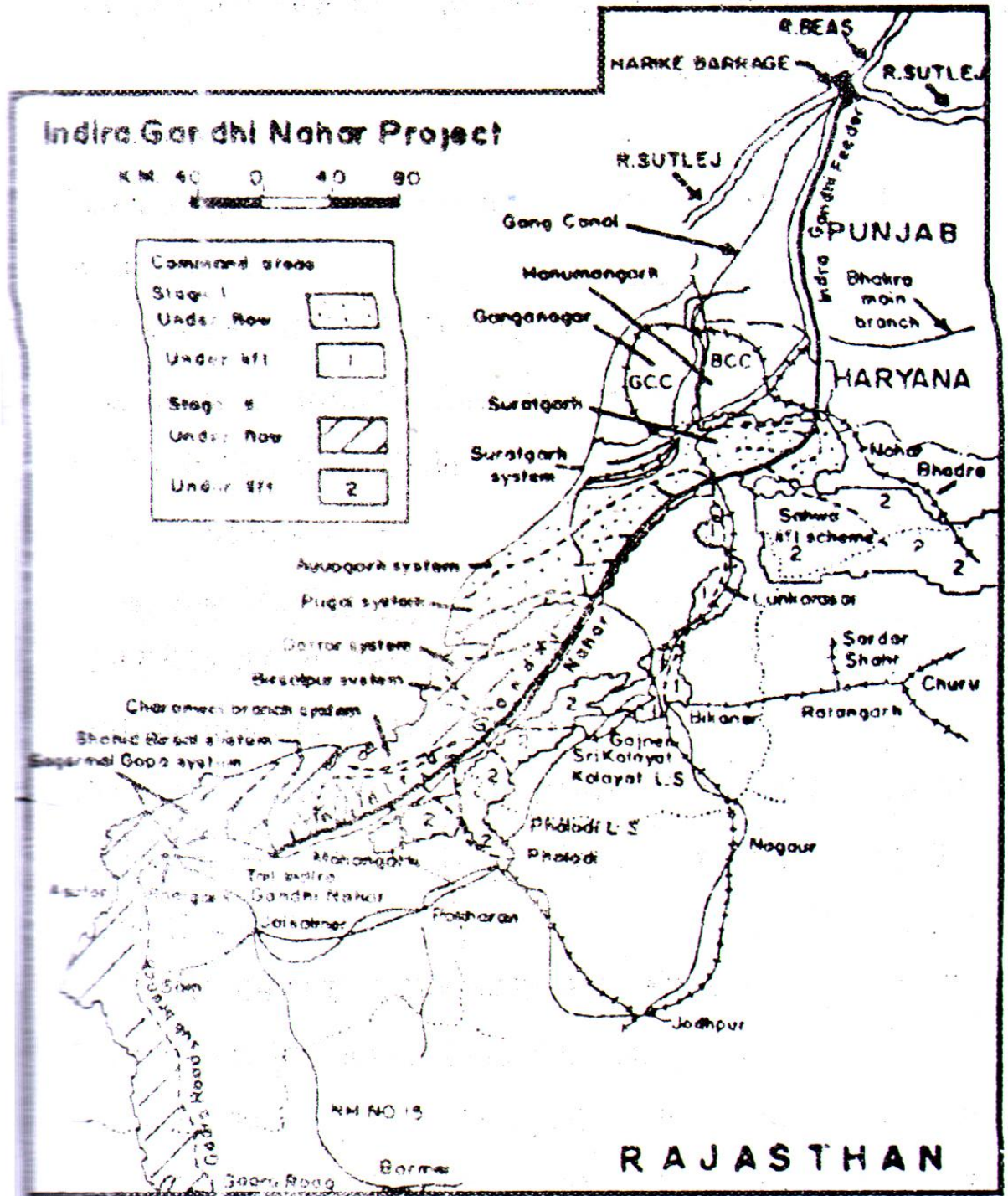
**Que.3** Write an essay on Indira Gandhi Canal Project.

**Ans.** Indira Gandhi Canal Project:

- This project previously known as Rajasthan Canal Project.
- It is one of the biggest largest irrigation project not only in India but in whole world.
- It covers an area 600 Km long and 45 Km wide of the Thar Desert in North West of Rajasthan.
- RCP was first conceived on 29 October, 1948.
- To rejuvenate to great desert.
- The physiographic of the area is characterized by vast stretches of undulating windblown sand dunes which sometime rise above 60 m.
- It was came to reality in 1951-53

- RCP was taken up by the Central Water and Power Commission in 1951.
- Ar. To be irrigated annually- 29 Lakh acres.
- Length of main canal- 445 Kms.
- Length of branches- 832 Kms.
- Depth of water- 6.25 m.
- Bed width lined canal- 38 m.
- Discharge at head- 18500 cusses
- Length of distributaries and minors- 547 Kms.







**Stage I:**

This stage comprising construction of 204 Km long feeder canal, 189 Km long main canal and 3454 Km long distributaries

Origin- from the Harike dam situated on the confluence of rivers Satlej & Beas

End- Comes to an end near Masitawali in Hanumangarh. This is called Rajasthan feeder

Provide Irrigation- First stage has been providing irrigation facilities to 5.63 lakh hectares.

A culturable command area of 525 lakh hectare is mostly completed potential of 5.77 lakh hectare was created by March 1986 and the creation of rest irrigation potential has been completed by March, 1991.

**Stage II:**

This stage of estimates to provide flow into 7.0 lakh hectare to culturable command area up to Gardra Road in Barmer district

It lift irrigation in block to 3.12 lakh hectare. Culturable command area under 5 lifts schemes up to 60 m. Reservation of 1800 cuses of water for drinking water supply and industrial usages.

The main canal in its entire length of 256 Km in stage-II from Chhatargarh to Mohangarh has been completed.

Water released up to Tail near Mohangarh in Jaisalmer district on 1<sup>st</sup> January, 1987 by assuming a total length of 649 Kms.

With the completion of Lathi Series water has started flowing and it is being used for cultivation.

Form Mohangarh point a new branch is being taken out which is 90 Kms. in length and has been named as Leehva branch. It has been extended up to Gardra town in Barmer. The region is undulating and therefore seven lift canals have been constructed to lift up the water up to 60 m.

1. The lift canals are-

- i. Bikaner-Lunkaransar
- ii. Gajner lift canal
- iii. Nohar-Saheve lift canal
- iv. Kolayat lift canal
- v. Phalodi lift canal
- vi. Pokaran lift and
- vii. Bangarsar lift canal



On completion, irrigation potential of about 19.63 lakh hectares are would be created every year.

Till March, 09 construction of branches and distributaries was completed over a distance of 8291.06 Km was as against proposed target of 9413 Kms. A sum of Rs.3445.80 crore was spent over it. Rs. 475.76 crore in the first stage and Rs.2970.26 crore in the second stage.

Irrigation facilities were created in 15.73 lakh hectrares by the end of March, 2009.

Agriculture output of about Rs. 1750 crore is produced annually with the help of this project.

It also provides drinking water.

Kunwar Sain lift canal is providing drinking water to Bikaner city and 99 villages situated out of the project area.

Gandhelilsheva lift scheme is providing drinking water to 175 villages of Churu district.

Jodhpur lift scheme is providing drinking water to Jodhpur city and enroutetown and villages.

After completion of project, 1.80 crore population of eight districts of Western Rajasthan will avail drinking water facility.

**Que. 4 Write a short note on irrigation system of Rajasthan?**

**Ans. Introduction:**

The total area of Rajasthan is 342239 Sq. Km.

- Agriculture is the main occupation in Rajasthan.
- Agriculture production is mainly depends upon South-East monsoon rain.
- The rainfall behaviour generally remains abnormal being irregular, unever and uncertain scanty with drought period and occasional local floods.
- Average rainfall- 58.64 Cms.
- The process of weathering and disintegration coupled with sunb-shine and insolatuiion demand for the need of irrigation in state.
- The irrigation facilities available are neither equally distributed in the state nor fully dependable. Chambal, Banas, Mahi and all other rivers add prosperity to this region.
- There is need of judicious implementation of minor, medium and major irrigation schemes.

**Sources of Irrigation:**

There are three main basic sources of irrigation

Source of Irrigation

1. Wells and Tube wells    2. Tank Irrigation    3. Canal Irrigation

**1. Wells and Tube wells:**

- Wells and Tube well play an important role in agriculture in Rajasthan
- Districts-      Tonk, Alwar, Ajmer, Udaipur, Jaipur, Bhilwara & Jhunjhunu.
- Out of total irrigated are 67.7% is irrigated by wells & tube wells in the eastern plains and South-Eastern plateau region where water table is very high ranging from 10 to 20 W.
- Well irrigation has several advantages over canal irrigation in many areas.
- The crop pattern is better developed in areas, irrigated by wells due to regular supply of water.

**2. Tank Irrigation:**

Tank irrigation facility is totally dependent on rainfall.

Districts-      Bharatpur, Dholpur, Pali

All three districts accounts for more than 50% of the tank irrigated are in Rajasthan.

**3. Canal Irrigation:**

District-      Ganganagar

In Ganganagar district all the irrigation is done by canals.

The temperature is high in Mewar plains which causes high

evaporation and rock stream does not provide natural reservoirs

All these factors result in lesser development of canals in this region.

## Case Study

- I. Ganga nagar is called " the food basket of Rajasthan". Bring the case study of reasons how it has taken the rank of food basket.
- II. Give the reason that how the Tethys Sea is converted into the Thar Desert.
- III. The climate of Jaipur has become humid and brings the case study analysis for finding out the reason of this climate change.
- IV. The physiographic of Rajasthan is responsible for the uneven distribution of population. Give the case study on the basis of census 2011.
- V. Aravalli ranges are unable to bring the rainfall in Rajasthan. Bring a case study analysis of topography to find out the reason in the same.

## Key words

1. **Latitude**- The angular distance of any point on the Earth's surface north or South of the Equator, as measured from the Centre of the Earth, in degrees, minutes and seconds.
2. **Pangaea**- The name given by A- Wegener in his theory of continental Drift to a great land mass, the supercontinent of Precambrian times, probably split in two parts, Gondwana land in the south being separated by a west ocean.
3. **Longitude**- The angular distance between the Meridian passing through a given point and the prime, standard, initial and Zero meridian. This angular distance, i.e. longitude is measured in degrees, minutes and seconds east or west of the Greenwich meridian ( $0^\circ$ ) to  $180^\circ$ , east and west.
4. **Geography**- The study that deals with the material and human phenomena in the space accessible to human beings and their instruments, especially the pattern of, and variation in their distribution in that space, on all scales, in the past or present.
5. **Weathering**- In geology the mechanical or physical, chemical and biological processes by which rocks are decomposed or disintegrated by exposure at or near the earth's surface.
6. **Volcano**- A rift or vent in the earth's crust through which molten material is erupted and solidifies on the surface as lava.
7. **Climate**- The average weather conditions and variations in these conditions in both space and time over a large area. Weather conditions over a specific length of time, usually a period of at least 30 years are taken into consideration.
8. **Air Pressure**- The pressure caused by the weight of air above the earth pushing down on its surface. Air pressure is measured in bars or in mill bars (1 bar = 1000 mill bars)
9. **Monsoon**- A large scale seasonal reversal of winds pressure and rainfall in the tropics.
10. **Wind**- air in motion usually restricted to natural horizontal movement, varying in strength from light to hurricane.

11. **Sahariya tribe-** is the only primitive tribe of the Rajasthan state, residing in the Shahabad and kishanganj.
12. **Metallic mineral** - A metallic mineral has a distinctive, shiny, metallic luster. Metallic minerals such as gold and silver are also economic minerals.
13. **IGU - Indira Gandhi canal**
14. **Sand dunes** - dunes formed by winds are called sand dunes.

**Drainage** - A drainage basin is an extent or an area of land where surface water from rain.

**RAJASTHAN UNIVERSITY EXAMINATION, 2011****B.A./B.Sc. (PART I) EXAMINATION, 2011**

(Common for the Faculties of Science and Arts)

[Also Common with Subsidiary Paper of B.A. /B.Sc. (Hons) Part-I]

(Three year Scheme of 10+2+3 Pattern)

**GEOGRAPHY****Second Paper : Geography of Rajasthan****Time : Three Hours  
Science****Max. Marks: 75 for Arts/50 for**

1.

(a) Show any five of the following on the outline map of Rajasthan supplied to you:-

- i. Jakham Dam
- ii. Bhiwadi Industrial Area
- iii. Kali Sindh River
- iv. National Highway No. 15
- v. Palana Lignite Coal Fields
- vi. National Desert Park.

(b) Write the correct answer of the following:-

i. Khoh Dariba region is associated with the mining of:-

- a) Lead and Zinc
- b) Copper
- c) Manganese
- d) Silver

ii. Contiguous districts of Rajasthan are:-

- a) Sirohi, Barmer, Jaisalmer
- b) Jhalawar, Bundi, Tonk
- c) Sirohi, Pali, Nagaur
- d) Churu, Jhunjhunu, Jaipur

iii. Which pair is incorrect?

- a) Sewan grass – Baran
- b) Marble – Makrana
- c) Hemawas Dam – Baran
- d) Pichhola Lake – Udaipur

iv. Which city can be called the 'Manchester of Rajasthan'?

- a) Kota
- b) Pali
- c) Bhilwara
- d) Beawar

- (c) Write very short answers of any three:-
- a) Soil erosion
  - b) Hydro-electricity
  - c) Density of population
  - d) Geological structure
  - e) Chhappan plain.

**SECTION-A**

2. Divide Rajasthan into physical division and describe each of them in brief.
3. Write a geographical note on the water resources of Rajasthan and discuss problems and conservation of water.
4. Write short notes on any two of the following:-
  - i. Problems of draughts and desertification in Rajasthan
  - ii. Causes of environmental pollution in the desert area of Rajasthan
  - iii. Drainage pattern of Rajasthan
  - iv. Major climatic regions of Rajasthan.

**SECTION-B**

5. Provide a chronological account of the development of irrigation in Rajasthan after independence. Show its impact upon food grain production.
6. What are the major power and energy sources of Rajasthan? Write about their contribution in the development of the State.
7. Write short notes on any two of the following:-
  - i. Animal wealth in Rajasthan
  - ii. Reasons for the development of cement industry in Rajasthan.
  - iii. Causes of industrial backwardness of Rajasthan
  - iv. Importance and distribution of minerals in Rajasthan.

**SECTION-C**

8. Explain the influence of physiographic and climate on the distribution of population in Rajasthan and population problems also.
9. Describe the impact of environment on habitat, economy and society of Meenas or Garasias in Rajasthan.
10. Write short notes on any two of the following:-
  - a) House types in Rajasthan
  - b) Factors affecting settlement patterns
  - c) Occupational structure of population in Rajasthan
  - d) Literacy rate in Rajasthan.



**RAJASTHAN UNIVERSITY EXAMINATION, 2010**  
**B.A./B.Sc. (PART I) EXAMINATION, 2010**  
(Common for the Faculties of Science and Arts)  
[Also Common with Subsidiary Paper of B.A. /B.Sc. (Hons) Part-I]  
(Three year Scheme of 10+2+3 Pattern)

**GEOGRAPHY**  
**Second Paper : Geography of Rajasthan**

**Time : Three Hours**  
**Science**

**Max. Marks: 75 for Arts/50 for**

- (1) No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer précised in the Main answer-book.
- (2) All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Attempt Five questions in all, selecting at least One question from each  
Section. Question No. 1 is compulsory.

1. (a) Locate any five of the following on the outline map of Rajasthan supplied to you:-
  - (i) Tabizi farm
  - (ii) National Highway No. 3
  - (iii) Simco Industrial Area
  - (iv) Sillisedh
  - (v) Banas River
  - (vi) Chanderiya
  - (vii) Ranthambhor
  - (viii) Narma Cotton Region
- (b) Write correct answer of the following:-
  - (i) In which geographical region of the State in the percentage of population highest?
  - (ii) Where is factory of sodium sulphate located?
    - (a) Pachpadra
    - (b) Sambhar
    - (c) Lunkaransar
    - (d) Didwana
  - (iii) In which district are Kathi breed cows found in majority?

- (a) Ajmer and Nagaur  
 (b) Barmer and Jaisalmer  
 (c) Alwar and Bharatpur  
 (d) Sikar and Jhunjhunu.
- (iv) Sathariya Tribes are mainly found in which region of Rajasthan?  
 (a) Kanthal region  
 (b) Haroti region  
 (c) Mewar region  
 (d) Matasya region
- (v) Which district has the largest production of Gypsum?  
 (a) Bikaner  
 (b) Nagaur  
 (c) Barmer  
 (d) Sriganganagar
- (c) Write very short answers of any three:-  
 (i) Means of irrigation  
 (ii) Suggestion of controlling environmental pollution  
 (iii) Density of population  
 (iv) Source of Bionergy.

#### SECTION-A

2. Explain the expanse of Aravalli mountain region and its economic importance.
3. Describe and illustrate the agro climatic zone of Rajasthan.
4. Explain the problem of soil erosion in Rajasthan and discuss the method of preventing soil erosion.

#### SECTION-B

5. Comment on the geographical change occurring in the forest regions of Rajasthan.
6. "Irrigation is as important for farming as hydroelectricity is for industries". Explain in the context of Rajasthan.
7. Write an account on Indira Gandhi Canal project and describe its impact on economic development.

#### SECTION-C

8. Describe the impact of environment on habitat, economy and society of Bhils in Rajasthan.
9. Define the sources of building materials in Rajasthan and types of rural settlements.
10. Write short notes on any two of the following-  
 (i) Road Network

- (ii) Problem of Urbanisation
- (iii) Tourism Development
- (iv) Dairy Development.

**RAJASTHAN UNIVERSITY EXAMINATION, 2009****B.A./B.Sc. (PART I) EXAMINATION, 2009**

(Common for the Faculties of Science and Arts)

[Also Common with Subsidiary Paper of B.A. /B.Sc. (Hons) Part-I]

(Three year Scheme of 10+2+3 Pattern)

**GEOGRAPHY****Second Paper : Geography of Rajasthan****Time : Three Hours  
Science****Max. Marks : 75 for Arts/50 for**

1. No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer précised in the Main answer-book.
2. All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Attempt Five questions in all, selecting at least One question from each  
Section. Question No. 1 is compulsory.

1. (A) Locate any five of the following on the outline map of Rajasthan supplied to you:-

- (i) Sambhar Lake
- (ii) Sarsawati River
- (iii) New found Oil areas in Rajasthan
- (iv) National Highway No.8
- (v) Bisalpur Dam
- (vi) Nthdwara
- (vii) Neemrana Industrial Area.

- (B) Write correct answer of the following:-

- (i) Menal is located in which district?
  - (a) Kota
  - (b) Bhilwara
  - (c) Banswara
  - (d) Chittorgarh
- (ii) Which district has the largest deposit of “diamond” mineral-
  - (a) Dungarpur
  - (b) Jaipur
  - (c) Barmer
  - (d) Dausa.
- (iii) Which district had the highest growth rate of population in the decade 1991-2001?

- (a) Jaisalmer
  - (b) Barmer
  - (c) Jaipur
  - (d) Jodhpur
- (iv) Which river is not a tributary of Chambal?
- (a) Parwati
  - (b) Banas
  - (c) Sukde
  - (d) Kali Sindh
- (C) Write very short answers of any three:-
- (i) Benefits of Chambal Valley Project in Rajasthan.
  - (ii) The literacy status of women in Rajasthan.
- (i) Geographical conditions for the cultivation of wheat and mustard in Rajasthan.
- (ii) Name famous breeds of 'Cows' in Rajasthan.

#### SECTION-A

2. Divide Rajasthan into major physical divisions and describe "Western desert region" in detail.
3. Drought and desertification are major problems in Rajasthan. Discuss about their causes and effects. Suggest measures to control these problems.
4. Write a Geographical note on the water resources of Rajasthan and discuss problems and conservation of water.

#### SECTION-B

5. Write an account of "Mahi-Bajaj Sagar Project" and describe its impact on socio-economic development.
6. Provide a brief account of the main problems of the agriculture of Rajasthan and suggest ways and means which will help its future course of development.
7. Describe any two of the following:-
  - (a) Aravali Hill Development Programme
  - (b) Solar Energy Programme in Rajasthan
  - (c) Cement Industry in Rajasthan
  - (d) Marble Industry in Rajasthan.

#### SECTION-C

8. Explain the distribution and density of population in Rajasthan and population problems also.
9. Describe the types and patterns of Rural Settlements in Rajasthan.
10. Write short notes on any two of the following:-
  - (i) Social, economic and cultural activities of 'Bhils' Tribe in Rajasthan.
  - (ii) Levels of Urbanization in Rajasthan
  - (iii) Literacy Status of Population in Rajasthan
  - (iv) Tourist Spots of the State of Rajasthan.



**RAJASTHAN UNIVERSITY EXAMINATION, 2008**  
**B.A./B.Sc. (PART I) EXAMINATION, 2008**  
(Common for the Faculties of Science and Arts)  
[Also Common with Subsidiary Paper of B.A. /B.Sc. (Hons) Part-I]  
(Three year Scheme of 10+2+3 Pattern)

**GEOGRAPHY**

**Second Paper: Geography of Rajasthan**

**Time: Three Hours**  
**Science**

**Max. Marks: 75 for Arts/50 for**

Attempt five questions in all, selecting at least one question from each Section. Question No. 1 is compulsory.

1. (a) Locate any five of the following on the outline map of Rajasthan supplied to you:-
  - (i) Bal Samand Lake
  - (ii) Banas River
  - (iii) Mehrangarh
  - (iv) National Highway No. 12
  - (v) Som Kamla Amba Irrigation Project
  - (vi) Ghadsana Rawanla Region
  
- (b) Write correct answers of the following:-
  - (i) 'Bisalpur Project' is located on which river?
    - (a) Chambal
    - (b) Banas
    - (c) Luni
    - (d) Mahi
  - (ii) Which district has the highest percentage of camels in Rajasthan-
    - (a) Jaisalmer
    - (b) Bikaner
    - (c) Barmer
    - (d) Churu
  - (iii) The Golden Fort is located in which district?
    - (a) Alwar
    - (b) Jaisalmer
    - (c) Kota
    - (d) Bundi
  - (iv) 'Ranibara' is located in which district?
    - (a) Jalore
    - (b) Ajmer
    - (c) Pali

- (d) Jaipur
- (v) 'Kamtilal' is famous for the reserves of:
- (a) Copper
- (b) Lignite
- (c) Natural Gas
- (d) Silver
- (c) Write very short notes of any three:-
- (i) Write the names of four places that produce Iron ore in Rajasthan.
- (ii) Name five famous breeds of sheep in Rajasthan
- (iii) Geographical conditions for the cultivation of Cotton and Tobacco in Rajasthan.
- (iv) Causes and types of Soil erosion.

#### SECTION-A

2. Divide Rajasthan into major physical divisions and describe any one in detail.
3. Describe the drainage pattern of Rajasthan and discuss its relations with relief.
4. Drought is major problem in Rajasthan. Discuss about its causes and effects. Suggest measures to control this problem.

#### SECTION-B

5. Write an account on Chambal Valley project and describe its impact on socio-economic development.
6. Determine the role of Dairy Industry in the economy of Rajasthan.
7. Describe any two of the following:-
  - (a) Solar Energy programme in Rajasthan
  - (b) Marble and Granite industries in Rajasthan
  - (c) Tribal areas development programme.

#### SECTION-C

8. Explain the distribution density of population in Rajasthan in the light of geographical factors.
9. What do you know about building materials and house types in Rajasthan? Discuss about factors affecting Settlements.
10. Write short notes on any two of the following:-
  - (i) Social, economic and cultural activities of Garasiya Tribe in Rajasthan.
  - (ii) Literacy status of women in Rajasthan
  - (iii) Pattern of Settlements in Rajasthan.



**RAJASTHAN UNIVERSITY EXAMINATION, 2007**  
**B.A./B.Sc. (PART I) EXAMINATION, 2007**  
(Common for the Faculties of Science and Arts)  
[Also Common with Subsidiary Paper of B.A. /B.Sc. (Hons) Part-I]  
(Three year Scheme of 10+2+3 Pattern)

**GEOGRAPHY**  
**Second Paper: Geography of Rajasthan**

Time: Three Hours  
Science

Max. Marks: 75 for Arts/50 for

Attempt Five questions in all, selecting at least one question from each Section. Question No. 1 is compulsory.

1. (a) Locate any five of the following on the outline map of Rajasthan supplied to you:-
  - (i) Talabshahi
  - (ii) Nakoda
  - (iii) Raghunathgarh
  - (iv) National Highway No. 8
  - (v) River Sahibi and Sota
  - (vi) Tal Chappar
  - (vii) Kavas
- (b) Write correct answer of the following:-
  - (i) Kolayat lake as located in:
    - (a) Jaisalmer
    - (b) Barmer
    - (c) Bikaner
    - (d) Ajmer
  - (ii) Which river is not a tributary of Chambal
    - (a) Parwati
    - (b) Banas
    - (c) Sukde
    - (d) Kali Sindh
  - (iii) Lowest area under forest cover is found in:-
    - (a) Jaisalmer
    - (b) Churu District
    - (c) Barmer District
    - (d) Nagour District
  - (iv) 'Sedewala' is famous for the reserves of:-

- (a) Gypsum
  - (b) Copper
  - (c) Petroleum
  - (d) Lignite
- (v) Which district has highest number of sheep in Rajasthan?
- (a) Pali
  - (b) Bikaner
  - (c) Nagour
  - (d) Jodhpur
- (d) Write very short answers of any three:-
- (i) Write the names of four places that produce copper in Rajasthan.
  - (ii) Name five famous breeds of cow in Rajasthan.
  - (iii) Geographical conditions for the cultivation of Bajra and Jawar in Rajasthan.
  - (iv) Causes and types of environmental pollution.

#### **SECTION-A**

2. Write a geographical essay on the availability, problems and conservation of water resources of Rajasthan.
3. Describe and illustrate the climatic conditions prevailing in Rajasthan.
4. Provide a brief account of the chief soils of Rajasthan and explain their evolution, composition and economic significance.

#### **SECTION-B**

5. Discuss briefly the role of hydro-electricity, solar energy and bio-energy in solving the power crisis in Rajasthan.
6. Provide a brief account of the main problems of the agriculture of Rajasthan and suggest ways and means which will help its future course of development.
7. Describe any two of the following:-
  - (a) Aravali Hill Development Programme
  - (b) Chambal Valley Project
  - (c) Soil erosion and its conservation.

#### **SECTION-C**

8. Write a geographical account of habitat, economy and society of either Bhils or meena tribes of Rajasthan.
9. Describe the types and patterns of rural settlements in Rajasthan.
10. Write short notes on any two of the following:-

- (i) Male and female population of Rajasthan
- (ii) Literacy status and occupational structure of population in Rajasthan
- (iii) Levels of urbanization in Rajasthan.

## Bibliography

1. Geography of Rajasthan, Bhalla L.R.
2. Geography of Rajasthan, Sharma .H.S.
3. Geography of Rajasthan, Mishra.V.C.
4. Agricultural Geography of Rajasthan, Chauhan.T.S.
5. Agricultural Typology of Rajasthan, Sharma.B.L.

