R P S C

Rajasthan Public Service Commission

ASSISTANT ENGINEER EXAMINATION

Geography & Natural Resources

Comprehensive Theory with **Practice questions**
and **Previous year solved questions**

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Geography & Natural Resources

RPSC Assistant Engineer Examination

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Preface

B. Singh (Ex. IES)

The compilation of this book **Geography & Natural Resources** was motivated by the desire to provide a concise book which can benefit students who are preparing for Rajasthan Public Service Commission (RPSC) Assistant Engineer Examination.

It would be worth mentioning that the entire syllabus of General Studies for RPSC Assistant Engineer Examination consists of five subjects namely Current Affairs, History & Culture, General Science, G.K. & Economic Developments with special reference to Rajasthan, and Geography & Natural Resources. The textbook of all five subjects will have special focus to Rajasthan which will help the aspirants immensely.

This particular textbook provides all the requirements of the students, i.e. comprehensive coverage of theory, fundamental concepts and objective type questions articulated in a lucid language. The concise presentation will help the readers grasp the theory of this subject with clarity and apply them with ease to solve objective questions quickly. This book not only covers the syllabus of RPSC Assistant Engineer Examination in a holistic manner but is also useful for other examinations conducted by RPSC. All the topics are given the emphasis they deserve so that mere reading of the book clarifies all the concepts. We have put in our sincere efforts to present detailed theory and MCQs without compromising the accuracy of answers.

Our team has made their best efforts to remove all possible errors of any kind. Nonetheless, we would highly appreciate and acknowledge if you find and share with us any printing and conceptual errors.

It is impossible to thank all the individuals who helped us, but we would like to sincerely thank all the authors, editors and reviewers for putting in their efforts to publish this book.

With Best Wishes

B. Singh (Ex. IES)
CMD, MADE EASY Group

PART I Indian Geography 01 – 72

PART VI Ecology and Wildlife of India

187-246

PART I

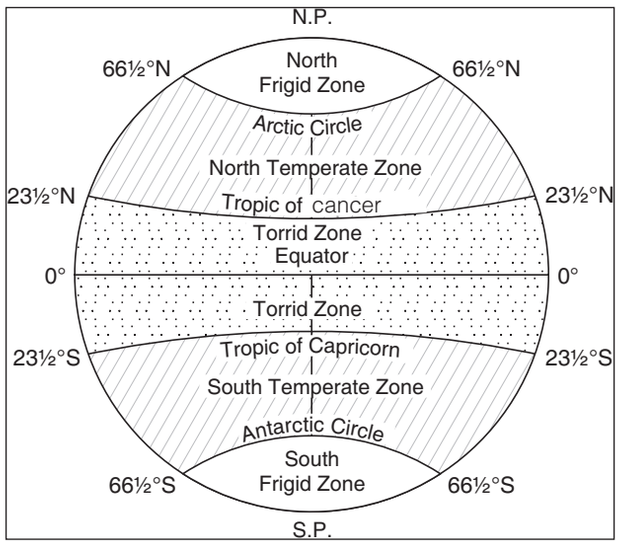
Indian Geography

General Aspects of Geography

1 CHAPTER

Latitude

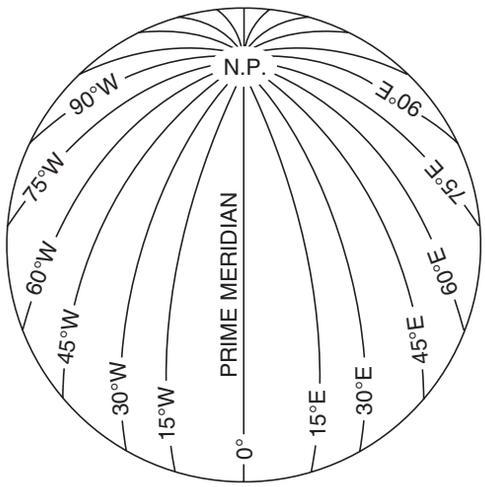
- It is the angular distance of a point on the earth's surface, measured in degrees from the centre of the earth. It varies from 0 to 90° North and 0 to 90° South.
- Latitudes are circular lines which are parallel to the equator, which lies midway between the poles. Hence, these lines are called **parallels of latitude**. The latitudes are also called as temperature coordinates because with the increase in latitudinal distance towards the poles, the temperature reduces.
- The midday sun is exactly overhead at least once a year on all latitudes in between the Tropic of Cancer and the Tropic of Capricorn. This area, therefore receives the maximum heat and is called the **Torrid Zone** (or Tropical Zone).
- The areas bounded by the Tropic of Cancer and the Arctic Circle in the northern hemisphere, and the Tropic of Capricorn and the Antarctic Circle in the southern hemisphere, have moderate temperature, hence called **Temperate Zones** (or Mild Zone).



- Areas bounded by the Arctic Circle and North Pole, and the Antarctic Circle and South pole are called **Frigid Zones**. These zones are very cold as the sun does not rise above the horizon.

Longitude

- It is an angular distance measured in degrees along the equator east or west of the Prime Meridian (0°). It varies from 0 to 180° E and 0 to 180° W. It is also called as time coordinates.
- Meridians are a series of semicircles that run from pole to pole passing through the equator.
- Longitudes are imaginary lines joining north pole with south pole.



- The Prime Meridian is at 0° and is known as the **Greenwich line** as it passes through Greenwich near London, where the British Royal Observatory is located.
- Longitudes have one very important function i.e. they determine Local Time in relation to Greenwich Mean Time (GMT).
- Maximum distance between two longitude lies over equator and minimum distance over poles, where they converge.
- In India, the longitude of 82½° E is treated as the Standard Meridian. The Local Time at meridian is taken as the Standard Time for the whole country. It is known as the **Indian Standard Time** (IST).

International Date Line

- It is an imaginary line drawn at 180° longitude, avoiding the continuous land parts.
- International Date Line passes through Arctic Ocean, Bering Strait, Pacific Ocean, Antarctica, Fiji, Tonga and other islands.
- It is also the longitude where the date changes by exactly one day when it is crossed. If a traveller crossing the date line from east to west, he loses a day and while crossing the date line from west to east, he gains a day.

Do You Know?

- The midday sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn.
- 180° East and 180° West meridians are the same line which is called the **International Date Line**.
- Russia has 11 and China has 5 times zones, whereas USA and Canada both have six time zones (the Atlantic, Eastern, Central, Mountain, Newfoundland and Pacific time zones).

Motions of Earth

- The earth is a planet of the solar system. It is not static but has two types of motions:
  (a) Rotational Motion
  (b) Revolutional (or Orbital) Motion

(a) Rotation of Earth

- Rotation is a spinning of earth continuously on its own axis from west to east once in every 24 hours, causing day and night.
- Rotation is also responsible for generation of centrifugal force which is maximum over equator. This force is responsible for equatorial buldging and polar flattening.

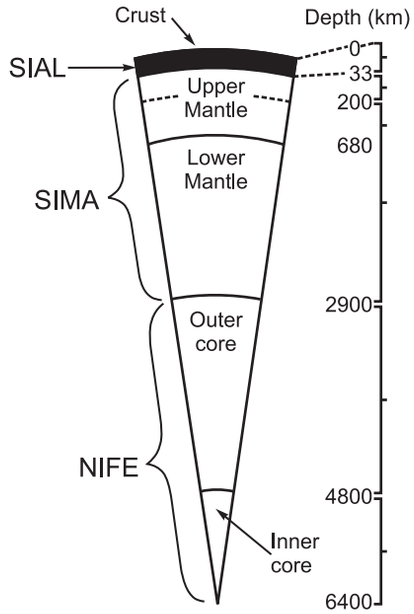
(b) Revolution of Earth

- The earth also revolves around the sun in an orbit once in about 365 days and 6 hours, causing formation of seasons and the year. This motion is called Revolution of earth (also called annual movement).

Varying lengths of Day and Night

- The axis of the earth is inclined to the plane of earth's orbit at an angle of 66½° giving rise to different seasons and varying lengths of day & night.
- The sun is vertically overhead at the equator on 21 March and 21 September and these two days are termed as **Equinoxes** (equal length of day & night in both the hemisphere).
- On 21 June, the sun is vertically overhead at the Tropic of Cancer (23½° N). This is known as **summer solstice**, when the northern hemisphere will have its longest day and shortest night.
- On 22 December, the sun is vertically over head at the Tropic of Capricorn (23½° S). This is known as **winter solstice**, when the southern hemisphere will have its longest day and shortest night.
- Beyond the Arctic Circle (66½° N) and Antarctic Circle (66½° S) darkness lasts for 6 months and daylight is continuous for the remaining 6 months.

Structure of Earth



- The earth as a whole has been divided into three broad zones:

1. **Crust (SIAL) :** The outermost layer of earth is called as crust. It is free to drift over a layer called Asthenosphere.
   - Crust comprises two distinct parts, the upper crust or continents made up of granitic rocks (silica and aluminium). The lower crust also called ocean floor made up of basaltic rocks (silica, iron and magnesium).
   - Granitic rocks are lighter than the basaltic rocks, therefore it can be said that continents floating on the denser oceans.
2. **Mantle (SIMA) :** The immediate beneath layer of crust or lithosphere is called as mantle. It is about

2400 km thick and contains most of the mass of earth. It is composed of very dense rocks rich in ferro-magnesium silicates. It is divided into two parts:

(a) Upper Mantle : It is about 650 km thick solid layer floats over asthenosphere. Crust and upper mantle together forms lithosphere, which makes up the earth's plate. Asthenosphere is a layer of semi molten rocks moves. It divides upper mantle to lower mantle.

(b) Lower Mantle : The lower mantle is solid and is about 2700 km thick. Though temperatures are higher here but the tremendous pressures keep the rock material from melting.

3. **Core (NIFE) :** It is the innermost part of the earth and it comprises of outer core and inner core.

(a) Outer Core : The outer core is in liquid state having thickness of 1900 km. It comprises of **molten iron** and **nickel**, formed as a result of the extremely high temperature. This liquid outer core controls the earth's magnetic field.

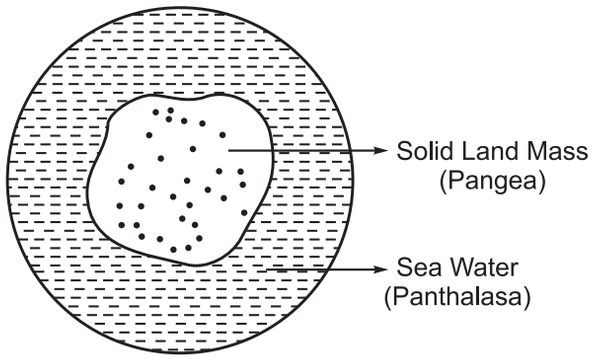
(b) Inner Core: The earth's innermost core is about 1600 km thick and is made up of **solid iron** and **nickel**. The inner core is incredibly hot, with temperature reaching about 5,500°C and is subjected to a pressure of about 4 million atmospheres. It is this extreme pressure that keeps the inner core in a solid state.

Formation of Continents

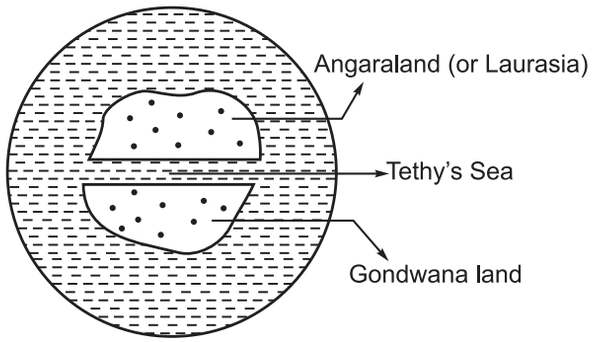
- The earth is formed around 4.5 billion (4500 million) years ago. Broadly earth is composed to oceans and continents. Around 70% part of earth surface is composed of oceans (Hydrosphere) whereas remaining 29.2% is represented by the continents (Lithosphere).
- More than 75% of the total land area of the globe is situated to the north of the equator, therefore the northern hemisphere is also known as the '**Land Hemisphere**' and the Southern hemisphere as the '**Water Hemisphere**'. It is believed that the continents are moving away from each other, Several theories have been propounded to explain this phenomenon:

Continental Drift Theory (CDT):

- Initially F.B. Tayer gave theory of horizontal displacement of continent in 1908 to explain formation of fold mountain.
- CDT was proposed by famous German Geographer, Prof. **Alfred Wagner** in 1924. According to this theory, before 200 million years ago, there was a single land mass surrounded by water (Panthalasa) which was named as **Pangea**.



- About 200 million years ago, pangea got cracked into two parts i.e. (a) **Angaraland** (or Laurasia) (b) **Gondwana land**, and ocean water filled in it. As a result, a narrow sea was created, known as **Tethy's Sea**.



- During further course of time, Angaraland was cracked into:
  (i) North American Plate
  (ii) Eurasian Plate

  Whereas Gondwana land was cracked into 5 plates:
  (i) African Plate
  (ii) South American Plate
  (iii) Indian Plate
  (iv) Australian Plate
  (v) Antarctic Plate

Earthquake

- A sudden shaking or vibration in the earth's crust is called an earthquake. According to the theory of plate tectonics, the earth's crust is divided into sections called plate, which are in constant motion, travelling independently over the semi-molten mantle of the earth and releases energy in the form of seismic waves.

PART III

Geography of Rajasthan

General Aspects of Rajasthan

1 CHAPTER

Geographical Situations

- The state of Rajasthan is situated in the north-west region of India from 23°3' northern latitude to 30°12' northern latitude and from 69°30' eastern longitude to eastern longitude 78°17'.
- **Neighbouring states of Rajasthan**

North	:	Punjab, Haryana
North-East	:	Haryana
South	:	Gujarat, Madhya Pradesh
East	:	Uttar Pradesh
South-East	:	Madhya Pradesh

Important facts of Rajasthan		
1	Total border of Rajasthan	5920 km
2	Rajasthan touches International border with	Pakistan (Redcliff line) : 1070 km
3	Districts touching international border	Shriganganagar (210 km), Bikanar (168 km), Jaisalmer (464 km), Barmer (228 km).
4	Starting point of international border from north	Hindualmulk (Sriganganagar)
5	Last point of international border	Bakhasar Village Shahgarh (Barmer)
6	Area-wise biggest district of Rajasthan	Jaisalmer (38401 sq. km)
7	Area-wise smallest district of Rajasthan	Dholpur (3033 sq. km)
8	Districts through which line of cancer passes	Bansawara, Dungarpur
9	Number of divisions in Rajasthan	10 [Jaipur, Jodhpur, Kota, Udaipur, Ajmer, Bikaner, Bharatpur, Banwara, Pali, Sikar]
10	Highest peak of Rajasthan	Guru-shikhar (1722 mt.)
11	Hottest place of state (maximum)	Palodhi (Jodhpur)
12	Maximum humidity / maximum day of rains / District with highest rainfall	Jhalawar
13	District with minimum rainfall	Jaisalmer
14	River flows in Rajasthan only	Banas River
15	Important means of irrigation	Well Irrigation
16	Main canal project in Rajasthan	Indira Gandhi Canal Project
17	Longest lift canal of Indira Gandhi Canal Project	Kanwar Sen lift canal
18	State animal of Rajasthan	Chinkara, Antelope [Scientific Name : Gajela-Gajela], Camal
19	State bird of Rajasthan	Godawan / Great Indian Bustard/ Sohan Chidiya / Chhukua, Gughanmer, Maal Mordi [Scientific Name : Koriatis Naigisep]
20	State tree of Rajasthan	Khejdi [Scientific Name : Prosopic Scenaria] (Pride of Rajasthan)
21	State flower of Rajasthan	Rohida [Scientific Name : Tikkomela Undoleta]
22	Khajuraho of Rajasthan	Kiraadu (Barmer)
23	Tharmopally of Rajasthan	Haldi Ghati (Rajsamand)
24	Vellor of Rajasthan	Bhainsrodgarh (Chittorgarh)
25	Industrial city of Rajasthan/ Kanpur of Rajasthan/ Nalanda city of Rajasthan/ City of Garden	Kota
26	Sun City / City of forts	Jodhpur

Important facts of Rajasthan		
27	Nagpur of Rajasthan	Jhalawar
28	Manchester (Textile) city of Rajasthan	Bhilwara
29	Granary of Rajasthan	Sri Ganganagar
30	City of 144 Pillars	Ranakpur (Pali)
31	Zibraltor of Rajasthan	Taragarh (Ajmer)
32	Zinc city / Lake city of Rajasthan/ Veins of Rajasthan / Kashmir of Rajasthan	Udaipur
33	Emerald / Jems / Paris of East / Pink City	Jaipur
34	City of Mountain	Dungarpur
35	City of step wells	Bundi
36	Haweli city / Golden city / City of steel / A&N of Rajasthan	Jaisalmer
37	Entrance gate of Rajasthan	Bharatpur
38	Scotland / Lion gate of Rajasthan	Alwar
39	Metal city	Nagaur
40	Son of Himalayan / Shimla of Rajasthan	Mount Abu (Sirohi)
41	Haridwar of Rajasthan	Matrikundia (Chittorgarh)
42	Bhuveneshwar of Rajasthan	Osian (Jodhpur)
43	Tajmahal of Rajasthan	Jaswant Thada (Jodhpur)
44	Golden city / Granite city of Rajasthan	Jalore
45	Ellora of Rajasthan	Kholve Caves (Jhalawar)
46	Water Pot of Thaar	Chandan (Jaisalmer)
47	Varah City	Baran City
48	Rati Ghati / House of Wool	Bikaner

Previous Year Questions

RPSC
Rajasthan Public Service Commission

Assistant Engineer Examination - 2013

GEOGRAPHY & NATURAL RESOURCES

Q.1 The Senkaku / Diaoyu Islands have been a source of conflict between which countries?
(a) Morocco and Algeria
(b) Ethiopia and Somalia
(c) Angola and Zambia
(d) Japan and China

Q.2 The ozone layer in the atmosphere is densest at a height of about _____ from the earth's surface:
(a) 200 – 250 Metre (b) 2 – 2.5 km.
(c) 20 – 25 km. (d) 200 – 250 km.

Q.3 Consider the following crops:
1. Rice 2. Wheat
3. Bajra 4. Gram
Which of these are Kharif Crops?
(a) 1 and 3 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3 only

Q.4 Match the following
A. Malka Fort
B. Desert National Park
C. Varah Temple
D. Omal – Somal Devi Temple
(I) Sikar
(II) Ajmer
(III) Jaisalmer
(IV) Nagaur

	(A)	(B)	(C)	(D)
(a)	(IV)	(III)	(II)	(I)
(b)	(III)	(I)	(II)	(IV)
(c)	(I)	(IV)	(III)	(II)
(d)	(II)	(III)	(I)	(IV)

Q.5 Match the following:/

Minerals		Regions
A. Gypsum	(I)	Jharmar – Kotra
B. Copper	(II)	Rampura – Agucha
C. Rock Phosphate	(III)	Kho – Daribz
D. Lead and Zone	(IV)	Jamsar

Choose the correct answer using codes given below:

	(A)	(B)	(C)	(D)
(a)	(IV)	(III)	(I)	(II)
(b)	(III)	(II)	(IV)	(I)
(c)	(II)	(III)	(IV)	(I)
(d)	(I)	(IV)	(II)	(III)

Q.6 Major concentration of Kathodi tribe in Rajasthan is in the :
(a) Udaipur District
(b) Bharatpur District
(c) Banswara District
(d) Baran District

Q.7 Nile is the longest river in Africa but the drainage basin of which is largest with an area of 3,70,000 sp. Km?
(a) Niger (b) Zambezi
(c) Congo (d) Orange

Q.8 Longest Mountain range of the world is :
(a) Himalayan Range
(b) Alps
(c) Sierra Nevada Range
(d) Andes Mountains

Q.9 Bromley Plateau is in:
(a) Indian Ocean (b) Pacific Ocean
(c) Atlantic Ocean (d) Antarctica

Q.10 The highest catchment area in Rajasthan is
(a) Chambal Catchment Area
(b) Luni Catchment Area
(c) Zone of Inland drainage
(d) Banas Catchment Area

Q.11 The sex – ratio of Rajasthan in 2011 was:
(a) 926 (b) 922
(c) 923 (d) 921

Q.12 Kankrej is an important breed of:
(a) Cattle (b) Buffaloes
(c) Goat (d) Sheep

Q.13 Which is the highest mountain peak of Africa?
(a) Mount Elgon
(b) Mount Kilimanjaro
(c) Mount Cameroon
(d) Atlas Mountain

Q.14 Which one of the following is not a correct pair?
(a) Taklamakan – Africa
(b) Gobi – Asia
(c) Atacama – South America
(d) Kra-Kum – Turkmenistan

Q.15 Which of the following rivers are drained into Aral Sea?
(a) Tigris and Euphrates
(b) Amur and Khotan
(c) Obe and Yenisei
(d) Amu and Sir Darya

Q.16 Which is the largest island of the Indian Ocean?
(a) Madagascar (b) Sumatra
(c) Sri Lanka (d) Java

Q.17 Where Great Barrier Reef is located in the world?
(a) Along Eastern Coast of New Zealand
(b) Along North Eastern Coast of Australia
(c) Along Western Coast of U.S.A
(d) Along South Eastern Coast of Africa

Q.18 In which year 'Project Elephant' scheme was launched in India?
(a) 1971 – 72 (b) 1981 – 82
(c) 1991 – 92 (d) 2001 -02

Q.19 In which area of India 'Yak' is largely found?
(a) Jammu (b) Ladakh
(c) Assam (d) Himachal Pradesh

Q.20 In which year the Wildlife (Protection) Act was introduced in India?
(a) 1965 (b) 1972
(c) 1875 (d) 1980

Q.21 In which physical region of Rajasthan Mukandra Hills are located?
(a) Central Aravalli
(b) Shekhawati Region
(c) North – Eastern Region
(d) Hadoti Plateau

Q.22 Which district of Rajasthan produces more than 95 percent feldspar?
(a) Jaipur (b) Ajmer
(c) Tonk (d) Pali

Q.23 Which of the following districts are having significant reserves of Bentonite in Rajasthan?
(a) Kota, Jhalawar, Baran
(b) Ajmer, Nagour, Bhilwara
(c) Barmer, Bikaner, Sawai Madhopur
(d) Jaipur, Sikar, Jhunjhunu

Q.24 Which district is having highest forest area in Rajasthan?
(a) Udaipur (b) Karauli
(c) Banswara (d) Sirohi

Q.25 Which one of the following is not a breed of sheep in Rajasthan?
(a) Malpura (b) Nali
(c) Magra (d) Malvi

Q.26 Which district forms the main part of Banas Basin?
(a) Bhilwara (b) Ajmer
(c) Tonk (d) Sawai – Madhopur

ANSWER KEY

1. (d)	**2.** (c)	**3.** (c)	**4.** (a)	**5.** (a)	**6.** (a)	**7.** (c)	**8.** (d)	**9.** (c)
10. (c)	**11.** (a)	**12.** (a)	**13.** (b)	**14.** (a)	**15.** (d)	**16.** (a)	**17.** (b)	**18.** (c)
19. (b)	**20.** (b)	**21.** (d)	**22.** (b)	**23.** (c)	**24.** (a)	**25.** (d)	**26.** (a)	