Biyani's Think Tank

***Concept based notes***

# Geography of Resource

*(BA Part-II))*

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# Preface

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 endeavour. We also extend our thanks to M/Biyani Sikhshan Samiti, Jaipur, who played an active role in co-ordinating the various stages of this endeavour 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

**Section-A**

Natural ,scope and sginifance of resource geography. Definition and classification of resources , resources evaluation.

Natural Resources : Distribution, exploitation , uses and conservation-forest,water,soil,fisheries, mineral: Energy resources-coal, petroleum, non –petroleum energy resources.

**Section –B**

Human Resources: Quantitative and Qualitative aspects, population growth, distribution and density pattern, causes of inequalities. Population and resources relationship-carrying capacity o land under different enviourment.

Population explosion: Causes consequences and control. Human resources development: problem and prospects.

**Section-C**

Concept and objective of resources utilization and their conservation. Enviourment and cultural constraints in resources utilization typical example of agriculture, water , forest, mineral and soil. Objective of land survey, land use classes, land capability classes and related land use.

# Chapter 1

# Natural scope and significance of Resources Geography

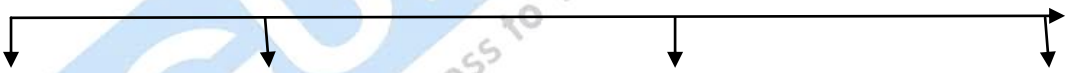
**Q1. What are Natural Resources? and nature of natural resources.**

**Ans:** Natural Resources are the resources which we find in nature, they are God gift on earth this are the material ,which living organism can take from nature for sustaining their life or any components of the natural enviourment that can be utilizes by man to promote his welfare .

Scope of natural resources are differ from physical geography in that it has a greater focus on studying intangible or abstrac surrounding human activity and its more receptive to qualitative research methodologies. Development nations are those which are less dependent on natural resources for wealth, due to their greater reliance on infrastructure capital for production.Politacal corruption can negatively impact the national economy because time is spent giving bribes or other economically unproductive acts instead of the generation of ownership over specific plots of land that have proven to yield natural resources.

**Q2. What is scope of resources geography?**

Ans:



| **Origin & distribution** | **Relation to Enviourment** | **Resources Utilization** | **Management** |
|---|---|---|---|
| a) Water Evolution | a) Origin | a) water | a) |
| b) Soil | b) Distribution | b) Land | b) Utility |
| c) Vegetation Planning | c) Culture | c) Soil | c) |
| d) Animals | d) political | d) mineral | |
| e) Minerals | | e) Solar energy | |
| f) | | F) Vegetation | |

**Origin and distribution of Natural Resources:**

- Water Resources: distribution of water resources is found in the resources of ocean, river, lakes, surface water, ice caps etc.
- Land and soil resources : upper layer is called land on which soil is formed, soil is type of resources on all of vegetation is grown.

- Mineral resources:
- Energy resources: Iron , Petroleum, natural gases, uranium, thorium
- Coal, metal, sesame, magnees, silver , gold, platinum etc.
- Gypsums,Sodium etc.
- Vegetationm resources:forest , shurbs, grassland etc.
- Animal resources: milk,meat providing animal, fish etc.

**Relation and Enviourment :**

- Population of particular region depends upon the avability of the resources in that region. Indian cultural is also known as natural resources, teconology of any region which increasss the economic of the paticular region, some of the example are America,Germany Japan, France etc, instead of cultural socity is also most important because on this basis only utilization of resources depends. Socialisum responsibility for the development of the economic.

**Resources Utilization:**

- **Water:**water is the most important resources on the earth , only 20% of water of water is useful for human being ,rest water salted , water is used for demostic purpose for irrigation.livestork,sea traspotation etc.
- **Land and soil**:land and soil resources fulfill the basic requirment of human being because for vegetation, livestork, irrigation for human being depends upon the soil resources only.
- **Vegetation**:This includes forest ,graaland,herbs, liching etc from ihuman geets food, raw material, wood from trees, whhcich is usful for himan being and for animals hearing so this beneficial for both the resources.
- **Animal**: man and animal had always shared good relatiopn ship human being is dependend upon the animals for milk products for that human being keep the animals at there place which also help thm in irrigation, fishing bussiness, on this thios is very commercial and also help in incerrasing of economic.

**Management**:

- As th population is incerrasing vaery rapidly it is necessary to pereserve our naural resources for coming generation to do . human being must use natural resources in a proper way so that it can remain for long perion. For this management is very important.

# Multiple Choice Question

1. Largest island in the world is
   a. Australia
   b. Greenland
   c. New Guinea
   d. None of these

**Ans. b. Greenland**

2. A cataract is a
   a. Huge waterfall
   b. Marshy creek
   c. Mountain pass
   d. Currency

**Ans. a. Huge waterfall**

3. 'Gate of Tears' is
   a. Aberdeen (Scotland)
   b. Bab-el-mandab (Jerusalem)
   c. Prairies (Australia)
   d. Pamirs (Central Asia)

**Ans. b. Bab-el-mandab (Jerusalem)**

4. The earth completes one rotation on its axis in
   a. 23h 30 min
   b. 23h 56 min. 4.9s
   c. 24h
   d. 23h 10min 2s

**Ans. 23h 56 min. 4.9s**

5. Mount Everest is located in
   a. India
   b. China
   c. Nepal
   d. Bhutan

**Ans. c. Nepal**

6. Rhodesia's new name is
   a. Zaire
   b. Zimbabwe
   c. Tanzania
   d. Swaziland

**Ans. b. Zimbabwe**

7. Seychelles is located in the
   a. Pacific Ocean

b. Indian Ocean
c. Atlantic Ocean
d. Mediterranean Sea

**Ans. b. Indian Ocean**

8. The equatorial radius of the earth is approximately
a. 12,700 km
b. 6,900 km
c. 6,400 km
d. 11,600 km

**Ans. c. 6,400 km**

9. The latitude AA' on the map represents
a. Tropic at cancer
b. Tropic at Capricorn
c. Equator
d. None of these

**Ans. c. Equator**

10. The layer of atmosphere close to the earth's surface is called
a. Exosphere
b. Ionosphere
c. Stratosphere
d. Troposphere

**Ans. d. Troposphere**

# Chapter 2

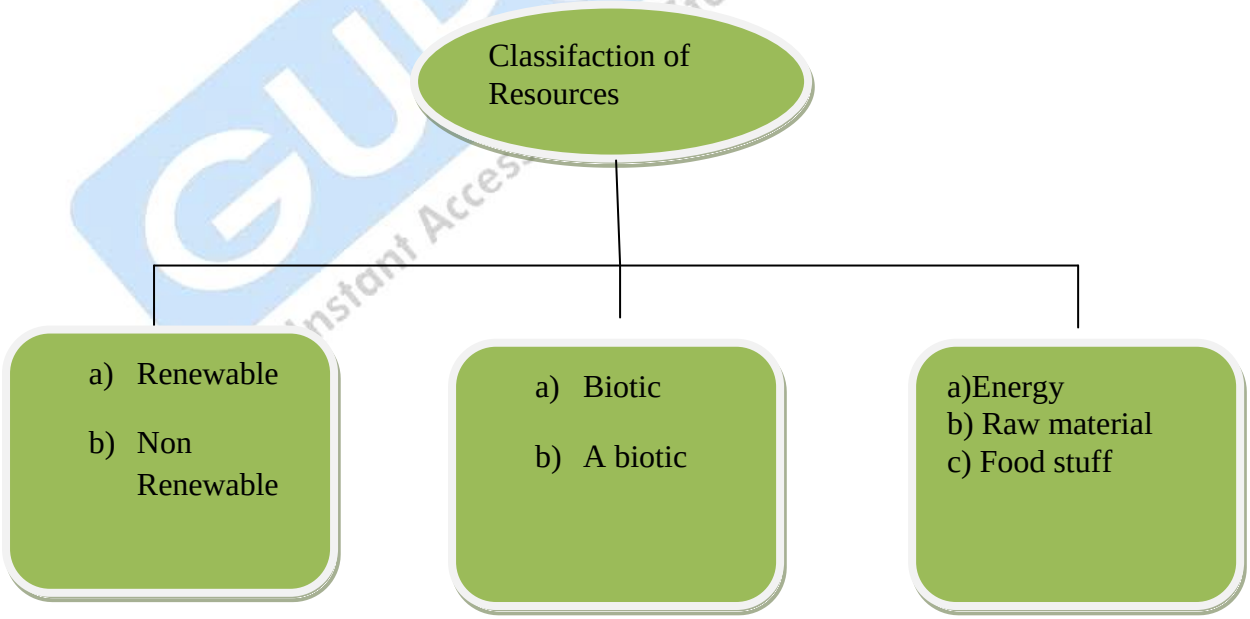
# Definition and Classification of Resources

**Q1. Define the natural resources make flow chat of classification of resources?**

**Ans** **Definition**:

**By Smith & Phillips**: Resources are those aspects of man's enviourment which render possible or facilitate the satisfaction of human wants and the attainment of social objective.

**By Jhonsten**: A concept used to denote sources of human satisfaction wealth of strength. Lab our, entrepreneurial skills, investment funds, fixed capital assets, technology, knowledge, social stability and cultural and physical and physical attribute may be referred to as the resources of the county.



# Multiple Choice Question

1. The second highest mountain peak in the world is
   a. Nanga Par vat
   b. Nanda Devi
   c. Andes
   d. Godwin Austin

**Ans. d. Godwin Austin**

2. Which country is called the 'Sugar Bowl of the World'?
   a. Cuba
   b. India
   c. Burma
   d. Norway

**Ans. b. India**

3. Which is the world's largest mountain range?
   a. Alps
   b. Himalaya - Karakoram
   c. Andes
   d. Tibet

**Ans. b. Himalaya - Karakoram**

4. Which of the following is an agricultural produce of Taiwan?
   a. Coffee
   b. Maize
   c. Rice
   d. Millets

**Ans. c. Rice**

5. Which pair is incorrect?
   a. Gift of the Nile: Egypt
   b. Holy Land: Palestine
   c. Hermit Kingdom: Japan
   d. Land of Lilies: Canada SBI/PO

**Ans. c. Hermit Kingdom: Japan**

6. Sun rises in the east and sets in the west due to the
   a. Shape of the Earth
   b. Revolution of the Earth around the Sun
   c. Rotation of the Earth on its axis
   d. Movement of the Sun

**Ans. c. Rotation of the Earth on its axis**

7. 'Sick Man of Europe' is the nick name for
   a. Rome
   b. Turkey
   c. Italy

**Ans. b. Turkey**

8. 'Old Faithful' is a
   a. Geyser in the US
   b. Volcano in Hawaii
   c. Waterfall in Venezuela

**Ans. a. Geyser in the US**

9. 'Yurts' are
   a. A nomadic tribe of the Middle East
   b. A type of milk preparation
   c. A tent of animal skins of the monadic tribes of Central Asia
   d. A type of land form found in deserts

**Ans. c. A tent of animal skins of the monadic tribes of Central Asia**

10.Which country produces the maximum sugar in the world
   a. USA
   b. India
   c. Cuba
   d. Brazil

**Ans. b. India**

# Chapter 3
# Forest Resources

**Q 1. Explain the type of forest.**

Ans There are various type of forest in world according to climate, features of forest depends upon the climate because different type climate is found in different region. Further there are types of forest:

- **Tropical evergreen rain forests:** These forests grow in areas where rainfall is more than 200 cm. They are mainly found on the slopes of the Western Ghats and the Northeastern regions of Arunachal Pradesh, Meghalaya, Assam, Nagaland, the Tarai areas of the Himalayas and the Andaman groups of Islands. The trees in these belts have dense growth. Important varieties of trees are sishu, chap lash, rosewood, mahogany, bamboos, garjan and sandalwood.
- **Deciduous or Monsoon types of forest:** These forest are found in area wher the rainfall is between 100 and 200 cm. These forest grow on the lower slope of the Himalays , Assam, West Bengal, Jharkhand, Orissa,MP, Chhattisgarh etc and the adjoining region. The trees of these region. The trees of these forest shed their leves during dry winter and dry summer. The main trees are teak, sal, sandalwood, deodar, blue gumand bamboo.
- **Dry deciduous forest and scrubs**: These forest grow in area where the rainfall is between 50 cm and 100 cms. These are found in area of central Deccan plateaus, south east of Rajasthan, Punjab, harayana and part of UP and MP. Dwarf Deciduous trees and long –grasses grow in these region. Most of the area are used for agriculture.
- **Desert Vegetation:** These type of vegetation grow in area where rainfall is less than 50 cm. Mostly thorny bushes, babul and sand bundling grasses are found in this vegetation zone. The Indian wild date, known as "khejurs" common in these desert. These plants grow far a part from each other. They have long root and thick fleshy stems in which they store water is survive during the long drought, These vegetations are found in Rajasthan and part of Gujrat's Punjab and Karnataka.
- **Mountain Forest:** Mountain forest vary considerably along the slopes of mountain. On higher slope between 1,500 m to 3,500 m. temperature conifer trees, (pine ,fir, oak, maple,deodar ,laurel spruce, ceder) grow. At the higher altitude of the Himalayas,rhododendrons and junipers are found. Beyond these vegetation belt, alpine grassland appear up to snowfield.

# Multiple Choice Question

1. _____ and____ are the combition of agroforestrt

a) Fodder crop ,fiber crop
b) Food crop, fiber crop
c) Trees, grasses
d) Food crop ,tree crop

**Ans :D. Food crop, tree crop**

2. A plant endemic to India is
a) Banyan
b) Ginkgo
c) Sequoia
d) Tritium

**Ans: A. Banyan**

3. A non renewable sources of energy is
a) Wild life
b) Fossils fuels
c) Water
d) Forest

**Ans: B. Fossils fuels**

4. A recent technique for the study of vegetation is
a) Ground photography
b) Remote sensing
c) Field work
d) Observation

**Ans:B. Remote sensing**

5. A renewable exhaustible natural resources is
a) Forest
b) Coal
c) Petroleum
d) Minerals

**Ans: A. Forest**

6. According to IUCN red list, what is the status of red panda
a) Critically endangered
b) Endangered species

c) Vulnerable species
d) Extinct species

**Ans: B. Endangered species**

7. A species restricted to a given area is
a) Endemic species
b) Allopathic species
c) Sympatric species
d) Sibling species

**Ans: A. endemic species**

8. An endangered birds is
a) Production forestry
b) Commercial forestry
c) A forestation
d) Plantation of trees

**Ans: D. plantation of trees**

9. Bio gas is which type of natural resources.
a) Renewable
b) Inexhaustible
c) Non-convectional
d) both (a) and (c)

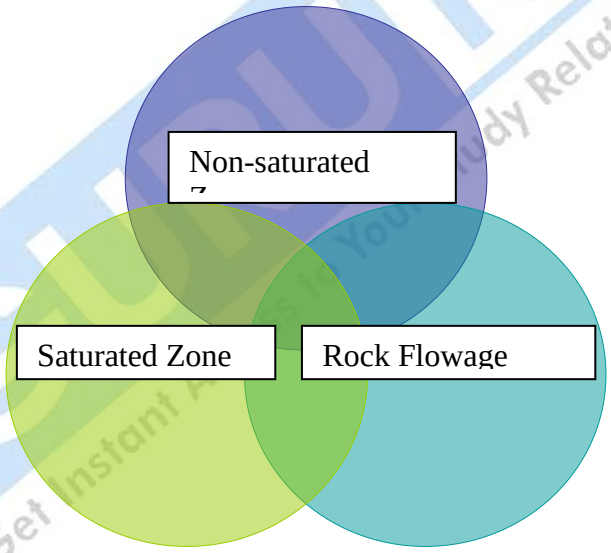
**Ans:D. Both (a) and (c)**

# Chapter 4

# Water Resources

**Q1. What is underground water? Explain the structure;**

Ans: When the water move to underground from surface is known as surface water and it moves through cavities, fissures, bedding planes, and the water depends upon the structure of the rock, water which flow under the ground and collected in rocks are known as saturation of rocks. When it submitted under it is known as saturated Zone, and water which is collected on saturated zone is known as water table, underground water is found in three ways that are.




**Q2. Origin of underground water:**

**Ans** Water at underground level is collected in different zones water which is present between two rocks are known as Aquifire where water is not able move in one

direction, underground is found in different quantity at different places, underground sometime come to surface in different forms as follows:


**Permanent spring**

**A) Wells**
**B) Artesian Wells**
**C) Glaysir**

**Temporary Spring**

**A) Common Spring**
**B) Thermal Spring**
**C) Hot Spring**

**Permanent spring**

1. Wells:

Well have a importance from very old age, and wells are dug at that places where is avabilty of water at underground. Wells which depends upon the rain are of less depth, they use to remain dry at summer seasons, wells which are more in depth remain for long time.

2. Artesian Wells:

These are natural wells, because of them only water come on surface for its formation of these types of wells special type of structure is required one is Synclinal and other is Monoclonal Structure..

3. Geysir:

Geyser is the natural source or crack in ground where water comes out which is also know as spotter According to Houms geyser is of hot water and temperature of water is 75-90 degree C In USA there are 100 geyser in Old faithful. In India it is in Orissa, Maharashtra, Gujarat Haryana Kashmir.

**Temporary Spring**

1) **Common spring:**

.**Thermal spring**

A thermal spring is simply a point of ground water discharge whose water temperature exceeds the regional average air temperature. Traditionally, if the water is warmer than 5oC above the average annual temperature in an area, then it was called a thermal

spring. In the Banff area, where the average annual temperature is -0.4oC, any ground water that comes to the surface and doesn't freeze could then be called a thermal spring

2) **Hot Spring:** Hot springs are ponds, portions of a lake, or pools in which water has been naturally heated underground. The body of water housing the water can vary in size. Geologists think a particular combination of rocks and minerals found underground work together to create hot springs. It is believed these rocks and minerals trap the springs and allow them to become fermented, which heats the water up. The heated water becomes sterilized and cause bubbles to rise to the surface.
3) **Mineral Spring:**

Mineral springs are naturally occurring springs that produce water containing minerals, or other dissolved substances, that alter its taste or give it a purported therapeutic value. Salts, sulfur compounds, and gases are among the substances that can be dissolved in the spring water during its passage underground.

# Multiple Choice Question

1. What is the name given to the diversion channels of the western himalays?
a) Guls or Kuls
b) Khadins
c) Johads
d) Phalodi

**Ans:A. Guls or Kuls**

2. Which one of the following multi purpose river valley project ic constructed on river Mahanadi?
a) Tehri
b) Hirakud
c) Rana pratap sagar
d) Thunga bhadra

**Ans:B. Hirakund**

3. What is the name given to the agriculture field,which were converted in to rainfed structure,in the semi-arid regions of rajasthan?
a) Khandis
b) Tankas
c) Kuls
d) Guls

**Ans:A. Khandis**

4. What is palar pani as referred by the people of rajasthan?
a) Milk river

b) water
c) spring water
d) rain water

**Ans:D. rain water**

5. Which one of the following state has made roof rain water harvesting compulosay for all the houses across the state?
a) Kerala
b) Rajasthan
c) Tamil Nadu
d) Harayana

**Ans: C. Tamil Nadu**

6. Which one of the river valley project has been constructed on river satluj?
a) Tehri
b) salal
c) Rana pratao sagar
d) Bhakra nangal

**Ans: D. Bhakra nangal**

7. Which dam is built on river Krishna?
a) Periyar
b) mettur
c) Nagarjuna Sagar
d) Hirakund

**Ans:C. Nagarjuna Sagar**

8. Which one of the following is also as the temple of modern India?
a) Tankas
b) Johads
c) Dams
d) Khadins

**Ans:C.Dams**

9. Which one of the following place has eaned te rare distinction of being rich inn harvested rain water?

a) Gendathur
b) Phalodi
c) Bikaner
d) barmer

**Ans: A. Gendathur**

10. which one of the following statement is true for a multipurpose river valley project?
a) It can store the entire rain water received in a region
b) It fragment river, which makes it difficult for aquatic fauna to migrate
c) It will not affect the roping pattern of a region
d) It will not affect the natural flow of a river

**Ans: B. It fragment river, which makes it difficult for aquatic fauna to migrate**

# Chapter 5

# Soil Resources

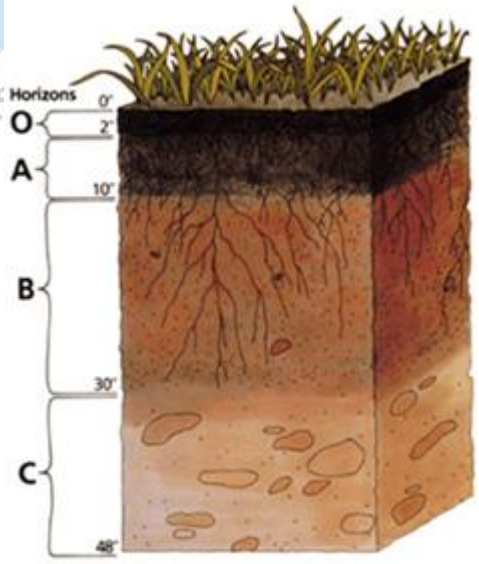
**Q1 Explain the order of soil?**

**Ans THE SOIL ORDERS**

Soil is one of the natural resources on which all human being depends, because all the farmers depends on soil for economic and all the vegetation depends upon soil and top layer of soil is very fertile, which keep on changing through erosion. Soil also have an order and each order have different characteristics in each type .

**ORDERS**. The orders are based on soil properties as they present in soil - degree of horizonization, presence and ordering of diagnostic horizons, play a critical role in deteriming the order into which a given soil falls. The actual classification is done on the basis of the appearance of the soil in the field.

Presented here is a collection of images and descriptions of examples of each of the soil orders. Each order has at least one example. Additionally, some of the order descriptions also include images of the landscape containing the soil. Along with each image is a brief description. The order in which the examples are presented and described is the same as that presented in the lecture. the least developed soils described first and proceeds toward the most weathered soils. several orders which do not fit the pedogenic sequence logically are included. through the orders in sequence, examining soil profiles and order descriptions on which you wish to spend extra time.




There are Ten Soil Orders as follows

**Inceptisols**

Inceptisols represent the earliest horizon development. Small amounts of organic matter that darken the topmost horizon may be all that characterizes the inceptisol. Weathering is minimal, and amounts of weather minerals in the profile are high.

**Mollisols** (oll - soft, refers to the high amount of organic material)

It contain high amount of organic material typically form under grassland vegetation, especially in ustic or udic moisture regimes. These soils dominate the parries of the central U.S. The order is characterized by the presence of a mollic epipedon, a dark, organic rich layer at the surface. The mollic epipedon is usually thick.

**Alfisols**

Alfisols are intermediate in maturity between mollisols or spodosols and ultisols. Often, alfisols are found in co-ocurrence with mollisols. These soils are more highly weather than mollisols, and generally have less weatherable material remaining. The % Base Saturation is lower than a mollisol, and the soils are often acidic. Horizons are usually seen, but are not as distinct as in the less-weathered counterparts.

**Ultisols**

The Ultisols are the most highly weathered of the temperate zone soils. They are characterized by a thin or absent A horizon, with a thick, strongly expressed B. The soils are deep and productive if well-managed. The soils are often very red or yellow-red and are the dominant soil of the southeastern U.S.

**Oxisols**

The oxisols are the highly weathered soils of the tropics. The appear very much like the ultisols, but they have lost most of the weatherable materials. Silicates are usually present as quartz, and the dominant colloids are Fe,Al oxides and hydroxides. The latter material is called laterite and the soils have been classically known as lateritic soils.

**Spodosols** (spodos - wood ash)

Spodosols are the product of a high degree of podsolization. These soils are typical of both coniferous and deciduous forests in cooler climates. (In warm humid areas, the leaching removal of soil materials is too rapid to allow strong profile development). The profile is characterized by a thin A overlying a well-developed E horizon, which is the most visible feature of the spodosol. The diagnostic spodic horizon is what defines the spodosol, however. The spodic horizon is a zone of accumulation that contains high levels of Fe (and often Al) sesquioxide. Formerly referred to as the B2ir,or B2hir when organic matter also accumulates, the newer designation is Bs and Bhs, respectively. In the pedogenic chronsequence, soils forming under forests would have a spodosol instead of a mollisol in the sequence, with the other orders being similar.

**Vertisols** (invert)

Vertisols are soils which contain a high proportion of expanding lattice clays. As a result, these soils tend to swell when they are wet and shrink upon drying. When the soils shrink they often crack open. The cracks can be quite large and deep. Soil from the top of the profile can fall into these cracks, hence the concept of "invert" - top falling to bottom.

**Aridisols** (arid - dry)

Aridisols are soils that have developed in very dry conditions. They often show the effects of extreme wetting and drying with a great deal of water-related evidence near the surface, but little if any alteration in the subsoil.

**Histosols** (histos - tissue)

Histosols are organic soils. They have > 20% organic matter to a depth of 1 ft or more. Usually, the soils have a much higher (often nearly 100%) organic matter content. The soils are categorized based on the degree of decomposition of the organic matter present. They generally form in either cool climates or very wet (waterlogged) areas (oten a combination of both). These soils are often associated with bogs or drained swamps.

**Andisols** (and - refers to volcanic)

Andisols are dominated by short-range-order minerals. These soils comprise weakly weathered soils with a high content of volcanic glass, as well as more strongly weathered soils. The content of volcanic glass is a central characteristic used in defining andic soil properties.

**Gelisols**

(The central concept of Gelisols is that of soils that have permafrost within 100 cm of the soil surface and/or have gelic materials (mineral or organic soil materials that have evidence of cryoturbation (frost churning) and/or ice segeration in the active layer (seasonal thaw layer) and/or the upper part of the permafrost) within 100 cm of the soil surface and have permafrost within 200 cm.

**Q7. What is Soil Profile Explain with diagram**?

**Ans O horizon**

The "O" stands for organic. It is a surface layer, dominated by the presence of large amounts of organic material in varying stages of decomposition. The O horizon should be considered distinct from the layer of leaf litter covering many heavily vegetated areas, which contains no weathered mineral particles and is not part of the soil itself. O horizons may be divided into O1 and O2 categories, whereby O1 horizons contain decomposed matter whose origin can be spotted on sight (for instance, fragments of

rotting leaves), and O2 horizons containing only well-decomposed organic matter, the origin of which is not readily visible.

**P horizon**

These horizons are also heavily organic, but are distinct from O horizons in that they form under waterlogged conditions. The "P" designation comes from their common name, peats. They may be divided into P1 and P2 in the same way as O Horizons. This layer accumulates iron, clay, aluminium and organic compounds, a process referred to as illuviation.

**A horizon**

Main article: Humus

The A horizon is the top layer of the soil horizons or 'topsoil'. This layer has a layer of dark decomposed organic materials, which is called "humus". The technical definition of an A horizon may vary, but it is most commonly described in terms relative to deeper layers. "A" Horizons may be darker in color than deeper layers and contain more organic material, or they may be lighter but contain less clay or sesquioxides. The A is a surface horizon, and as such is also known as the zone in which most biological activity occurs. Soil organisms such as earthworms, potworms (enchytraeids), arthropods, nematodes, fungi, and many species of bacteria and archaea are concentrated here, often in close association with plant roots. Thus the A horizon may be referred to as the biomantle. However, since biological activity extends far deeper into the soil, it cannot be used as a chief distinguishing feature of an A horizon.

**E horizon**

"E", being short for eluviated, is most commonly used to label a horizon that has been significantly leached of its mineral and/or organic content, leaving a pale layer largely composed of silicates. These are present only in older, well-developed soils, and generally occur between the A and B horizons. In regions where this designation is not employed, leached layers are classified firstly as an A or B according to other characteristics, and then appended with the designation "e" (see the section below on horizon suffixes). In soils that contain gravels, due to animal bioturbation, a stonelayer commonly forms near or at the base of the E horizon.

The above layers may be referred to collectively as the "solum". The layers below have no collective name but are distinct in that they are noticeably less affected by surface soil-forming processes.

**B horizon**

The B horizon is commonly referred to as "subsoil", and consists of mineral layers which may contain concentrations of clay or minerals such as iron or aluminium oxides or organic material moved there by leaching. Accordingly, this layer is also known as the "illuviated" horizon or the "zone of accumulation". In addition it is

defined by having a distinctly different structure or consistency to the A horizon above and the horizons below. They may also have stronger colors (is higher chroma) than the A horizon.

As with the A horizon, the B horizon may be divided into B1, B2, and B3 types under the Australian system. B1 is a transitional horizon of the opposite nature to an A3 – dominated by the properties of the B horizons below it, but containing some A-horizon characteristics. B2 horizons have a concentration of clay, minerals, or organics and feature the strongest pedological development within the profile. B3 horizons are transitional between the overlying B layers and the material beneath it, whether C or D horizon.

The A3, B1, and B3 horizons are not tightly defined, and their use is generally at the discretion of the individual worker.

Plant roots penetrate through this layer, but it has very little humus. It is usually brownish or red because of the clay and iron oxides washed down from A horizon.

**C horizon**

The C horizon is simply named so because it comes after A and B within the soil profile. This layer is little affected by soil forming processes (weathering), and the lack of pedological development is one of the defining attributes. The C Horizon may contain lumps or more likely large shelves of unweathered rock, rather than being made up solely of small fragments as in the solum. "Ghost" rock structure may be present within these horizons. The C horizon also contains parent material.It forms the framework of the soil.The A and B layers are formed by this layer.

**D horizon**

D horizons are not universally distinguished, but in the Australian system refer to "any soil material below the solum that is unlike the solum in general character, is not C horizon, and cannot be given reliable designation… [it] may be recognized by the contrast in pedologic organization between it and the overlying horizons" (MacDonald et al., 1990, p. 106).

**R horizon (bedrock)**

R horizons denote the layer of partially weathered bedrock at the base of the soil profile. Unlike the above layers, R horizons largely comprise continuous masses (as opposed to boulders) of hard rock that cannot be excavated by hand. Soils formed *in situ* will exhibit strong similarities to this bedrock layer.

# Multiple Choice Question

1.Which of the effect of deforestation?

a) global warming
b)deceases in rainfall
c)loss of soil fertility
d)all of these

**Ans:D**

2. Which is the charecteristic of Endemic Plants from following-
   a) Cosmopolitan distribution
   b) Habitat in Arctic Region
   c) Restricted to a certain area
   d) Gregarious in habitat.

**Ans: C Restricted to a certain area**

3. Which of the following is exhaustuble and renewable source?
a) Soil Fertility
b) Minerals
c) Solar Energy
d) Wind Power

**Ans:A. soil fertility**

4. Due to deforestation, it is observed that,..... is decreased.
a) Soil Erosion
b) Global Warming
c) Rainfall
d) Dough
**Ans:C rainfall**

5. What is 'Watergate'?
a. A gate of dam across Mississippi
b. A dam across Hudson river
c. Scandal in which President Richard Nixon got entangled
d. A five star hotel in Los Angeles
**Ans. c. Scandal in which President Richard Nixon got entangled**

6. A cataract is a
a. Huge waterfall
b. Marshy creek
c. Mountain pass
d. Currency
**Ans. a. Huge waterfall**

7. A comet
a. Has a tail always pointing away from the Sun
b. Has a tail, always pointing away towards the Sun
c. Has a tail, sometimes pointing towards the Sun and sometimes away from it
d. Has no tail at all
**Ans. a. Has a tail always pointing away from the Sun**

8. Rubber is a product of
a. Plantation agriculture
b. Mixed agriculture
c. Mediterranean agriculture
d. Special horticulture
**Ans. a. Plantation agriculture**

9. The most abundant element in the earth's atmosphere is
a. Argon
b. Nitrogen
c. Oxygen
d. Krypton
**Ans. b. Nitrogen**

10. The second largest island in the world is
a. New Guinea
b. Madagascar
c. Great Britain
d. Victoria
**Ans. a. New Guinea**

# Chapter 7

# Mineral Resources

**Q1. Explain the types of iron ore.**

**Ans** Indian republic has not good resources of iron ore in the world from the metallic content ranging from the metallic content ranging up to 5% or more they occupy a very high position in the world. This was used in mostly in ancient time, but now a day. Iron are is used in much quantity to make iron product used in making machine equipment and in the sources of transportation. Iron ore which is found underground is impure because limemagnies, almunium, tiyalanium, brass etc are mixed with it .The purification of iron ore is done by chemical reaction by heat it in Furness.

**Magnetite,$Fe_3 0_4$:**

- Manganese having so many remarkable qualities have found wide application
- 71% OF Iron is found is formed in it.
- Black in colors.
- In it oxygen is also found with
- Iron ore that & why magnetic cracterstic is also found in it.
- This type of deposit are lodestone
- Africa, Sweden, Liberia etc.
- Manganese sulphate is used as manure in combination with commercial fertilizer in a alkaline soil about 50 to 100 lbs 4 hectares are required for the purpose.
- Manganese chloride is used for dying cotton and printing

**Hematite,$Fe_2O_3$**

- Iron is 60 to 75%
- Red and brown in co lour
- Found in USA, Canada,Brazil,Russia,Spain

**Liminite $Fe_2O_3H_2O$**

- 40 to 60& Iron is present it .
- Light yellow in co lour and sometime found in brown in colour
- Iron, oxygen and hydrogen is also found

- This is also called Bonfire
- Found in Austrilia,Russia, USA,Uren,Canada,South Africa, Sweden.

**Siderite $FeCO_3$**

- 10 to 40%
- Iron and carbon is present in it
- Ash grey in co lour
- Depositary in Jurassic age.
- Found in France, Loren, and Iagumberg**.**

# Chapter 8

# Energy Resources

**Q1. What is coal? What are the types of coal and explain the deposit of coal?**

**Ans**: Coal often called 'black gold' is the second largest resources of energy ,contributing 27% of global energy production after the gradual decline of its use epically since world war II(1939-1945), its consumption has again picked up since 1980. Developing country like India and Chna still fulfill nearly three fourth of their energy requirement from coal, because of its huge reserves and cheaper availability. Since 2000 use of coal inversed at a rate of 2% per year. This consumption rate is highest in China (24%) followed by U.S.A (19.8%), CIS (12%) and Europe nearly 10& USA has the highest coal reserve of both superior and inferior varieties of Coal.

Nature and Origin of coal.

Coal, petroleum and natural gas are termed as fossil fuels as these are derived from the fossils of the dead plants and organisms. Coal is found in the sedimentary rocks of the earth's surface. It is solid, amorphous substance varying in carbon from brownish and hardened. The process of decay of thre vegetation matter was slow, as little oxygen could penetrate it. Thus pear was formed. the change from peat to coal was brought about by the peat buried by clays, sits sands and mud and the pressure of these overlying material compacting the peat and fathering certain chemical changes.

**Types of coal:**

Carbon is a major constituent of coal which is formed due to partial oxidation of woody matter. This element imparts the black color and burns with little flame, high heat and practically no smoke. The other constituents of coal and hydro carbon, moisture and ash. The hot value of coal carbon and hydro carbons forms the basis of classification of coal into various types given as under.

**Anthradite:**

- Anthracite is hard and dense coal which is a relatively free of iron compounds and moisture.
- The amount of fixed carbon may be as high as 95%
- It is jet black, luster and has a fine texture.
- It burns with a blue flame and gives no smoke.
- The major deposit of anthracite occurs in eastern in the USA.

**Bituminous:**

- Bituminous coal is usually black and highly lustrous.
- The moisture content is relatively low.
- The fixed carbon content range, from about 50 to over 80% and that of bituminous coal occur in Appalls, China plateau region in the USA.

**Lignite:**

- Lignite is also known as brown coal.
- The higher grades very from dark brown to almost black.
- It is characterized by high moisture contnt, generally about 40%.
- The fixed carbon content is also about 40%.
- The structured is fibrous and sometime woody.
- USA and Russia have large deposit of lignite.
- Extensive beds of lignite occur in north German lowlands also.

**Peat:**

- Peat occurs in bogs, especially in areas of coal temperate climate.
- The largest deposit occurring Ireland Scandinavian, Finland and Russia.
- It is converted into smaller bulk through briquette.
- Peat is a bulky fuel.

**Production of Coal:**

- Coal is not only a fuel, but also as industries raw material. As many as 2, 00, 00 by product of coal are known to have develop so far, chief among them are.
- Pitch is tar used for making metal road, instating are roofing houses etc.
- Anthracnose oil used paints and insect ides.
- Motor benzene used in instruments.
- Bensons used in the main facture of nylon, varnish $ paints and scented prefaces.
- Coal gas used as domestic fuel as well as industrial energy and in transport.
- Naphthalene used for the manufacture of plastic.
- Light oils used in the manufacture of synthetic rubber and photo-chemical production.
- Ammonia liquid used in the manufacture of explosive, soap and washing powder etc.

**Conservation of Coal:**

Coal is a fossil fuel the is being commercially exploited ever since the industrial Revolution. Continuous increase in population and industrialization put on enormous pressure on the production of Coal.

Coal can be conferred in many ways some of which are given as under.

Wastages in mining can be mined using appropriate techniques and steps.

Energy efficiency of plants using coal as fuel should be increased.

Low grade coal yielding low energy should be improved through chemical treatment.

Wastage and turbines using should be minimized.

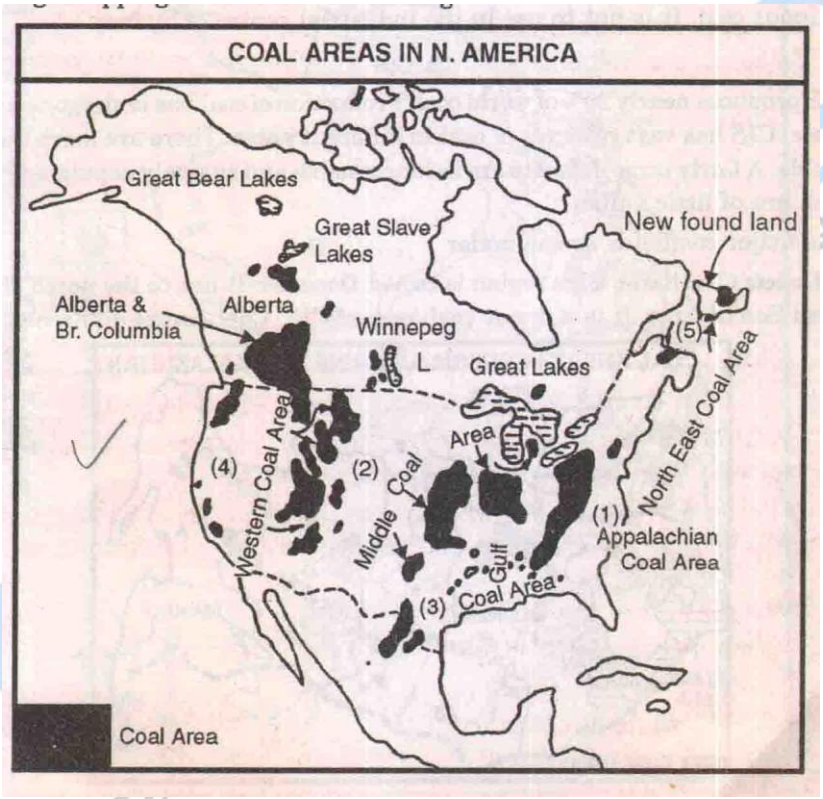
Locomotive and turbines using stream from coal should be improved and made more efficient. Instead of using directly coal, should be converted into slurry and then used energy in plants.

**Coal fields in North America.:**

- The USA account for 18.2% of the world output.

- It has nearly one third of the World's coal reserves.
- Coal is widely distributed in the USA and is mined in 26 states.
- The coal fields of the USA occur in the following regions.
- The Appalachian region – the rocky following regions.
- Interior region-- Pacific region.
- America is the largest producer of coal in the world.
- Major coal fields are.

a) The Appalachian coalfield.
b) Eastern Interior coal field.
c) Western Interior coalfield.
d) Rocky Mountain Coalfield.
e) The pacific Coast Coalfield.




**Source:Economic & commercial Geography By RN Tikkha**

**Coal fields of Canada:**

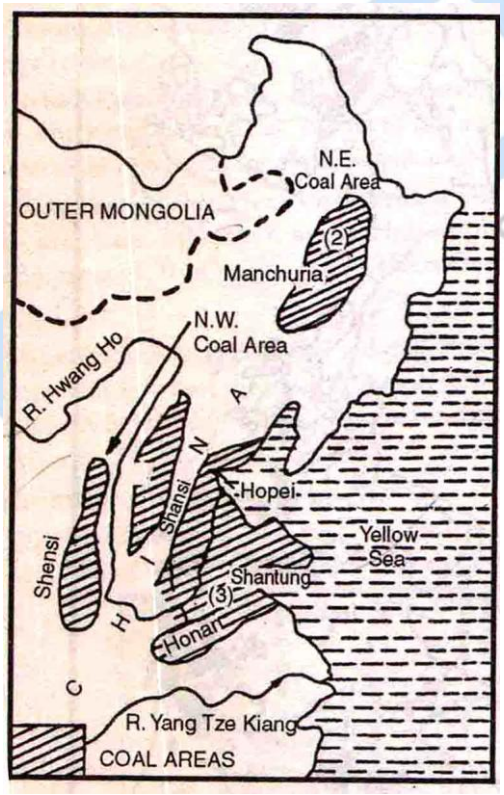
**75% of coal is found in Canada.**

1. **The Prairie Provinces. This region has bituminous as well as lignite. coal is found in thick seams of 6-12 feet.**
2. **British Columbia: In the Vancouver Island is the major coal scattered deposits of coal which are worked out.**
3. **Nova Scotia field: Here Cape Breton island is the major coal bearing area. It is put to use in the industrial center of Sydney.**


**Source: economic Geography by P.K. Bali**

**Coal field in China.**

It is largest anthracite reserves of the world; China is a potential coal producer coal occurs almost in all Chinese provinces. These contribution is just one half of China's coal reserves The coal mines are deep coal seams are folded and faulted. The remote area is very far away from populated part of China has discourage coal exploitation to a large extend.




Sources: By P.K Bali

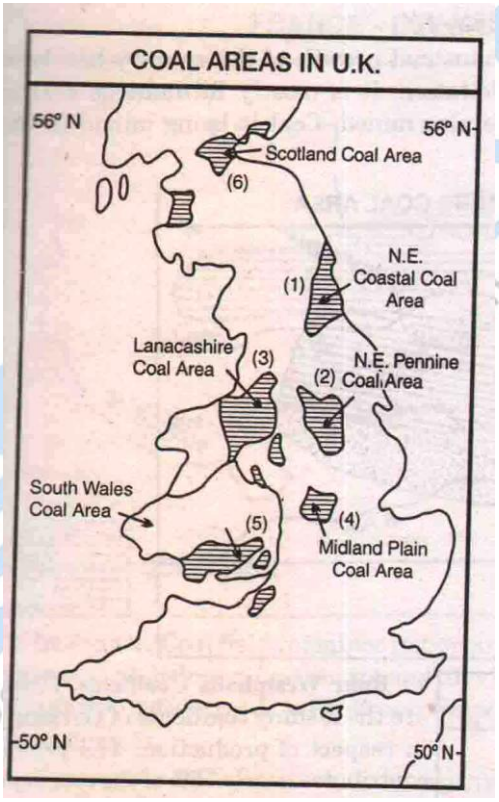
- Southern and eastern Asia mine about third of the world's coal . The greater part comes from China, India and Japan.

- China's coal reserves largest in the east and among the largest in the world, consist of some anthracite much high grade bituminous and considerable sub, bituminous and lignite.

**Coal field in U.K.**

The coal resources of the UK have been largely exhausted.
The coal deposit are scattered in different parts of the country.
Coal lies near the industrial centers
In U.K ,coal iron ore and limestone are found in close proximatly to each other.
Coal is mined in the following areas in the U.K

a) The north –eastern coastal area.
b) The north-east pennine coal area.
c) The Lancashire Coal area.
d) The Midland plain Coal field.




Source: R.N. Tikkha

**Q 10. Explain the formation and types of coal in World.**

**Ans:** Coal is a natural resources and very important for huiman being, it helps us in many ways ,coal is a black brown coloured conventional source of energy carbon is involved in different amount the coal is divided into 5 parts that are Graphite, Anthracite, Bituminious,

lignite and peat. Coal is main source of energy (power) and by using coal we made many product like Amonia, nephthene, ophenyl etc.

**Formation of coal:**

The coal is occurred when the vegetation of carboniferous Perivale is dumped in the earth interior and in eath interior because of a lot of heat pressure. It start converting firstly, into peat and after peat other good quality of coals are formed.

**Types of coal:**

**1. Anthracite:**

- This is the best type of coal.
- 95% of carbon is found in this type of coal.
- Less than 1% of humidity is found in this type of coal.
- Only 5%of world's total anthracite coal is found.
- Very hard $ shining in nature.
- This coal can burn for time.
- Area of production is in China, Germany, Belgium, USA, Great Britian.

**2. Bituminus**

- Mostly found in the world.
- Black in color and shining in nature.
- 40-80 % of carbon is found in this coal
- 80% of total production in world
- 11% of humidity is found in the world.
- It ios of three parts – sub-bituminous, bituminous, semi- bituminous coal.

**3. Lignite:**

- Only 15% is found in lignite coal is found in the world.
- Total production of this coal is 15% .
- This is the second stage of formation of coal.
- This coal is burnt very fast and easily.
- It revel smoke while burning.
- Area- Germany, Eurasia.

**4.Peat Coal**

- This is cheapest quality of coal in world
- 20 % of carbon in found in this world.
- In this type of coal oxygen is found in 35%
- water in found in 10%
- used only for domestic purpose
- Also used for the formation of electricity.

- Used to burn like wood and reveal smoke in huge amount.

# Multiple Choice Question

**1. Where is the largest solar plant of India located?**
(a) Gujarat
(b) Rajasthan
(c) Maharashtra
(d) Odisha
**Ans: A.Gujra**

**2. What are the Khetri mines famous for?**
(a) Coal
(b) Cooper
(c) Iron
(d) Gold
**Ans: Cooper**

**3. Which out of the following is derived from the ocean waters?**
(a) Limestone
(b) Sandstone
(c) Cobalt
(d) Bromine
**Ans: Bromine**

**4. Which place in India is ideal for utilising tidal energy?**
(a) Gulf of Kachchh
(b) Gulf of Khambhat
(c) Gulf of Mannar
(d) None of these
**Ans: gulf of Kachchh**

**5. Nagarcoil and Jaisalmer are well-known for the effective use of**
(a) tidal energy
(b) geothermal energy
(c) wind energy
(d) biogas
**Ans: Wind energy**

**6. The Monazite sands of Kerala are rich in:**
(a) coal
(b) uranium
(c) thorium
(d) platinum
**Ans: Thorium**

**7. Which mineral is used for generating atomic or nuclear power?**
(a) Coal

(b) Bauxite
(c) Uranium
(d) Copper
**Ans:Uranium**

**8. Which is India's oldest oil producing state?**
(a) Jharkhand
(b) Arunachal Pradesh
(c) Karnataka
(d) Assam
**Ans:Assam**

**9. About 63 per cent of India's petroleum production is from:**
(a) Assam
(b) Mumbai High
(c) Gujarat
(d) None of these
**Ans: None of these**

**10. What is low grade brown coal called?**
(a) Bituminous
(b) Anthracite
(c) Lignite
(d) None of these
**Ans: anthracite**

**11. Which out of the following is a non-conventional source of energy?**
(a) Atomic energy
(b) Firewood
(c) Coal
(d) Natural gas
**Ans: Tomic energy**

**12. Which state in India is the largest producer of bauxite?**
(a) Odisha
(b) Karnataka
(c) Maharashtra
(d) Kerala
**Ans: Odisha**

**13. Which state in India is the largest producer of manganese ores?**
(a) Jharkhand
(b) Madhya Pradesh
(c) Maharashtra
(d) Odisha
**Ans: Maharashtra**

**14. India is critically deficient in the reserve and production of:**
(a) copper

(b) bauxite
(c) zinc
(d) platinum
**Ans: Copper**

**15. What is 'Rat hole' mining?**
(a) Mining in places where there are lots of rats
(b) Mining done by family members in the form of a long narrow tunnel
(c) Mining that kills rats
(d) None of these
**Ans: Mining done by family members in the form of a long narrow tunnel**

**16. Which out of the following minerals is formed as a result of evaporation in the arid regions?**
(a) Gypsum
(b) Zinc
(c) Coal
(d) Copper
**Ans: Gypsum**

**17. Name the mineral which is used to reduce cavity.**
(a) Silicon
(b) Fluorite
(c) Aluminium oxide
(d) Limestone
**Ans: Silicon**

**18. Which out of the following metallic minerals is obtained from veins and lodes?**
(a) Zinc
(b) Limestone
(c) Rutile
(d) Mica
**Ans: Zinc**

**19. In which kind of rocks are the minerals deposited and accumulated in the strata's?**
(a) Igneous rocks
(b) Metamorphic rocks
(c) Sedimentary rocks
(d) None of these
**Ans: Sedimentary rocks**

**20. Which out of the following minerals is formed by the decomposition of surface rocks, and leaves a residual mass of weathered material?**
(a) Gold
(b) Bauxite
(c) Zinc
(d) Coal
**Ans: Gold**

**21. Which out of the following minerals occurs in the sands of valley floors and the base of hills?**
(a) Gold
(b) Copper
(c) Sulphur
(d) Marble
**Ans:Copper**

**22. Name the mines in Karnataka which is a 100 per cent export unit?**
(a) Balaghat mines
(b) Khetri mines
(c) Kudermukh mines
(d) None of these
**Ans: Kudemukh mines**

**23. The Koderma-Gaya-Hazaribagh belt of Jharkhand is a leading producer of:**
(a) copper
(b) manganese
(c) iron ore
(d) mica
**Ans: Mice**

**24. What has raised uncertainties about the security of energy supply in the future?**
(a) Rising prices of oil and gas
(b) Lack of water resources
(c) Limited use of non-renewable fossil fuels
(d) Increasing use of renewable energy resources
**Ans: Rising prices of oil and gas**

**25. Biogas plants using cattle dung are called:**
(a) hydel plants
(b) gobar gas plants
(c) thermal power station
(d) gas station
**Ans: gobar gas plant**

# Chapter 9
# Agriculture

**Q.1 Name the types of agriculture.**

**Ans There are 11 types of agriculture in India:**

1. shifting agriculture
2. subsistence farming
3. intensive agriculture
4. extensive agriculture
5. commercial agriculture
6. plantation agriculture
7. mixed farming
8. monoculture
9. dry farming
10. crop rotation
11. mixed farming

- **Seasonal rainfall:** The Southwest monsoon, which advances from the southern seas in summer, brings rainfall. For this, most of the rainfall in India occurs in summer. In dry winter, , agriculture suffers from scanty rainfall. For this season, ***irrigation*** is indispensable.
- **Uneven distribution of rainfall**: The summer rainfall, which occurs in India, is not evenly distributed all over the country. The areas receiving scanty rainfall needs ***irrigation*** even during summer monsoon.
- **Better land use:** With ***irrigation***, cultivation can be done well all the year round. It allows better use of land.

- **Introduction of new method of cultivation:** In recent years, new agricultural methods have been employed. New high yielding seeds are used to get more crops; even harvesting periods are being reduced to minimum, so that two or more harvesting can be raised in a year. This new agriculture needs more waters. For these, irrigation is essential.

**Q 2. What are the methods of irrigation practiced?**

***Ans*** ***Irrigation*** is a method by which water is supplied to plants from the outside or the artificial source of water where natural precipitation falls short. ***Irrigation*** is indispensable to Indian agriculture. In India rainfall is caused by the influence of the

summer monsoon; it is seasonal and unpredictable. Often it is unreliable. But agriculture needs a regular supply of water by irrigation

***The Methods of Irrigation Practiced in India***

- **Wells and Tube-wells irrigation: Well irrigation** is the popular method of ***irrigation*** all over the country. It is widespread in the northern plains, coastal plains and some parts of the peninsular India where ground water is available. Wells and tube wells ***irrigation*** are widely practiced in ***Punjab, Haryana, Uttar Pradesh, Bihar,*** *West Bengal* ***and Maharashtra***.

- **Tank irrigation:** The regions where wells and ***tube-wells*** and cannot be dug out owing to stony ground and regions where subsoil or ground-water is not available, rain-waters are collected in the tanks or reservoirs and are used for ***irrigation***. ***Tank irrigation*** is common in southern India. ***Tank irrigation*** is widespread in ***Tamil Nadu, Karnataka and Andhra Pradesh***.

- **Canal irrigation:** Canal lead ***irrigation*** water from rivers or storage reservoirs.

- **Inundation canals:** These canals lead off water from a river during flood. These are simple, but do not provide water all the year round.

- **Perennial canals:** These canals lead off water from a river all the year round. There are also canals, which are fed by water stored behind a large dam or barrage. Modern multipurpose river valley projects, which build up dams, not only provide water for irrigation, but also help to control floods, and generate hydroelectric power.

**Q3. Explain the term Possibilism**

Ans Possibilism in cultural geography is the theory that the environment sets certain constraints or limitations, but culture is otherwise determined by social conditions. In Cultural ecology Marshall Sahlins used this concept in order to develop alternative approaches to the environmental determinism dominant at that time in ecological studies. Theory by Strabo in 64 BC that we, humans, can make things happen by our own intelligence over time. Strabo cautioned against the assumption that nature and actions of humans were determined by the physical environment they inhabited. He observed that humans were the active elements in a human-environmental partnership.

- The controversy between geographical *possibilism* and *determinism* might be considered as one of (at least) three dominant epistemologic controversies of contemporary geography. The other two "debate between neo positivists and neo kantians about the "exceptionalism" or the specificity of geography as a science the contention between Mackinder and Kropotkin about what is - or should be – geography.

# Multiple Choice Question

1. Which of the following is an agricultural produce of Taiwan?
a. Coffee
b. Maize
c. Rice
d. Millets
**Ans. c. Rice**

2. Which of the following is the largest river of the world?
a. Nile
b. Mississippi-Missouri
c. Amazon
d. Yangtze
**Ans. c. Amazon**

3. Which of the following rivers has a bird's foot delta?
a. The Amazon
b. The Brahmaputra
c. The Mississippi
d. The Nile
**Ans. c. The Mississippi**

4. Which of the following river has the largest basin?
a. Congo
b. Amazon
c. Nile
d. Ganges
**Ans. b. Amazon**

5. Which river in the world carries the maximum volume of water?
a. Amazon
b. Nile
c. Mississippi-Missouri
d. None of these
**Ans. a. Amazon**

6. Which of the following statements is correct concerning Bridgetown?
a. Chief port of Guinea-Bissau
b. Capital of Barbados, an island country in Atlantic ocean
c. A famous seaport of Barbados
d. None of these
**Ans. b. Capital of Barbados, an island country in Atlantic ocean**

7. Which is the world's largest mountain range?
a. Alps

b. Himalaya - Karakoram
c. Andes
d. Tibet
**Ans. b. Himalaya - Karakoram**

8. What is the shape of the earth's orbit around the sun?
a. Circular
b. Hyperbolic
c. Elliptical
d. Parabolic
**Ans. a. Circular**

9. The second highest mountain peak in the world is
a. Nanga Parvat
b. Nanda Devi
c. Andes
d. Godwin Austin
**Ans. d. Godwin Austin**

10. The longest canal in the world is
a. Volga Baltic
b. Beloye-More Baltic
c. Suez Canal
d. Grand China canal
**Ans. b. Beloye-More Baltic**

# Key Terms

Natural Gas: Natural gas is one each source of energy whose proven resources have increased manifold in recent decades natural gas perhaps is going to be the fastest growing energy resources of modern time. It is an alternative for those plants that are coal or oil based plants But it is much more cleaner sources than oil.

Salinity: It refers to the total amount of dissolved solid/salt in ocean water.

Sandy Soil: In a sandy soil the size of individual soil particles has a diameter of more than 0.05 mm.

Shrub Savanna: In this case grasses dominate at the ground level, while shrubs are formed at the layers immediately.

Soil: soil is the scientific name of top, loose unconsolidated layer of earth crust. It consists of a mixture of organic and inorganic minerals.

Soil erosion: soil removal is a natural process. The warning of land surface by running water, wind, waves moving ice etc, is a normal geological process known as soil erosion.

Solar energy: sun is the major sources of energy any form of energy that has its origin in the sun, such as insulation and the one used in the photosynthesis is known as solar energy.

Tree Savanna: The tree and shrubs is this class of savanna is sparsely distributed in comparison to the woodland savanna. However grasses dominated the ground surface.

Waves: These are defined as the oscillatory movement in water manifested by an alternate rise and fall of the sea surface waves are mainly produced by wind.

Wind Power: wind power constitutes one of the most under utilized energy resources in the world.

Wind Erosion: Problem of wind erosion is equal graves as that of water erosion. It often occurs in area where water erosion is also active wind erosion is soil blowing which can be sloping acute on both leveled and sloping area of low rainfall.

Woodland Savanna: This type of vegetation has closed canopy as its prominent feature. Therefore sometime this type is also known as closed savanna.

Abiotic Resources: The resources that are formed by or derived from non-living things are known as biotic resources. These include metallic and non-metallic minerals, water etc.
Anthracite: It is best quality coal with about 90% carbon content. Its resources in the world are limited.

Biotic Resources: The resources that are derived from living things are known as biotic resources. These account as biotic resources. These account for 85% of the world food. These

also provide raw material to industry. Coal and petroleum as they are formed by plant and animal fossil.

Bituminous: It is a variety of coal with 70 to 90% carbon content. It is more abundant than anthracite.

Campos: The tropical grassland in Brazil are locally known as compos these have 2 to 3 m tall grass

Down: The temperate grassland in Australia are known as down.

Karganda: It is a major iron is producing area of Kaganda.

Krivory Rag: It is a major iron are producing area of Ukraine.

Lignite: It is also known as coal. It has low carbon content of 45 to 70%.

Aquifer: An underground formation or group of formation, containg water are sources of groundwater for wells and springs.
Aquiclude: An impermeable body of or stratum of sediment that acts as a barrier to the flow of groundwater.

Aquifuge: Aquifuge a body of rock that is incapable of absorbing or transmitting water, thus rendering it impermeable.

Afforestation: The planting of trees.

Deforestation: The cutting of trees.

Global warming: The gradual increase in temperature world wide.

Green house effect: The gradual rise in temperature due to an increase in carbon dioxide and other gases in the atmosphere.

Ozone layer: A belt in the atmosphere which absorbs most of the harmful ultra-violets rays from the sun.

Suburbs: The outskirts of a town.

Conservation: Is maintaining or increasing the attractiveness of an area.
Wave: The movement of water in and out of a cavity which compress trapped air which drives a turbine.

Tidal: Tidal energy involves harnessing the power of tides. Tides water drives a turbine which then generates electricity.

Geothermal: Geothermal energy involves harnessing heat below the surface of the earth. Cold water is pumped into the ground which then turns to steam. The steam then derives a turbine.

Hydroelectric: Hydroelectric energy involves harnessing the power of flowing water. The flowing water drives a turbine which then generates electricity.

River Basin: A river basin is an area of land drained by a river and its tributaries. River basins have typical features.

Tributaries: smaller river flowing into a larger River.

A watershed: an area of highland surrounding the river basin.

Source: The start of a river.

Mouth: Where a river meets the sea or an ocean.

# Multiple Choice Questions

1.Which of the following is a nonrenewable energy resource:
a)Solar b) Methane
c) Hydroelectric d) Coal

2. The amount of oil that may become available for use is called oil.
a) Reserves b) reservoirs c) resources d) tropes.

3. A coal deposit is not economical to mine today would be considered part of our.
a) Coal Resources b) Coal resources c) Coal Reservoirs d) none of these

4. What are the leading sources of energy in the states today?
a) Coal b) oil resources c) natural gas d) nuclear power

5. The first oil digs well as dived in the united state
a)1829 b)1859 c)1929 d)1959

6. Area W represents.
a) Coal b) Solar c) nuclear d) Oil

7. Area X represents.
a) Coal b) solar c) nuclear d) oil

8. Area z represents.
a) Coal b) solar c) nuclear d) oil

9. Energy resources derived from natural organic natural are called
a) Geothermal energy sources b) Fossil fuels c)Biomass d) all of these

10. A permeable that contains hydrocarbon fluid and gasses is called.
a) Oil trap b) sources bed c) oil resources d) none of these

11. Which of the following is last likely to contain an oil trap?
a) An anticline b) faults c) natural stratigraphy d) syncline

12. Which of the following rock type would most likely the best oil reservoir?
a) Shale b) granite c) sandstone d) salt

13. What type of energy is derived from heated ground water?
a) Solar energy b) geothermal energy c) hydroelectric energy d) nuclear energy

14. The largest geothermal power plant in the united state is located near which city?
a) Chicago b) los Angeles c) New York d) Sanfrancisco
15. The world faces an energy crisis because.
a) World demand energy for energy will increase.
b) World oil production will peak and begin to decline.

c) Shortages and the resulting escalation of pries can shock
d) The economic and political order all of the above.

Answer Key:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1) D | 2) B | 3) B | 4) B | 5) B | 6) D | 7) C | 8) B |
| 9) B | 10) C | 11) B | 12) C | 13) B | 14) D | 15)D | |

# Case Study

1. **Deforestation in Great Aravali Mountain:**

Deforestation is a environmental problems in the Great Aravalli Mountain region of north-west sector of the Indian sub-continent forming part of the state of Delhi, Haryana, Rajasthan and Gujarat. This region was once famous for its greenery between Himalaya and Vindhyan mountain regions. A number of factors are involved in the deforestation. This study attempts to highlight the deforestation trend, and its associated causes and effects, so that this grave problem can be properly understood. It is also observed that the tribes of Great Aravalli followed unique type of tree mortgage system. Great Aravalli migrated towards the north direction, which was inspired by migratory birds.

2. What is the factor respossibel for deforestation in Great Aravalli Mountain?
3. Which states are affected by deforestation in this region?
4. How much population is effected by deforestation?
5. How much % of area is covered by this disaster?

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