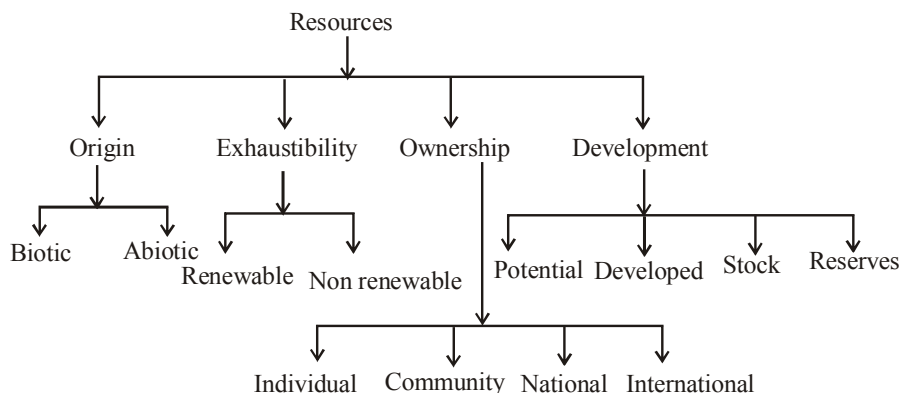


Resources, Minerals and Development

- A resource is a source for the benefit of mankind.
- To obtain maximum output from the resources, it is necessary to maintain interrelationship between nature, technology and institutions.
- India has abundance of natural resource.
- Minerals are found in different forms. Example - Diamond, Coal, Bauxite, Mica are minerals.
- Resources are classified into different parts on the basis of their:-
 - (a) Origin
 - (b) Exhaustibility
 - (c) Ownership
 - (d) Status of development



- Minerals are non-renewable resources but they are recyclable.
- According to the use, availability and importance, our resources are categorised into four groups:-
 - 1. Land resources** – It occupies approx. 20% of the earth surface. Natural flora and fauna, rivers, mountains, wildlife and human life depends on land.
 - 2. Mineral resources** – Many things that we use in our day to day life are made up of minerals. It is a natural resource which also constitutes rocks.
 - Earth's crust is made up of minerals in the form of rocks.
 - Minerals are classified into two parts.
 - (a) Metallic
 - (b) Non-metallic
 - Metallic has been further divided into three parts :
 - (a) Ferrous – It contains iron. Example – Iron Ore, Nickel, Manganese, Cobalt.
 - (b) Non-ferrous – Lead, Copper, Tin and Bauxite are non-ferrous minerals. They contain metals.
 - (c) Precious – Precious metals like Gold, Platinum and Diamond are precious minerals.
 - (d) Non-metallic minerals – Sandstone, Marble, Granite, Salt, Potash are non-metallic minerals.
 - 3. Energy Resources** – Resources through which energy is generated are known as Energy resources– It has two types–
 - (i) Conventional source of energy – Example – Coal, Natural gas and Petroleum. It is naturally found.
 - (ii) Unconventional source of energy – Energy is generated from natural source like Sun, Wind and Tide.
- Resources are divided –
 - A. On the basis of origin in two groups.**
 - (a) Biotic resources – they are obtained naturally from the biosphere. Example – living and organic things like livestock, forests, human beings.
 - (b) Abiotic resources – they include non organic material like metals, minerals and rocks.
 - B. On the basis of exhaustibility–**
 - (a) Renewable – Forest, Water, Wind, Wildlife etc. Anything that can be reproduced.
 - (b) Non renewable resources – This type of resources can not be reproduced because it forms in million of year's. Example – metals, fossils, fuels etc.
 - C. On the basis of ownership–** It has four types.
 - (a) Individual – lands, plots, well, Pond.
 - (b) Community based resources – Grazing land, Picnic spots, Parks, Burial ground etc.
 - (c) National – Roads, Forests, River, Minerals, Buildings are national resources.
 - (d) International or Oceanic resources – Example – Exclusive Economic zone beyond 200 km.
 - D. On the basis of development –**
 - (a) Potential resources – they have enough potential to produce but not been utilized in proper manner.
 - (b) Developed resources – Resource areas have been surveyed and their quality and quantity are tested by the experts. Example – wind farms of Gujarat.

- (c) Stocks – Which can be used but technology is lacking.
- (d) Reserves – Reserves are the subset of the stock.

4. Soil Resources–

- Soil is the upper layer of the earth's surface which contains rock, minerals and organic matters.
- It takes million of years to form the soil.
- Pedology refers to the study of soil.
- Parent rock, climate, vegetation etc. affect soil formation.
- Types of soil–
 - (a) Alluvial – Commonly found in northern plains, Rajasthan and eastern coastal plains.
 - (b) Laterite – Found in tropical region like – Orissa, Tamil Nadu, Chhota Nagpur.
 - (c) Red & Yellow soil – Manipur and Shillong.
 - (d) Saline Soil – It is mainly found in Coastal Plains of Kerala and Orissa.
 - (e) Black Soil – Regur soil or Black soil consists of humus, salt and clay. Example– M.P. and Maharashtra.
 - (f) Forest Soil – It can be found in the valleys.
 - (g) Arid soils – It is found in dry climate area like Rajasthan.
- Erosion of Soil–
 - Causes–
 - Natural – Wind, Rainfall, Flood etc.
 - Human – Deforestation, Urbanization etc.
 - Others – Pollution, wrong way of ploughing.
 - Conservation of soil by different methods:–
 - (a) Terrace farming
 - (b) Crop rotation
 - (c) Shelter belts
 - (d) Contour farming
 - (e) Afforestation

Land resource

- NSA (Net Sown Area) differs from place to place like it is 80% in Punjab and Haryana and 10% in Manipur and Andaman and Nicobar.
- Land use pattern –
- Total geographical area – 32.8 million square meter.
 - Mountains – 30%
 - Plateaus – 27%
 - Plains – 43%

Mineral resource

- Minerals are found in Ores.
- Iron ore is a basic mineral.
- More than 90% of the mineral deposits are found in Chhota Nagpur Plateau region.
- Magnetite is the finest iron ore which contains 70% iron.
- Hematite type of iron ore contains 50% – 60% iron.

Year 2003-04						
States	Orissa	Karnataka	Goa	Chhatisgarh	Jharkhand	Others
Iron Ore Production	25%	26%	17%	19%	12%	1%

Major iron ore belts are:–

→ Orissa – Jharkhand belt – High grade/hematite are found in Badampahar mines and Kendujhar.

→ Durg – Bastar Chandrapur belt – Chhatisgarh and Maharashtra border. Bailadila hills has 14 deposits.

→ Bellary – Chitradurga – Chikmagalur – Tumkur – Kudermukh mines of Karnataka's Western Ghat are 100% export hub of iron ore.

→ Maharashtra – Goa belt – Goa and Maharashtra belt's iron ore are low in quality.

- Manganese –
- Orissa is the largest producer of Manganese in India.
- It is essential for steel industry.
- Copper –
- 52% of copper is produced in Balaghat mines in Madhya Pradesh.
- It is used in electronic industry
- Jharkhand's Singhbhum district and Khetri mines of Rajasthan are also copper producing states.
- Bauxite–
- Bauxite is a sedimentary rock which is the main ore for aluminium.
- India is world's 6th largest producer of Bauxite.
- 90% of bauxite is used for making aluminium.
- Orissa is the largest producer in India.
- Limestone–
- It is a building material.
- Suitable for industries like paper, cement, plastics, paint, glass etc.
- Mica –
- It is made up of a series of plates of leaves.
- It can be black, green, red, yellow or brown in colour.
- Ajmer, Jharkhand and Andhra Pradesh are mica producing states.
- Conservation of minerals –
 - It is very important to conserve minerals because–
 1. It is very precious.
 2. It can't be reproduced.
 3. High consumption of minerals.
 4. Many industries are dependent on minerals.
 5. It is beneficial for the economical growth of the country.

Energy resource

- It can be generated from fuel minerals in the form of coal, petroleum, natural gas and uranium.
 1. Firewood, cowdung cake, coal, petroleum are conventional sources of energy.
 2. Solar, wind, Tidal, geothermal, biogas and atomic energy are non-conventional sources of energy.

Coal–

- The fossil fuel is found in sedimentary rocks.
- Anthracite, bituminous, lignite and peat are few varieties of coal.
- Coal contains carbon.
- India is the world's largest coal producing country – 500 mines of coal are available in India.
- Chhota Nagpur is the chief producer of coal. 98% coal is found in river valleys like Damodar (West Bengal), Mahanadi (Orissa), Wardha (Maharashtra), Son (M. P.)

Natural gas–

- It shares 20% of total energy consumption.
- It is colourless inflammable hydrocarbon.
- It is found in Mumbai High and the Gulf of Cambay.

Petroleum –

- Petrol, diesel, kerosene and aviation fuel are the products of petroleum.
- It is a crude oil.
- It is a mixture of petroleum, natural gas and bitumen.
- Petroleum producing states –
 - (a) Mumbai High – 63%
 - (b) Assam – 16%
 - (c) Gujarat – 18%

Electricity –

- Electricity is generated by running water which drives hydro turbines and generates hydro electricity. Electricity is also generated by coal, petroleum and natural gas. It is called thermal power. There are 310 thermal power plants in India.

Nuclear or Atomic Energy–

- Uranium and Thorium type of minerals are required for generating atomic energy.
- Jharkhand, Rajasthan and Kerala are Uranium and Thorium producing states.

Solar Energy –

- Sunlight is a source of energy.
- Solar energy can be obtained by the solar cells which are also called photovoltaic cells.
- It is costly method.
- Many photovoltaic cells can generate thousands of kilowatts of electricity.

Wind power–

- Wind produces 1.6% of the country's electricity.
- It is a renewable energy.
- Tamil Nadu and Gujarat have largest number of windmills.

Biogas–

- Shrubs, farm waste, animal and human waste are used to generate biogas.
- It improves the quality of organic fertilizers.
- It is very popular in rural areas.

Geothermal power–

- Hot springs and volcanic gases also generate electricity.
- Geothermal power plants are located in Parvati Valley near Manikaran in Himachal Pradesh and Puga valley in Ladakh.
- It is produced by the heat of interior parts of the earth.

Tidal Energy–

- During high tides electricity can be generated through a turbine.
- It is a potential resource.
- It can be reproduced. So it is a renewable resource.
- First tidal power project is commencing in West Bengal.
- Gulf of Kutch, Gulf of Cambay, the Ganga delta and eastern coast have been surveyed as potential sites.
- Conservation of Resources–
- Land, Soil, Mineral and energy resources are the backbone of Indian economy.
- They are also very essential for the mankind.
- They should be utilized in proper manner.
- Many of these resources are not renewable.
- Resource planning should be done so that maximum can be obtained from the scarce resources.
- Gandhiji's view on conservation–
"There is enough for everyone's need and not for everybody's greed".

Important Keywords :

1. Quarry – Large surface mine for the excavation of stones.
2. Shaft mines – Deep and tunnelled mines.
3. Photovoltaic – Cell to generate solar energy.
4. Offshore drilling – Drilling mineral from the bottom of the sea.
5. Extraction – Withdrawing resources from the nature.
6. Rio de Janeiro – It is a place where United Nations Conference held in 1992.
7. Leaching – Process of washing out clay from the soil.
8. Mulching – To provide protective cover over the soil.

Exercise

1

DIRECTIONS : This section contains multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which only one is correct.

1. Which type of soil is commonly found in India?
 - (1) Alluvial soil (2) Black soil
 - (3) Laterite soil (4) Red and yellow soil
2. The uppermost layer of the earth's crust is
 - (1) Humus (2) Metals
 - (3) Minerals (4) Soil
3. Non-living resources are called
 - (1) Biotic (2) Individual
 - (3) Abiotic (4) Potential
4. Koderma is famous for which one of the minerals?
 - (1) Bauxite (2) Copper
 - (3) Iron ore (4) Mica
5. In which state Kolar Gold mines are located?
 - (1) Karnataka (2) Gujarat
 - (3) Kerala (4) Maharashtra
6. Conservation of resources means–
 - (1) Planning of resources
 - (2) Depletion of resources
 - (3) Extraction of resources
 - (4) Protection of resources
7. Which one contains Monazite sand?
 - (1) Coal (2) Uranium
 - (3) Bauxite (4) Thorium
8. Which mineral is produced in Madhya Pradesh?
 - (1) Oil deposits (2) Mica
 - (3) Gold (4) Bauxite
9. On the basis of exhaustibility, resources have two types–
 - (1) Renewable and non renewable
 - (2) Biotic and abiotic
 - (3) Potential and developed
 - (4) Individual and community based

10. What is mulching?
 - (1) Process of providing protective cover over the soil
 - (2) Protection of minerals
 - (3) Extraction of metals
 - (4) Process of soil erosion
11. Which one is chief Manganese producer of the country?
 - (1) M. P.
 - (2) Goa
 - (3) Orissa
 - (4) Kerala
12. Metals and Minerals are–
 - (1) Recyclable
 - (2) Non-recyclable
 - (3) Renewable
 - (4) Individual
13. Houses and plots are the examples of –
 - (1) Renewable resources
 - (2) Community based
 - (3) National
 - (4) Individual resources
14. Which is the finest quality of iron ore?
 - (1) Hematite
 - (2) Magnetite
 - (3) Limonite
 - (4) Siderite
15. Khetri mines of Rajasthan is famous for–
 - (1) Gold
 - (2) Bauxite
 - (3) Copper
 - (4) Mica
16. In 2003-04, limestone produced in Tamil Nadu–
 - (1) 15%
 - (2) 9%
 - (3) 16%
 - (4) 11%
17. In 2003-04, which state produced maximum Bauxite?
 - (1) Gujarat
 - (2) Maharashtra
 - (3) Orissa
 - (4) Jharkhand
18. Mica is a –
 - (1) Ferrous mineral
 - (2) Non-metallic mineral
 - (3) Non-ferrous mineral
 - (4) Metallic mineral
19. Bellary – Chitradurga – Chikmagalur– Tumkur belt is famous for
 - (1) Bauxite
 - (2) Iron ore
 - (3) Mica
 - (4) Manganese
20. NSA is the abbreviated force of–
 - (1) Net Sown Area
 - (2) National Surveyed Area
 - (3) New Sown Area
 - (4) Not Sown Area
21. 43% of the total land is occupied by–
 - (1) Plateaus
 - (2) Mountains
 - (3) Forests
 - (4) Plains
22. States rich in minerals and coal deposits.
 - (1) Gujarat and Rajasthan
 - (2) Bihar and Tamil Nadu
 - (3) Karnataka and Maharashtra
 - (4) Jharkhand, Chhatisgarh and M.P.
23. Black soil is suitable for the growth of–
 - (1) Rice
 - (2) Wheat
 - (3) Cotton
 - (4) Pulses
24. Rio de Janeiro summit was held in–
 - (1) 1995
 - (2) 1992
 - (3) 1993
 - (4) 1991
25. Red and Yellow soil develop reddish colour due to diffusion of–
 - (1) Sedimentary rocks
 - (2) Igneous rocks
 - (3) Metamorphic rocks
 - (4) Sandstone
26. Reserves are the subset of–
 - (1) Community owned resource
 - (2) Stock
 - (3) Renewable resource
 - (4) Individual resource
27. Arunachal Pradesh has abundance of which resource?
 - (1) Wind
 - (2) Solar
 - (3) Water
 - (4) Forest
28. Oceanic area upto 12 nautical miles are called–
 - (1) Territorial water
 - (2) Coastal water
 - (3) National water
 - (4) Community owned water
29. The process of growing two or more crops in the same field one after another is called–
 - (1) Crop rotation
 - (2) Intercropping
 - (3) Contour farming
 - (4) Terrace farming
30. Ladakh is rich in–
 - (1) Water resource
 - (2) Tidal energy
 - (3) Solar energy
 - (4) Cultural heritage
31. Who said “There is enough for everybody’s need and not for anybody’s greed”.
 - (1) Abraham Lincon
 - (2) Indira Gandhi
 - (3) Mahatma Gandhi
 - (4) J. L. Nehru
32. EEZ is categorised on the basis of–
 - (1) Ownership
 - (2) Exhaustibility
 - (3) Origin
 - (4) Status of development
33. What is needed to overcome the great diversity in the availability of resources?
 - (1) Depletion of resources
 - (2) Extraction of resources
 - (3) Resource planning
 - (4) Classification of resources
34. Laterite soils are found in areas with
 - (1) Low temperature
 - (2) Humidity
 - (3) Low temperature and low rainfall
 - (4) High temperature and high rainfall.
35. The physical cover of land is referred as–
 - (1) Land conservation
 - (2) Land use
 - (3) Afforestation
 - (4) Land cover
36. Energy generated from the interior of the earth is called–
 - (1) Geothermal energy
 - (2) Thermal energy
 - (3) Tidal energy
 - (4) Soil energy
37. Decomposed organic matter yields gas which is called–
 - (1) Biogas
 - (2) Natural gas
 - (3) Coke
 - (4) Humus
38. The moving turbines produce–
 - (1) Water
 - (2) Mineral
 - (3) Wind
 - (4) Electricity
39. Nagarcoil and Jaisalmer are well known for–
 - (1) Tidal energy
 - (2) Wind energy
 - (3) Biogas
 - (4) Thermal energy
40. Mumbai High is famous for–
 - (1) Coal
 - (2) Mica
 - (3) Petroleum
 - (4) Iron ore
41. Which mineral is a good conductor of heat and electricity?
 - (1) Mica
 - (2) Bauxite
 - (3) Copper
 - (4) Iron
42. Minerals which do not have iron content?
 - (1) Non-ferrous minerals
 - (2) Ferrous minerals
 - (3) Conventional minerals
 - (4) Non-Conventional minerals
43. Madhapur is famous for which type of energy plants?
 - (1) Solar
 - (2) Tidal
 - (3) Thermal
 - (4) Geothermal
44. Which one is unconventional source of energy?
 - (1) Wind
 - (2) Mica
 - (3) Gold
 - (4) Coal

45. Most of the petroleum deposits are found in–
(1) Metamorphic rocks (2) Sedimentary rocks
(3) Igneous rocks (4) Limestone
46. What percentage of iron is found in Hematite iron ore–
(1) 50 – 60% (2) 30 – 40%
(3) 25 – 35% (4) 40 – 50%
47. It is made up of a series of plates or leaves–
(1) Manganese (2) Bauxite
(3) Mica (4) Coal
48. Limestone is a basic raw material for which industry?
(1) Electronic (2) Cement
(3) Iron & Steel (4) Chemical
49. Balaghat mines of Madhya Pradesh is famous for–
(1) Mice (2) Manganese
(3) Bauxite (4) Copper
50. The Mountains occupy– area of total geographical area–
(1) 27% (2) 43%
(3) 30% (4) 33%
51. NSA in Punjab and Haryana is–
(1) 80% (2) 10%
(3) 35% (4) 77%
52. Rio de Janeiro is situated in–
(1) Belgium (2) China
(3) Japan (4) Brazil
53. Rajasthan and Gujarat have–
(1) Developed resources (2) Potential resources
(3) Stock (4) Biotic resources
54. Shelter belts refer to–
(1) Planting trees (2) Fallow land
(3) Wasteland (4) Contour farming
55. Western and Central Himalayas have well developed–
(1) Terrace farming (2) Gullies
(3) Strip cropping (4) Contour ploughing
56. In Punjab, the main cause of land degradation is identified as –
(1) Overgrazing (2) Deforestation
(3) Over irrigation (4) Over cultivation
57. Water eroded area is estimated as
(1) 56 Million hectares (2) 32 Million hectares
(3) 40 Million hectares (4) 25 Million hectares
58. 28 million hectares land is related to –
(1) Forest degraded area
(2) Saline and alkaline deposits
(3) Water eroded area
(4) Net Sown Area
59. Strip Cropping is the effective method of
(1) Resource planning (2) Shelter belts
(3) Soil erosion (4) Terrace farming
60. Duars, Chos and Terai are the examples of–
(1) Plains (2) Plateaus
(3) Mountains (4) Coastal area
61. Bangar and Khadar are the types of–
(1) Black soil (2) Laterite soil
(3) Alluvial soil (4) Forest soil
62. The running water makes deep channel in clayed soil is called–
(1) Arid (2) Gullies
(3) Contour (4) Khadar
63. Which of the following can be called a conventional source of energy?
(1) Hydro power (2) Thermal power
(3) Solar power (4) Coal generated power
64. Obra is known for–
(1) Refinery (2) Thermal power station
(3) Aluminium plant (4) Bird sanctuary
65. Alluvial soils are ideal for the growth of–
(1) Sugarcane (2) Cotton
(3) Rice (4) Tea

Exercise

2

Matching Based MCQ

DIRECTIONS(Qs.1 and 7) : Match Column-I with Column-II and select the correct answer using the codes given below the columns.

- | 1. | Column-I | Column-II |
|-----|------------------------------------|---------------|
| A. | Ferrous | (p) Mica |
| B. | Precious | (q) Petroleum |
| C. | Conventional | (r) Iron Ore |
| D. | Non Ferrous | (s) Gold |
| (1) | A – (q), B – (p), C – (s), D – (r) | |
| (2) | A – (r), B – (s), C – (q), D – (p) | |
| (3) | A – (p), B – (s), C – (r), D – (q) | |
| (4) | A – (r), B – (p), C – (s), D – (q) | |

- | 2. | Column-I | Column-II |
|-----|------------------------------------|--------------|
| A. | Balaghat mines | (p) Iron ore |
| B. | Panchpatmali deposits | (q) Mica |
| C. | Kudermukh mines | (r) Copper |
| D. | Koderma mines | (s) Bauxite |
| (1) | A – (r), B – (s), C – (p), D – (q) | |
| (2) | A – (s), B – (q), C – (p), D – (r) | |
| (3) | A – (q), B – (r), C – (s), D – (p) | |
| (4) | A – (r), B – (s), C – (q), D – (p) | |
- | 3. | Column-I | Column-II |
|-----|------------------------------------|-----------|
| A. | Water eroded area | (p) 10% |
| B. | Saline & Alkaline area | (q) 28% |
| C. | Wind eroded area | (r) 56% |
| D. | Forest degraded area | (s) 6% |
| (1) | A – (q), B – (s), C – (r), D – (p) | |
| (2) | A – (p), B – (s), C – (q), D – (r) | |
| (3) | A – (r), B – (s), C – (p), D – (q) | |
| (4) | A – (s), B – (p), C – (q), D – (r) | |

4. **Column-I** **Column-II**
- A. 1974 (p) Club of Rome's Resource Planning
- B. 1992 (q) Schumacher's book released
- C. 1968 (r) Brundtland Commission deposit
- D. 1987 (s) Rio de Janeiro's Earth Shine
- (1) A – (p), B – (s), C – (q), D – (r)
- (2) A – (s), B – (p), C – (q), D – (r)
- (3) A – (p), B – (s), C – (r), D – (q)
- (4) A – (q), B – (s), C – (p), D – (r)

5. **Column-I** **Column-II**
- A. Alluvial Soil (p) Maharashtra
- B. Laterite Soil (q) Indo-gangetic plain
- C. Red and Yellow Soil (r) Karnataka
- D. Black Soil (s) Orissa
- (1) A – (q), B – (r), C – (s), D – (p)
- (2) A – (q), B – (p), C – (s), D – (r)
- (3) A – (q), B – (s), C – (p), D – (r)
- (4) A – (s), B – (r), C – (p), D – (q)

6. **Column-I** **Column-II**
- A. Land degradation (p) Inundation
- B. Mining hazards (q) Ecological crisis
- C. Soil erosion (r) Gullies
- D. Global warming (s) Overgrazing
- (1) A – (s), B – (p), C – (r), D – (q)
- (2) A – (q), B – (s), C – (r), D – (p)
- (3) A – (s), B – (q), C – (p), D – (r)
- (4) A – (r), B – (s), C – (p), D – (q)

7. **Column-I** **Column-II**
- A. Coke (p) Mixed metals with iron
- B. Ferro Alloys (q) Solid form of coal
- C. Quarry (r) Minerals with other elements
- D. Ore (s) Surface mine to excavate stones
- (1) A – (q), B – (s), C – (p), D – (r)
- (2) A – (q), B – (r), C – (s), D – (p)
- (3) A – (r), B – (s), C – (p), D – (q)
- (4) A – (q), B – (p), C – (s), D – (r)

Statement Based MCQ

8. Consider the following statements :
With reference to the classification of the resources.
- (a) Renewable resources have ability to reproduce themselves by physical, chemical and mechanical processes.
- (b) Biotic resources are obtained from biosphere and it takes million of years to reproduce them.
- Which of the statement(s) given above is /are correct?
- (1) (a) only (2) (b) only
- (3) Both (a) and (b) (4) Neither (a) nor (b)
9. Consider the following statements :
- (a) Resource planning is an important phenomenon to conserve the resources.
- (b) In India, diversity exists in the availability of resources.
- (c) Depletion of resources is beneficial for resource planning.
- (d) Club of Rome advocated resource conservation for the first time in 1968.
- Which of the statement(s) given above is/are correct?
- (1) (a), (b) and (c) (2) (b) and (d)
- (3) (a), (b) and (d) (4) (a) and (c)

10. With reference to the availability & production of the minerals–
Consider the following statements :
- (a) Orissa is the largest bauxite producing state in India.
- (b) Balaghat mines produces minimum amount of copper.
- (c) Durg-Bastar-Chandrapur belt is famous for Manganese production.
- (d) Mumbai High produces 63% of total petroleum production.

Which of the statement(s) given above is/are correct?

- (1) (a) and (d) (2) (a), (b) and (d)
- (3) (a), (b) and (c) (4) (a) and (c)
11. Consider the following statements :
- (a) Sunlight, water, wind are unconventional source of energy.
- (b) India is a wind super power.
- (c) Biogas are used for Industrial use.
- (d) Unconventional resources are non-renewable.
- Which of the statement(s) given above is/are correct?
- (1) (a), (b) and (c) (2) (a) and (c)
- (3) (a) and (d) (4) (a) and (b)

12. Consider the following statements :
- (a) Resource depletion is a major cause of global warming.
- (b) The increase in global temperature brought about by the increased emission of green house gases is called global warming.
- (c) It only affects the temperature of the surface of the earth.
- (d) Global warming is good for global peace.

Which of the statement(s) given above is/are correct?

- (1) (a), (b) and (c) (2) (a) and (b)
- (3) (b) and (d) (4) (a) and (c)
13. Consider the following statements :
- (a) Khadar are Black Soil.
- (b) Humus content is high in Black Soil.
- (c) Arid soil is sandy in texture.
- (d) Laterite soil develops in areas with high temperature and heavy rainfall.

Which of the statement(s) given above is/are correct?

- (1) (a), (b) and (c) (2) (a) and (b)
- (3) (b), (c) and (d) (4) (a) and (c)
14. With the reference to the importance of iron ore–
Consider the following statements :
- (a) Magnetite is the poor quality of iron ore.
- (b) Maximum iron ore producing state is Orissa.
- (c) It is a ferrous mineral.
- (d) Iron ore is a basic raw material for Iron & steel company.

Which of the statement(s) given above is/are correct?

- (1) (a), (b) and (c) (2) (a) and (c)
- (3) (b), (c) and (d) (4) (b) and (d)
15. Consider the following statements :
- (a) Hydel power is produced from generators that are driven by turbines.
- (b) Hydel power is a renewable source.
- (c) It is obtained by photovoltaic cells.
- (d) Hydel power is more popular than thermal power.

Which of the statement(s) given above is/are correct?

- (1) (a), (b) and (c) (2) (a) and (b)
- (3) (c) and (d) (4) (a), (b) and (d)

Passage Based MCQ

DIRECTIONS (Qs. 16 to 24) : Read the passage(s) given below and answer the questions that follow.

PASSAGE - 1

Coal has proved very beneficial for man. It has proved an important source of energy and raw material. It is the most abundantly available mineral. Lignite is low grade coal which has high content of moisture. Gondwana, Raniganj, Bokaro and Jharia are important coalfields. It is a bulky material but it loses weight on use as it reduced to ash. That is why industry like Heavy Industries and Thermal power stations are located near the coalfield. Anthracite is the high quality of coal.

16. Low grade of coal has high content of—
(1) humus (2) minerals
(3) ore (4) moisture
17. Lignite is a —
(1) High quality coal (2) Low quality coal
(3) Crude or coke coal (4) None of above
18. What is Coal's characteristic?
(1) Bulky in nature but loses weight on use.
(2) Light in nature.
(3) Soft in texture
(4) Light in nature but gains weight on use.
19. Which one is high quality coal?
(1) Peat (2) Lignite
(3) Anthracite (4) Bituminous
20. Coal is beneficial for which industry?
(1) Heavy Industries (2) Electronic Industry
(3) Aluminium factory (4) Cement Industry

PASSAGE - 2

Resources are vital for any developmental activity. There is diversity on the availability of the resources. To overcome socioeconomic and environmental problems, resource conservation is important. Gadhiji insisted on resource conservation and he wanted to participate masses on the production instead of mass production. Over consumption and over utilization of resources are main subject of concern. That is why resource conservation is a big issue nowadays. In 1968, The Club of Rome advocated resource conservation for the first time. It will certainly reduce global warming's affects. Energy resources influence national economy. India is considered as one of the least energy efficient countries in the world.

21. There is _____ on the availability of resources.
(1) Possibility (2) diversity
(3) facility (4) exhaustibility
22. Who wanted masses participation in production?
(1) J. L. Nehru (2) Lal Bahadur Shastri
(3) Indira Gandhi (4) Mahatma Gandhi
23. Which one is the matter of concern?
(1) Production (2) Over irrigation
(3) Over consumption (4) Globalisation
24. Who did advocate idea of resource conservation for the first time?
(1) Rio de Janeiro Summit
(2) Club of Rome
(3) Brundtland Commission report
(4) UNCED

Assertion Reason Based MCQ

DIRECTIONS (Qs. 25 to 30) : Following questions consist of two statements, one labelled as the '**Assertion**' and the other as '**Reason**'. You are to examine these two statements carefully and select the answer to these items using the code given below.

Code :

- (1) Both A and R are individually true and R is the correct explanation of A:
- (2) Both A and R are individually true but R is not the correct explanation of A.
- (3) A is true but R is false
- (4) If both A and R are false

25. **Assertion :** Black soil is considered to be ideal for the cultivation of cotton.
Reason : This soil has developed in the peninsular region of India.
26. **Assertion :** Iron ore is a basic raw material for Iron and Steel Industries.
Reason : Magnetite is the finest iron ore which contains 70% of iron.
27. **Assertion :** Laterite soil develops in areas with high temperature.
Reason : Humus content is low in this type of soil because microorganism get destroyed by high temperature.
28. **Assertion :** Contour ploughing can decelerate the flow of water down the slopes.
Reason : Contour ploughing is a prevention technique of soil erosion.
29. **Assertion :** Developed resources are surveyed and their quality and quantity are determined.
Reason : Rajasthan and Gujarat have enormous potential for wind and solar energy.
30. **Assertion :** Human beings, flora and fauna, fisheries are biotic resources.
Reason : Biotic and abiotic resources are classified on the basis of their origin.

Correct Definition Based MCQ

31. Which of the following is correct definition of soil?
(1) Upper layer of the earth's surface with the mixture of organic and inorganic materials is called soil.
(2) Interior of the earth's surface with the mixture of rocks are called soil.
(3) Soil is a mineral made up of a series of plates or leaves.
(4) Soil is a mixture of sand, clay, limestone and salt.
32. Who are called Geologists?
(1) Persons who study about soil.
(2) Persons who study about structure and composition of earth.
(3) Persons who study about the protection of environment.
(4) A person who teaches geography.
33. What is the importance of Manganese?
(1) Manganese is a good conductor of electricity.
(2) Manganese produces aluminium.
(3) Manganese is used in manufacturing of steel and paint industry.
(4) Manganese is a raw material in cement industry.
34. What is called Coke?
(1) It is a hard and black form of coal.
(2) It is a type of soil.
(3) Coke is a evaporated form of iron ore.

- (4) Coke is a metallic mineral.
35. What are the shelter belts?
- Shelter belt is a process of terrace farming.
 - Shelter belt is a method of establishing shelters for the human being.
 - Shelter belts are method of planting rows of trees to create shelter.
 - Shelter belts are ploughing method in which contour lines are made.

Feature Based MCQ

36. On the basis of following features identify the correct option—
- It is suitable for tea and coffee.
 - It is mainly found in Karnataka, Tamil Nadu and Kerala.
 - It is found in areas with high temperature and heavy rainfall.
 - Humus content is low in this type of soil.
- Black Soil
 - Red and Yellow Soil
 - Alluvial Soil
 - Laterite Soil
37. On the basis of following features identify the correct option—
- Magnetite and Hematite are its varieties.
 - It has magnetic qualities.
 - Orissa, Jharkhand belt are its producing area.
 - It is a kind of ferrous metal.

- Manganese
 - Iron ore
 - Coal
 - Bauxite
38. On the basis of following features identify the correct option—
- It is a sedimentary rock.
 - It contains calcium carbonates and magnesium carbonate.
 - It is important for cement industry.
 - Andhra Pradesh is its chief producer.
- Bauxite
 - Manganese
 - Mica
 - Limestone
39. On the basis of following features identify the correct option—
- Hazira–Vijaypur–Jagdishpur is associated with it.
 - It provides world's 20% consumption of energy.
 - It is highly inflammable.
 - It emits less carbon dioxide.
- Petroleum
 - Natural gas
 - Biogas
 - Coal
40. On the basis of following features identify the correct option—
- It is a type of unconventional source of energy.
 - It is a costly source of energy.
 - Gujarat and Rajasthan have potentiality to produce it.
 - It is a natural and largest source of energy.
- Tidal energy
 - Solar energy
 - Thermal energy
 - Hydel energy

Hints & SOLUTIONS

Exercise 1

- (1)
- (4) It is a mixture of minerals, organic matter, air and water.
- (3)
- (3) Koderma is situated in Jharkhand and mines are found in Chhota Nagpur plateau.
- (1) 6. (4) 7. (4) 8. (4)
- (1) Minerals and metals are recyclable while fossil fuels are non recyclable.
- (1) It stabilises temperature, moisture of the soil and reduces erosion.
- (3)
- (1) 13. (4)
- (2) Magnetite contains 70% iron.
- (3) 16. (2)
- (3) Orissa produced 45% bauxite of total production.
- (2) Mica splits easily into thin sheets.
- (2) 20. (1) 21. (3) 22. (4)
- (3) It is also known as Black cotton soil.
- (2) 25. (3)
- (2) River water is an example of reserve resource. It can be used for future requirements.
- (4) 28. (1)
- (1) It prevents soil erosion.
- (4) 31. (3)
- (1) EEZ means Exclusive Economic Zone. Oceanic resource upto 200 nautical miles of EEZ belong to open ocean.
- (3) 34. (4)
- (4) Vegetation, buildings and water are land cover.
- (1)
- (1) It is very popular in rural areas and also called 'Gobar gas'.
- (4) 39. (2) 40. (3)
- (3) It is a raw material for electronic industry.
- (1) 43. (1) 44. (1) 45. (2)
- (1) 47. (3) 48. (2) 49. (4)

- (3) 51. (4) 52. (4) 53. (1)
- (1) It breaks the speed of wind and prevents soil erosion.
- (1) 56. (1) 57. (1) 58. (1)
- (2) 60. (1)
- (3) Old alluvial soil is called Bangar and new alluvial soil is called Khadar. Khadar is more fertile.
- (2) 63. (4) 64. (1)
- (1) It contains potash, phosphoric acid and lime.

Exercise 2

- (2) 2. (1) 3. (3) 4. (4)
- (1)
- (1) All are causes of depletion of resources.
- (4) 8. (3)
- (3) Resource planning is necessary for the conservation of the resources.
- (1)
- (4) Biogas is used in rural areas.
- (2) 13. (3)
- (3) Magnetite iron contain iron upto 70% India is rich in its production.
- (2) Photovoltaic cells are used to obtain solar energy.
- (4) 17. (2) 18. (1) 19. (3)
- (1) 21. (2) 22. (4) 23. (3)
- (2)
- (2) It is also called 'regur' soil and black cotton soil.
- (2) 27. (1) 28. (1)
- (2) These unconventional type of energy resources are not properly utilized.
- (1) 31. (1) 32. (2)
- (3) Approximately 10 kg of manganese is required to manufacture one tonne of steel.
- (1)
- (3) It prevents soil erosion.
- (4) 37. (2) 38. (4)
- (2) HVJ is a natural gas carrying pipeline.
- (2)