Part-A

Note: Answer the following questions in 15 words. Each question carries 2 marks.

Question 1 Write the names of any four heat resistant/hyperthermia minerals excavated from Rajasthan and the districts where they are excavated.

Answer-

The following heat resistant/hyperthermia minerals are excavated from Rajasthan:

1. Asbestos- Udaipur, Rajsamand, Dungarpur, Ajmer, Jodhpur.
2. Felspar- Jaipur, Pali, Tonk, Sikar, Udaipur, Banswara.
3. Silica Sand – Bundi, Jaipur, Sawaimadhopur, Bharatpur, Barmer, Kota.
4. Dolomite- Banswara, Udaipur, Rajsamand, Alwar, Jhunjhunu, Sikar, Bhilwara, Nagaur.
5. Fire Clay- Bikaner, Bhilwara, Chittorgarh.

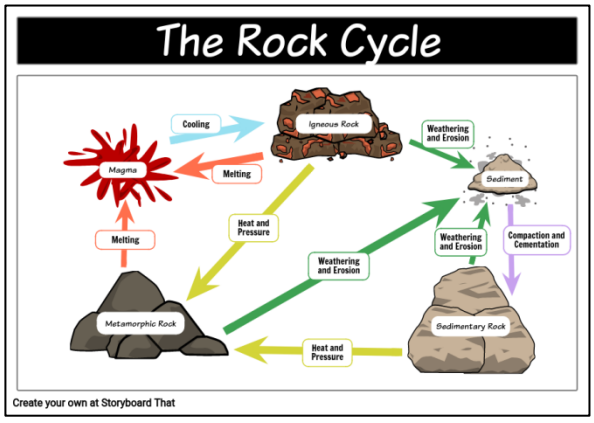
Question.2 Write a note on 'Sajjangarh Wildlife Sanctuary'.

Answer-

Sajjangarh Sanctuary is situated in the dense area of Aravalli mountain range in Udaipur district, which was given the status of sanctuary in the year 1987. The expanse of this sanctuary is about 5.19 square km and wild animals like lion, nilgai, chital, langur, wild boar, chinkara, blackbuck, sambar etc. are found in it.

Question.3 Comment on 'Rock Cycle'.

Answer-



Rock cycle is a continuous process in which, under certain geographical conditions, one type of rock is transformed into another in a cyclic manner. This process of change from one rock to another is called rock cycle.

Liquid magma cools and becomes solid igneous rock. These igneous rocks break into small pieces and move from one place to another and form sedimentary rocks. Due to heat and pressure, these igneous and sedimentary rocks change into metamorphic rocks. Due to extreme heat and pressure, the metamorphic rock melts again and becomes liquid magma. This liquid magma cools down again and turns into solid igneous rock, which continues as a continuous process.

Question.4 Name the bamboo producing districts in Rajasthan.

Answer-

Following are the bamboo producing districts in Rajasthan-

1. Banswara 2. Udaipur
3. Chittorgarh 4. Sirohi
5. Bharatpur

Question.5 Mention any two reasons for the absence of delta in the western coastal part.

Answer-

The following are the reasons for the absence of delta in the western coastal part:

1. The western coastal part is less wide than the eastern coastal part.
2. Steepness of slope of western coastal areas due to which sediment accumulation is not possible.
3. The course of rivers passes through hard rocks due to which there is less amount of sediments.

Question.6 Write the hills located in the Eastern Ghats of Andhra Pradesh and Tamil Nadu in the order from north to south.

Answer-

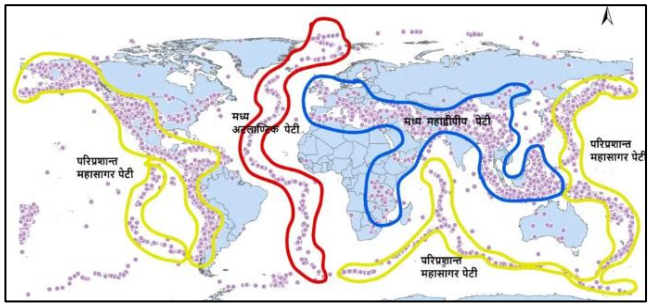
The order of the hills located in the eastern part of Andhra Pradesh from north to south-
1. Nallamala Hill
2. Velikonda Hill
3. Palakonda Hill
4. Nagari Hill

The order of the hills located in the eastern part of Tamil Nadu from north to south-
1. Javadi Hill
2. Shevroy Hill
3. Panchamalai Hill
4. Sirumalai Hill

Question.7 Mid-continental earthquake belt

Answer-

The central continental belt of earthquakes is also called the Mediterranean belt. This belt extends to the Appalachian Mountains, Himalayan Mountains, North Africa, East Africa and the Mediterranean Sea region. Earthquakes occur here due to faulting and equilibrium action. About 21 percent of the world's tectonic activities come from this region. India's seismic zone is in this belt.



Question.8 Write the objectives of National Forest Policy-1988.

Answer-

The National Forest Policy 1988 has the following objectives-
1. There should be forests on more than 33 percent of the total geographical area of the country and the forest cover should be expanded.
2. Maintaining environmental balance and planting forests in ecologically imbalanced areas.
3. To run a public movement to promote planting of trees and to stop cutting of trees.

Question.9 Write the names of the gases responsible for promoting global warming.

Answer-

The following gases are responsible for global warming:
1. Water vapor (H_2O)
2. Carbon dioxide (CO_2)
3. Methane (CH_4)
4. Nitrous Oxide (N_2O)
5. Ozone (O_3)
6. Chlorofluorocarbons (CFC)
7. Hydrofluorocarbons (HFC)
8. Perfluorocarbon

Question.10 Explain the 'Concept of Possibilism' propounded on human-environment relations.

Answer-

The opposite form of the deterministic ideology of human-environment relations, according to which the world/environment is full of possibilities and the exploitation of possibilities depends on human knowledge. According to this ideology, man is an active component of the environment and has the ability to make changes in the environment. The exponents of this ideology are Bunj, Demanzia and Vidal-de-Lavalara.

Question.11 Write the names of any four conservation reserves located in Jhunjhunu district.

Answer-

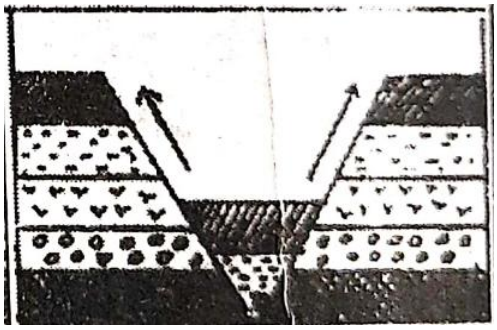
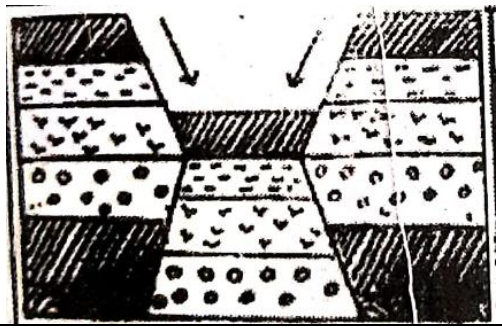
There are following conservation reserves in Jhunjhunu district-

1. Beed – 10.47 km
2. Mansa Mata – 102.3 kilometers
3. Bansiyal Khetri- 70.80 kilometers
4. Bansial Khetri (Bagor) – 39.66 kilometers
5. Shakambhari Mata (Sikar, Jhunjhunu) – 131 kilometers

Question.12 Write the basic differences between ramp valley and fault valley.

Answer-

Difference between ramp valley and fault valley-

Ramp valley	Fault valley
➢ When the land on either side of two parallel faults rises upward and the middle section remains the same, then such valley is called ramp valley. ➢ **Example:-** Brahmaputra river valley of India. 	➢ When due to tensional force the rocky part between two parallel fault lines sinks down, then the valley formed in this way is called a fault valley. ➢ **Example:-** Narmada and Tapti river valleys of India. 

Q.13 Write the reasons responsible for low monsoon rainfall in Rajasthan.

Answer-

Following are the main reasons responsible for low rainfall in Rajasthan -

1. Aravali being parallel to the movement of monsoon winds coming from the Arabian Sea instead of being a barrier.
2. Decrease in humidity of clouds in desert area due to reversal of monsoon.
3. The monsoon coming from the Bay of Bengal weakens by the time it reaches Rajasthan.

Question.14 Write any four negative effects arising as a result of ozone layer depletion.

Answer-

As a result of ozone layer depletion the following negative effects are seen-

1. The possibility of diseases like skin aging, cataract, and skin cancer increases.
2. Death of phytoplankton and reduction in fish production.
3. Evaporation of water from the stomata of leaves increases, due to which the moisture in the soil decreases.
4. The colors of clothing fibers and buildings get damaged, due to which the colors become lighter quickly.

Question.15 Mention any two negative effects arising due to irrigation through canals.

Answer-

Following are the negative effects of irrigation through canals:

1. Due to the problem of beans the land becomes infertile.
2. Due to breach of banks of canals during rainy season, nearby areas get flooded.

Question.16 According to the census year 2011, write the names of four districts of Rajasthan having maximum and minimum population density respectively.

Answer-

According to the census year 2011, the districts of Rajasthan with maximum and minimum population density respectively are as follows:-

Maximum population density	**Minimum population density**
➢ Jaipur-595 ➢ Bharatpur- 503 ➢ Dausa- 476 ➢ Alwar- 438	➢ Jaisalmer- 17 ➢ Bikaner- 78 ➢ Barmer- 92 ➢ Churu- 147

Question.17 Write note on 'Compensatory Afforestation Fund Management and Planning Authority'.

Answer-

CAMPA was established in 2004 to manage the Compensatory Afforestation Fund and CAMPA acts as the custodian of the fund. The purpose of its formation is to conserve the amount received in lieu of reduction in forest areas and re-invest it in afforestation. The amount from CAMPA fund can be used to increase compensatory afforestation, compensate for the loss of ecosystem services, promote biodiversity and forest conservation.

CAMPA- Compensatory Afforestation Fund Management and Planning Authority

Question.18 Write note on 'National Biodiversity Authority'.

Answer-

The National Biodiversity Authority (a statutory and autonomous body) was established in 2003 to implement the Biodiversity Act, 2002 of India, with its headquarters in Chennai. The objective of this authority is to conserve biological resources, use them sustainably, and share the benefits from the use and knowledge of these resources with local communities.

Question.19 Comment on 'Bhikhabhai Sagwada Canal Project'.

Answer-

The construction of Bhikhabhai Sagwada Canal Project was approved by the Central Water Commission in the year 2002, which has been constructed by constructing a siphon on the Mahi River. This canal irrigates an area of 11,811 hectares in Sagwara area of Dungarpur district. The canal was named after the late freedom fighter of Bagad, Bhikhabhai.

Question.20 Write the names of 'Jojoba' producing districts of Rajasthan.

Answer-

Jojoba is originally a desert plant that can thrive even in drought and salinity conditions. Oil can be obtained from its seeds which is used for lubrication in machines with high temperature and very heavy pressure. Jojoba is produced in the following districts of Rajasthan-

1. Jodhpur 2. Ganganagar 3. Jaipur 4. Churu etc.

Question.21 Write the names of any four cold deserts of the world with their location.

Answer-

Following are the major cold deserts of the world-

1. Great Basin Cold Desert – America
2. Patagonia Cold Desert – Argentina
3. Ladakh Cold Desert – India
4. Takla Makan Cold Desert – China
5. Gobi Cold Desert – Mongolia-China
6. Kyzylkum Cold Desert– Uzbekistan, Turkmenistan-Kazakhstan

Question.22 Comment on 'Karewa'.

Answer-

Karewa means "high table land" in the Kashmiri language, which are formations of glaciers, clay and other materials deposited in a thick layer on moraines. Karewa is a very fertile land. Saffron is cultivated here.

Q.23 Kakani/Kakaneya River

Answer-

Kakni or Kakneya River is a river that forms the internal drainage system of Rajasthan and originates from Kotri village, 27 km south of Jaisalmer. It is also known by the nickname Masoordi. It is completely dependent on rainfall. It flows to a shorter distance when there is less rainfall and to a greater distance when there is more rainfall.

Question.24 Name any four active volcanoes of the world.

Answer-

Those volcanoes which keep erupting from time to time or are currently erupting are called active volcanoes. Example-

1. Mayon Volcano- Philippines
2. Fujiyama Volcano- Japan
3. Cotopaxi Volcano- Ecuador
4. Krakatoa Volcano- Indonesia
5. Antona and Stromboli Volcano – Italy
6. Moanaloa Volcano- Hawaiian Islands
7. Barren Island Volcano – Andaman and Nicobar

Question.25 'The Convention on International Trade in Endangered Species of Wild Fauna and Flora'

Answer-

CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement signed between various governments in the year 1973, as a result of which it came into existence in the year 1975. It is also called 'Washington Convention'. Its objective is to protect endangered plants and animals from the threats of international trade.

Part-B

Note: Answer the following questions in 50 words. Each question carries 5 marks.

Question.1 Write the names of different periods of the Palaeozoic era and write a brief note on their main characteristics.

Answer-

The Paleozoic era has the following periods – Cambrian, Ordovician, Silurian, Devonian, Carboniferous and Permian periods. The following are the characteristics of this Mahakalpa-

Doubt	Features
Cambrian	➢ 600-500 million years ➢ For the first time, marine sediments encroached on the land and the origin/evolution of plants and animals began on the earth.
Ordovician	➢ 500-440 million years ➢ Sea crawling creatures i.e. fish class emerged.
Silurian	➢ 440-400 million years ➢ For the first time, vertebrates originated and as a result of geological movements of the earth, mountains were formed and leafless plants emerged on the land surface.
Devonian	➢ 400-350 million years ➢ Due to the climate being favorable for fish, it was known as Matsya Yuga and shark fish emerged and amphibians and fern flora developed.
Carboniferous	➢ 350-270 million years ➢ Geological movements intensified and development of amphibians intensified. In the same period, due to intense movements, the vegetation got buried underground and the rocks of Gondwana sequence, which were rich in coal, were formed.
Permian	➢ 270-225 million years ➢ Earth movements first affected Europe and faults were formed. In this, the species diversity of flora and fauna on land/water was high.

Question.2 Write the steps that can be taken to make mining in Rajasthan economically sustainable and inclusive.

Answer-

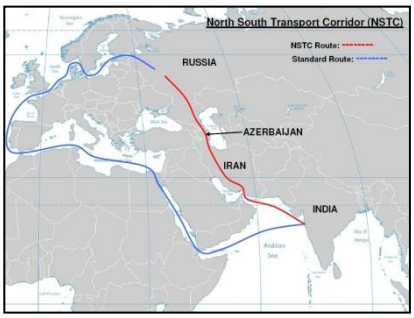
The following steps can be taken to make mining in Rajasthan economically sustainable and inclusive:

1. Eco-friendly mining policy should be encouraged.
2.The currently applicable mining policy should be implemented effectively.
3. There should be an effective ban on unauthorized mining.
4. Compensatory tree plantation should be implemented compulsorily in mining areas.

5. Priority should be given to the residents of tribal areas for mining work.
6. Separate mining policy should be made and implemented for each district.
7. Various modern and scientific techniques should be used for knowledge of new mineral areas.
8. Environment restoration plan should be prepared and laboratories should be established to test various pollutants.
9. Mineral development should be accelerated by prospecting for various minerals using modern scientific methods.

Question.3 Throw light on International North-South Transportation Corridor.

Answer-



Russia, Iran and India (founding members) signed an agreement on May 16, 2002 for the International North South Transportation Corridor project. This corridor is approximately 7,200 km. There is a long sea and land route, the means of transport include road, railway and sea route.
This corridor will reduce the time and cost of trade between Russia, India, Iran, Central Asia and Europe, thereby increasing trade activities which will be economically important. India is working on making the International North South Transportation Corridor parallel to the One Belt One Road policy.

Question.4 Write the reasons for increasing irrigation needs in India at present.

Answer-

At present the following are the reasons for increasing irrigation need in India-
1. To promote intensive agriculture and monocropping system.
2. To solve the problem of sudden drought.
3. To maintain continuous growth in agricultural production due to the pressure of increasing population.
4. For crop production and development of soil nature and pastureland in dry areas.
5. To mitigate the situation of uncertainty/irregularity of rainfall due to climate change.
6. To make new and hybrid seeds as well as crops requiring more water or irrigation fertile.

Question.5 "How is the Bangar Formation different from the Khadar Formation?" Mention.

Answer-

The basic differences between Bangar and Khadar are as follows-

Bangar structure	Khadar structure
➢ This is a highland made of old alluvial soil.	➢ This is a low region made of new alluvial soil.
➢ Bangar region is higher than the flood level, hence flood water does not spread here.	➢ Floods occur every year in Khadar region and a new layer of alluvium is laid down.
➢ There is abundance of calcareous assemblages 'Kankar' in Bangar.	➢ This is a region mainly made of clay soil.

➢ It is less useful for agriculture.	➢ Intensive agriculture is done here.
➢ In the plains of Punjab it is called 'Dhaya'.	➢ In the plains of Punjab it is called 'Bet'.

Question.6 Mention the importance of Himalayan passes for India.

Answer-

Passes are natural routes which are in the form of inaccessible and narrow paths between two or more mountains. They are formed due to erosion of rivers, changes in landforms due to earthquakes and natural disasters like volcanoes. There are many important passes in the Himalayas located in the north of India like Karakoram, Rohtang, Baralachala, Burjila, Zojila, Pir Panjal Pass etc. Importance of passes for India-

1. Work to connect two different mountain ranges.
2. Provide routes for foreign trade.
3. Provide space for animal-human migration.
4. Determine boundaries with neighboring countries.
5. Ensure access to military assistance during war.

Question.7 Name the barytes mineral producing areas in Rajasthan and write the industrial applications of barytes.

Answer-

The largest producer of barytes mineral, which contains barium sulphate, is the state of Andhra Pradesh in India, where about 90 percent of the baryte is obtained from Kurnool and Cuddapah districts. In Rajasthan too, barytes are produced from the following districts - Alwar (Rajgarh, Ladiya, Gujar, Balupura, Dahra, Dhenkala, Bhagtakwas, Umren, Mankheda, Burasindh, Jhadoli, Ringaspura, Sainpuri), Bundi (Umar), Sikar (Khadwa Binipur.) and Bharatpur (Hatherikorwa, Ghatoli).

Barytes mineral has the following industrial applications-

1. In making barium compounds.
2. In making high density concrete.
3. To contain gas while digging oil wells.
4. In making white pigment in industrial units.
5. To increase the shine and clarity of metal.

Question.8 Explaining the concept of disruption in monsoon, write the reasons for disruption in monsoon in India.

Answer-

During the south-west monsoon season, if there is no rain for a few days after it rains for a few days, then it is called monsoon break. These breaks occur in different areas due to various reasons, which are as follows:-

1. Monsoon breaks on the west coast occur due to humid winds blowing parallel to the coast.
2. Disruption of monsoon in Rajasthan occurs due to the inversion of temperature at lower levels of the atmosphere preventing the moist winds causing rain from rising up.
3. Monsoon breaks in the vast plains of Northern India due to reduction in the number of tropical cyclones and change in the position of the intertropical convergence zone.

Q.9 Mention the challenges/problems faced by agricultural development in the state.

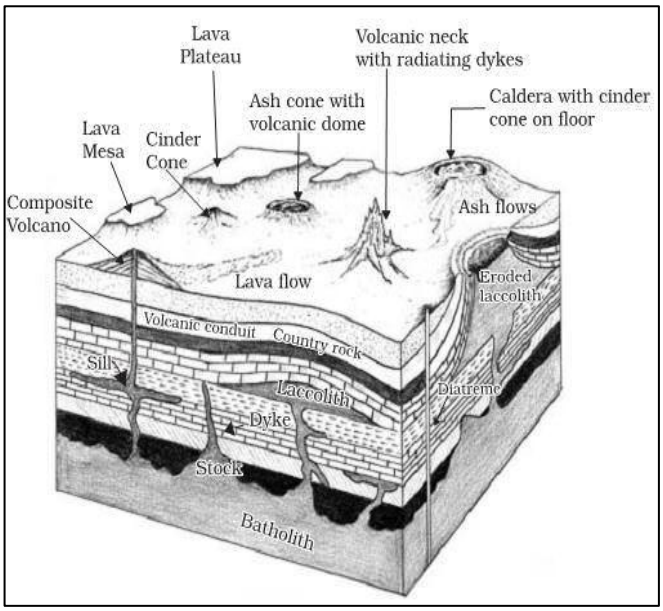
Answer-

The contribution of Rajasthan's agricultural production in India's agricultural production is less, due to which even at present Rajasthan's agriculture is suffering from many problems which are as follows-

1. Natural disasters or outbreaks - There are many natural problems facing the agriculture of Rajasthan which have an adverse effect on agriculture, which are as follows - lack of natural water sources, famine, soil erosion, problem of salt and water, low rainfall, mountainous areas, and predominance of desert area etc.
2. Economic reasons - The main reasons for Rajasthan's agricultural problems are economic, which are as follows - farmer poverty, backward production method, lack of irrigation, lack of transportation facilities, high prices of fertilizers and improved seeds and pesticides, less capital in agriculture. The main ones are lack of investment, agro-based industries, non-proper implementation of the agricultural policies prescribed in the plans, etc.
3. Social and administrative difficulties - The following social and administrative difficulties are hindering the agricultural development of the state - large families of farmers and small farms, illiteracy, excess of unproductive expenditure on social evils, sub-division and fragmentation of land, lack of proper implementation of agricultural policies, etc. are important.

Question.10 Describe pictorially the 'intrusive figures' created by volcanoes.

Answer-



In the volcanic process, when the lava cools down within the earth's crust, intrusive shapes are formed from the lava which are as follows - Batholith - If a large body of magma cools at a greater depth in the earth's crust, then it develops in the shape of a dome, which is called batholith. Lacolith- These are huge dome-shaped intrusive rocks whose bottom is flat and connected from below by a pipe-like conveying tube. Lapolith - If some part of the rising lava solidifies in the horizontal direction in the shape of a saucer, then it is called Lapolith. Phacolith- When lava solidifies in a wavy shape then that structure is called Phacolith. Sill or Sheet – When the intrusive igneous rock forms a structure in the form of a sheet in the horizontal plane, then it is called sheet. Dyke- When the flow of lava in the cracks is almost at right angles to the surface and if it cools in this state, it forms a structure like a wall. This structure is called dyke.

Question.11 Write short note on the traditional water conservation methods of Rajasthan.

Answer-

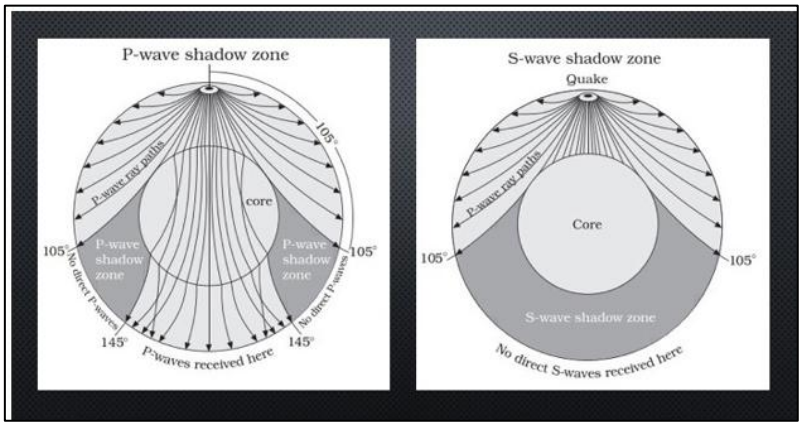
Due to the expansion of desert in large parts of Rajasthan and the situation of water scarcity, methods of water conservation were adopted in Rajasthan which are prevalent even today. The traditional methods of water conservation in the state are as follows-

Nadi- This is a pit about 3-12 meters deep, in which rain water collects. It is seen in Nagaur, Barmer, Jaisalmer, Jodhpur. Stepwell - There are stairs to reach the collected water which is used for drinking water, bathing and irrigation. Khadin- Infrastructure is constructed on sloping land by building a mud wall on both sides and a stone wall on the third side to stop the water. Tanka- This is a small underground lake in which the collected rain water is used for drinking water. Toba- This is a pit of greater depth and shaped like a nadi. To reduce evaporation its depth is increased. Jhalra- a rectangular trough with stairs on three sides, water from the upper lake and pond keeps seeping into it. Its water is used for religious rituals and mass bathing. Kui or Beri – It is a small well built near a pond in which water keeps seeping from the pond.

Question.12 Write note on primary wave shadow region and secondary wave shadow region.

Answer-

Areas of the Earth where no seismic waves are recorded are called seismic shadow areas. The shadow zone of one earthquake is completely different from the shadow zone of another earthquake. Seismographs record both 'P' and 'S' waves at any distance within 10° from the earthquake epicenter.



Seismographs record only the arrival of 'P' waves beyond 145° from the epicenter and do not record 'S' waves, i.e. the area between 105° to 145° is the shadow region for both types of waves. Beyond 105°, 'S' waves do not reach the entire area. The shadow region of 'S' waves is wider than the shadow region of 'P' waves. The shadow region of 'P' waves from 105° to 145° of the earthquake epicenter appears as a strip around the earth. The shadow area of 'S' waves is not only large in extent, but it also covers more than 40 percent of the earth's area.

Question.13 Explain the geographical distribution of tribes of Rajasthan.

Answer-

According to the 2011 census, the percentage of Scheduled Tribes population in the total population of Rajasthan (5.65 crore) is 13.5 percent (92.38 lakh), who are resident in various districts of the state. The geographical distribution of tribes in Rajasthan is uneven, that is, in some districts tribes reside in majority and in some districts they are in minority. The Bhil/Meena caste of Rajasthan resides in all the districts of Rajasthan, although the concentration of Meena caste is more in Jaipur, Sawai Madhopur, whereas

the concentration of Bhils is in Banswara, Dungarpur. Concentration of Garasia are in Sirohi, Udaipur and Pali, Shahabad tehsil in Baran district, concentration of Sansias in Simalwada Panchayat Samiti of Damor Dungarpur, concentration of Sansis in Bharatpur and concentration of Kanjar tribe in Kota, Baran, Jhalawar, Bhilwara and Ajmer.

Question.14 Write the steps to be taken to solve the problem of Sem caused by canal irrigation projects in the state.

Answer-

Sriganganagar, Hanumangarh and Bikaner districts of Rajasthan are most affected by the problem of sem. Following steps should be taken to solve this-

1. For drainage of water in marshy areas, deep drainage canals should be constructed according to the natural slope.
2. Canal repair, tree plantation, increase in irrigable area, drop and sprinkler irrigation methods should be adopted.
3. To improve the drainage system, bleaching, rock phosphate, gypsum, green manure and lime can be used.
4. Fruit industry, pastures and sevan grass areas should be developed in sem affected areas.
5. Piezometers should be installed for construction of drains and regular monitoring of water table.

Question.15 Explaining the characteristics of peaty soil, write the factors affecting soil formation.

Answer-

These soils are found in areas with heavy rainfall and high humidity, where vegetation grows well. Therefore, dead organic matter gets accumulated in large quantities in these areas, which provide humus and adequate amount of organic elements to the soil. There is deficiency of phosphate and potash in this soil, the amount of organic matter is 40 to 50 percent, the color is dark black. It extends to the northern part of Bihar, Almora of Uttarakhand, Alleppey district of Kerala, Sundarban Delta and other lower deltaic areas.

The factors affecting soil formation are as follows-

1. Parent rock – Color, texture, chemical, properties, minerals, quantity determine the permeability.
2. Climate- Affect the Temperature, rainfall, weathering and the rate of humus formation.
3. Relief- Altitude and slope determine the accumulation of soil.
4. Humus- Plants, animals and micro-organisms affect the rate of humus formation.
5. Time- determines the thickness of the soil profile.

Question.16 "The Himalayan river system is different from the Peninsular river system." Explain.

Answer- The Himalayan river system is different from the river system of the peninsular plateau on the following grounds:

Himalayan River System	Peninsular river system
➢ Rivers are longer and the catchment areas are quite large. ➢ The number of Himalayan rivers is high.	➢ Rivers are less long and catchment areas are relatively small. ➢ The number of rivers in the peninsular

➢ Originates from snow covered areas and receive water from rain and snow melting. Hence they flow throughout the year. ➢ Himalayan rivers have deep gorges, meanders and change course and form large deltas. ➢ Himalayan rivers are suitable for shipping and irrigation. ➢ Himalayan rivers are in their infancy and development.	plateau is less. ➢ The rivers of the peninsular plateau depend on rainfall and hence dry up in summer. ➢ The rivers of the peninsular plateau flow in shallow valleys, forming small deltas and estuaries. ➢ The rivers of the peninsular plateau are not suitable for shipping and irrigation. ➢ The rivers of the peninsular plateau are in advanced and mature stage.

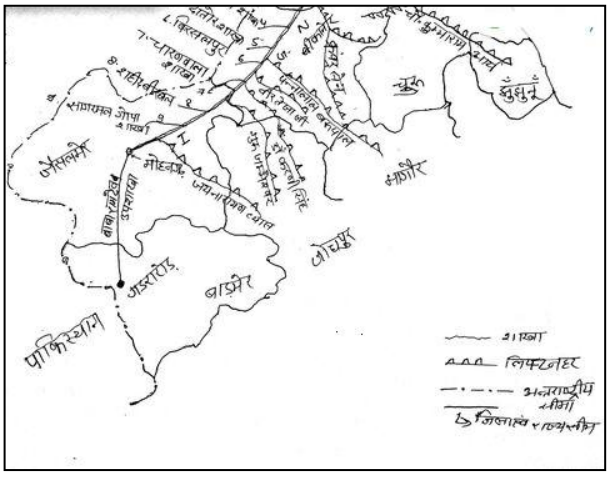
Part-C

Note: Answer the following questions in 100 words. Each question carries 10 marks.

Question.1 Naming the lift canals of Indira Gandhi Canal Project, write an article on the positive/advantages and negative/disadvantages caused by this project.

Answer-

The Indira Gandhi Canal originates from the Harike Barrage built at the confluence of the Sutlej-Beas rivers near Firozpur in Punjab. Its total length is 649 km. In which 204 km. long is feeder and 445 km. is a long main canal. Seven lift canals have been constructed on this canal project which are as follows-



1. Kolayat/Dr. Karnisingh Lift Canal- Jodhpur, Bikaner.
2. Phalodi/Guru Jambheshwar Lift Canal- Jodhpur, Bikaner, Jaisalmer.
3. Bikaner Lunkaransar/Kavarsen Lift Canal- Bikaner, Ganganagar.
4. Pokhran/Jai Narayan Vyas Lift Canal- Jaisalmer, Jodhpur.
5. Bangadsar/Veer Tejaji Lift Canal- Bikaner.
6. Gajner/Pannalal Barupal Lift Canal- Bikaner, Nagaur.
7. Nohar Sahaba/Chaudhary Kumbharai Arya Lift Canal- Hanumangarh, Churu, Bikaner, Jhunjhunu.

The following positive/benefits and negative/loss effects have arisen due to Indira Gandhi Canal Project:

Positive/advantages	Negative/disadvantages
➢ This has led to expansion of irrigated area even in the dry areas of the state. Agricultural production has increased due to irrigated areas. Availability of	➢ The problem of water logging has arisen due to leakage of canal water and excessive irrigation. ➢ The intensity of barrenness of land has

drinking water and water for industries has been ensured in this area. ➢ Tree plantation has been promoted and desert expansion has been stopped in the area of the canal project. Due to availability of water, pasture development and animal husbandry have increased. ➢ Due to availability of water the intensity of famine has reduced. ➢ There has been expansion of population settlement and settlements in the areas surrounding the canal project. ➢ Apart from this, there has been an increase in employment opportunities along with fisheries and power production, development of transport, industrial development and tourism development.	increased due to excessive irrigation causing the land to become saline and alkaline. ➢ The ecological change of this region has posed a threat to biodiversity. ➢ Due to moisture in the soil, various diseases spread. ➢ Single crop agriculture or production has been promoted. Income inequality among the farmers of the state has increased.

Question.2 Write short note on the major hydro power projects of Rajasthan.
Answer-

There is a lack of perennial rivers in Rajasthan, hence there are adverse conditions for hydro power production. Despite this, the requirements of hydro power in Rajasthan are being met from its own projects and the supply of electricity received from other states. Following are the hydro power projects of Rajasthan-

1. Chambal Project- This is a joint project of Madhya Pradesh and Rajasthan. Under this, there are four plants of 23 MW and one plant of 27 MW on Gandhi Sagar Dam, four plants of 43 MW each on Rana Pratap Sagar Dam and three units on Jawahar Sagar Dam, each with a capacity of 35 MW. Rajasthan gets 1.93 lakh kilowatt electricity from Chambal project.

2. Mahi Power Project- Rajasthan gets 140 MW electricity from the project established on the dam located on Mahi river in Banswara district.

3. Bhakra-Nagal Project- This is a joint project of Rajasthan, Punjab and Haryana, through which 227.32 MW electricity is provided to Rajasthan.

4. Vyas Project- This is a joint project of Rajasthan, Punjab and Haryana. Rajasthan receives 408.60 MW electricity.

5. Indira Gandhi Canal Project - This is mainly an irrigation project, but many hydro power plants have been established on it, it produces about 22 thousand kilowatts of electricity.

6. Narmada Valley Project- This is a joint project of Rajasthan and Madhya Pradesh, from this Rajasthan gets 100 MW electricity.

Apart from all these, other proposed hydro power projects in the state are Jakham Small Hydro Power Project, Rahughat Hydro Power Project and Anas Hydro Power Project.

Question.3 Describe the climatic regions of India according to Köppen's classification with map.

Answer-

Köppen has classified the climate considering temperature and precipitation as the basis of climate classification.

Types of climate	Characteristics of climate region	Expansion
Short dry season monsoon climate (Amw)	➢ Temperature difference is found to be less. ➢ Rainfall amount is more than 250cm. Rainfall occurs mainly in summer. ➢ The duration of the dry season is short and tropical evergreen vegetation is found.	Malabar and Konkan coast and south-western ghats of Goa.
Tropical Savanna Climate (Aw)	➢ Rainfall occurs mostly in summer. ➢ Summer is very hot and winter is very dry. ➢ Rainfall amount 75-150 cm. ➢ The temperature difference is relatively greater. ➢ Savanna type vegetation is found.	Most of peninsular India south of the Tropic of Cancer. Some parts of north-east India.
Dry-summer monsoon climate (As)	➢ Most of the rainfall comes from the north-eastern monsoon in the winter season. ➢ The amount of rainfall is very less in summer season. ➢ Temperature difference is found to be less.	Eastern Tamil Nadu and south-eastern parts of Andhra Pradesh.
Semi-arid Steppe Climate (BShw)	➢ Rainfall in summer is about 30-60 cm. ➢ The annual average temperature is more than 18°C. ➢ Steppe type vegetation is found, which is mainly in the form of thorny bushes and grass.	Rain shadow region of the Western Ghats. Central Rajasthan, West Punjab and Haryana.
Tropical climate (BWhw)	➢ The temperature remains high in summer. ➢ There is lack of natural vegetation here. ➢ Rainfall is very less i.e. less than 25 cm. ➢ Desert type vegetation is found.	Western rajasthan
Dry winter monsoon climate (Cwg)	➢ The temperature reaches 40°C in summer. ➢ Monsoon type vegetation is found. ➢ Rainfall is mainly in summer, winter is dry.	Plains of North India, Southern part of Haryana, Northern Gujarat.
Short summers and cool wet winters Climate (Dfc)	➢ Summer is short but rainy. ➢ Winter is colder. ➢ The temperature during the rainy season is less than 10°C for four months, but higher than the freezing point.	Arunachal Pradesh, Sikkim, Assam and eastern part of the Himalayas.
Tundra climate (Et)	➢ Precipitation occurs in the form of snow in winter.	Kashmir, Ladakh, higher parts of

	➢ The temperature remains below 10°C throughout the year.	Himachal Pradesh.
Polar climate (E)	➢ Remains covered with snow throughout the year. ➢ The temperature remains below 10°c. ➢ Precipitation falls in the form of snow.	In the higher altitude areas of the western and central parts of the Himalayas.

Question.4 Describing the major mineral belts of India, write the main provisions of the National Mineral Policy-2019.

Answer-

Minerals in India are mainly concentrated in three broad belts, although some mineral deposits are also found in isolated blocks here and there.

1. North-Eastern Plateau Region - This belt includes parts of Chhotanagpur (Jharkhand), Odisha Plateau, West Bengal and Chhattisgarh. Iron ore, coal, manganese, bauxite and mica etc. are found here.

2. South-Western Plateau Region – This belt extends over Karnataka, Goa and the contiguous Tamil Nadu highlands and Kerala. This belt is rich in iron metals, manganese and limestone, monazite, thorium and bauxite.

3. North-Western Region - This belt is spread over Aravalli in Rajasthan and some parts of Gujarat and the minerals here are associated with the rocks of Dharwad sequence. Major minerals found here are petroleum, dolomite, limestone, sandstone, granite, marble, gypsum, copper, zinc etc.

4. Himalayan Belt – This is another mineral belt where copper, lead, zinc, cobalt and colored gemstones are found. These are found in both the eastern and western parts of the Himalayas.

Main provisions of National Mineral Policy-2019-

1. A provision has been made to encourage merger and acquisition of institutions engaged in mining.

1. The policy proposes to give the status of 'Industry' to mining activity.

2. Focuses on the use of coastal waterways and inland shipping for the extraction and transportation of minerals.

3. Proposes to encourage 'dedicated mineral corridors' to facilitate mineral transportation.

5. Efforts have been made to maintain a database of mineral resources in the policy.

4. This policy calls for harmonizing taxes, charges and revenues with global standards to help the private sector.

Question.5 Write an article on the missions conducted under the 'National Action Plan' on climate change.

Answer-

The Government of India launched the National Action Plan on Climate Change on June 30, 2008. In this plan, an outline of eight national missions related to climate change was prepared which are as follows-

1. National Solar Mission- was started to increase the contribution of solar energy in the total energy. Under this, Jawaharlal Nehru National Solar Mission was started from January 2010. Its objective was to generate 20,000 MW of solar energy by the year 2022, which was increased to 100 gigawatt in 2015.

2. National Enhanced Energy Efficiency Mission – The Prime Minister's Council approved this mission in August 2009 for the implementation of energy saving measures. For this, four new initiatives (Demonstration and Trade Scheme, Energy Efficiency Financing Platform, Energy Efficient Economic Development and Market Transformation for Energy Efficiency) have been included.

3. National Sustainable Habitat Mission – was launched to make habitats sustainable through energy saving improvements in buildings, management of solid waste and adoption of public transport.

4. National Water Mission - was approved on April 6, 2011 to conserve water, reduce water wastage and ensure proper distribution of water. The Mission will follow the provisions of the National Water Policy and develop a framework for rationalizing water use by increasing water use savings by 20%.

5. National Mission for Sustainable Himalayan Ecosystem – This mission was approved on February 28, 2014 to develop management measures to maintain and protect the glacial and mountain ecology of the Himalayas.

6. National Green India Mission- National Green India Mission was launched on 20 February 2014 to enhance ecosystem services including carbon sinks. The plan aims to reduce "carbon emissions" by 2.5 billion tonnes by 2020-30.

7. National Sustainable Agriculture Mission – This mission was started in the year 2008 to make Indian agriculture more effective against climate change. New varieties of crops which will be heat resistant, weather resistant and drought tolerant.

8. National Climate Change Strategic Knowledge Mission – This Mission envisages to engage the global community to identify challenges and responses to climate change through research and technology development mechanisms including open source platforms.

Question.6 While writing the reasons for the dispute in the South China Sea, explain the importance of this region and also mention India's stand on the present South China Sea dispute.

Answer-

The South China Sea is a part of the western Pacific Ocean located in Southeast Asia, south and east of China, south of Vietnam, west of the Philippines, and north of the island of Borneo.

Reason for dispute in South China Sea - There has been a dispute for decades between many countries regarding the areas of South China Sea, which is about the rights and sovereignty over the maritime area. Since 1949, China has been claiming its rights over most of the South China Sea through the 'nine-dash line'. The 9 Dash Line passes through the official maritime zone of the South China Sea countries Philippines, Taiwan, Vietnam, Malaysia, Brunei, Indonesia and Singapore, which is a violation of the maritime sovereignty of these countries, hence it remains a cause of controversy. Since 2010, China is converting uninhabited islands into artificial islands (Haven Reef, Johnson South Reef, Ferry Cross Reef), which has opened new dimensions of dispute. At present, China's ambition has turned the South China Sea into a global dispute for the entire world by obstructing free maritime traffic.

Importance of South China Sea-

1. It is a connecting link between the Indian Ocean and the Pacific Ocean (Strait of Malacca), due to this connection, the strategic importance of this sea increases.
2. One-third of global shipping passes through the 'South China Sea', through which trade worth billions takes place. For this reason also, it is an important geopolitical water body.
3. There are abundant energy possibilities in the South China Sea. It is estimated that there are reserves of eleven billion barrels of oil and one hundred ninety million cubic feet of natural gas.

4. There are abundant possibilities of marine life in the South China Sea, hence its importance increases. Twelve percent of the world's fish catch is estimated to be in the South China Sea.
5. China is building its military bases in the South China Sea, from where China will establish its control in the Indian Ocean and the Pacific Ocean with the help of its military power.
India's stand - India supports the policy of non-intervention in the South China Sea, but China's actions in the South China Sea region may impact India's commercial and strategic interests. However, in recent years, India has intensified its efforts to strengthen its relations with the countries of East Asia under its Act East policy. Under this initiative, India has paid special attention to increasing cooperation in various fields with many countries in the region.

Question.7 Write short article on the following points.

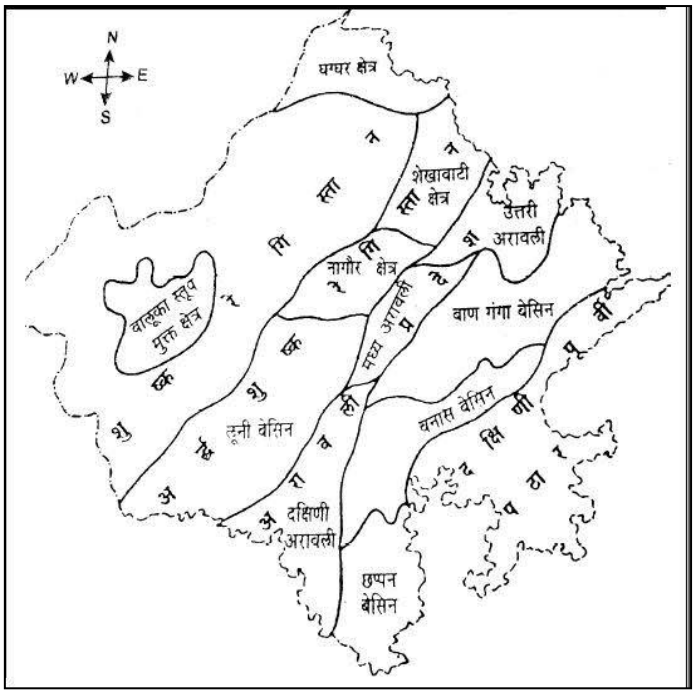
Answer-

1. Rajasthan Forest Policy 2023

Rajasthan Forest Policy 2023 has been released on June 5, 2023 which has replaced the Rajasthan State Forest Policy-2010. The vision of this policy is to increase the vegetation cover to 20 percent of the geographical area of the state in the next 20 years.

Objective: The policy aims to encourage forest restoration and rehabilitation measures to contribute to economic and social well-being by enhancing the productive capacity of forests for the flow of ecosystem services and to increase vegetation cover in urban and rural areas outside the existing forest areas. To increase the forest/tree cover in the state by encouraging and expanding it and encouraging community participation. Apart from this, desertification is also to be prevented through contemporary scientific and technological knowledge.

2. Rajasthan Bangar or semi-arid plains



Rajasthan Bangar or semi-arid plain is situated to the east of the dry sandy plain and to the west of the Aravali mountain region. This field is 25 cm.-50 cm from the parallel rainfall line. This entire region is divided into the following four parts.

1. Godwad region/Luni Jawai plain – Formed by Luni and its tributaries. The drainage area of Luni river includes Jalore, Jodhpur, Pali and Sirohi. The entire drainage system of Luni River forms an alluvial plain, which is known as Luni Basin. The major artificial lakes of Luni Basin are Jaswant Sagar, Hemawas, Nayagaon and Sharda.

2. Nagauri highland - The highland situated to the north of Luni river whose northern boundary forms the internal water flow region of Shekhawati. This region holds

its special place due to its salt-rich topography, ancient rocks and undulating surface. Due to abundance of salt in the soil of this region, this region is sandy and barren.

3. Internal Water Flow State or Shekhawati State – Sikar, Churu, Jhunjhunu and some parts of North Nagaur come under this part of the state. The northern border of this region is the Ghaggar plain, the eastern border is the Aravalli mountain range and the western border is divided by the isobar line 25 cm. Sand stupas of medium and low height are found in this region, which are mostly Barkhan type. Internal water flowing rivers like Rupangarh, Khari, Mentha, Khandela etc. are found in this region.

4. Ghagghar plain - Ghagghar (drain) plain is spread in Sriganganagar and Hanumagarh, which is formed from the alluvial soil brought by the Ghagghar river. The bed of Ghaggar is called 'Naali' in the local language, which extends to Pakistan via Hanumangarh, Suratgarh, Anupgarh in Rajasthan. This entire plain is made of black clayey soil which is quite fertile where mainly rice, wheat, sugarcane, gram, barley and vegetables are grown.

हिन्दी व्याकरण- पारिभाषिक शब्दावली, निविदा

1. पारिभाषिक शब्दावली **अंक - 10**

(i) Appellate – अपील अधिकारी
(ii) Custodian – अभिरक्षक
(iii) Legal Adviser – विधि सलाहकार
(iv) Tribunal – अधिकरण
(v) Witness – साक्षी, गवाही
(vi) Ultravires – शक्ति बाह्य
(vii) Rejoinder – प्रत्युत्तर
(viii) Misuse – दुरूपयोग
(ix) Permanency – स्थायित्व
(x) Inconsistent – असंगत

2. प्राचार्य राजकीय महाविद्यालय अजमेर की ओर से महाविद्यालय परिसर में सभागार निर्माण कार्य हेतु निविदा का प्रारूप तैयार कीजिए। अंक- 10

राजस्थान सरकार

कार्यालय, प्राचार्य, राजकीय महाविद्यालय, अजमेर राज.)।

क्र.पं. 3 (2)/रा.म.अ./विविध (2023)

दिनांक : 02 दिसम्बर, 2023

निविदा सूचना संख्या - 11/2023

इस कार्यालय द्वारा महाविद्यालय परिसर में निम्न कार्य हेतु निविदादाताओं से मोहरबंद निविदाएँ आमंत्रित की जाती है। विवरण इस प्रकार है:

कार्य का नाम	**बैठक क्षमता**	**अनुमानित लागत**	**धरोहर राशि**	**कार्य पूर्ण करने की अवधि**
सभागार निर्माण (200 'X 100") मय फर्नीचर	500 व्यक्ति	20,00,000/-	4,00,000/- रू.	एक वर्ष

निविदा प्रपत्र, शुल्क रू. 1000/- लेखा शाखा में जमाकर, दिनांक 02 दिसम्बर, 2023 से कार्यालय समय में प्राप्त किए जा सकते है। भरे हुए निविदा प्रपत्र मय धरोहर राशि लेखा शाखा में दिनांक 10, दिसम्बर, 2023 तक अपरान्ह 3 बजे तक जमा करवाए जा सकते हैं। निविदाएँ, समस्त निविदादाताओं के समक्ष केन्द्रीय सभागार में दिनांक 10 दिसम्बर, 2023 को सायं 5 बजे खोली जाएंगी।

शर्तें :

1. किसी भी निविदा को पूर्ण/आंशिक रूप से स्वीकारने/अस्वीकारने का पूर्णाधिकार अधोलिखित, अधिकारी का होगा।
2. किसी भी विवाद की स्थिति में न्याय क्षेत्र जि. अजमेर होगा।
3. विस्तृत विवरण व शर्तें निविदा प्रपत्र में अंकित है।

प्राचार्य

राजकीय महाविद्यालय, अजमेर

English Grammer – Paragraph Writing, Phrasal Verbs & Idioms

(A) Rewrite choosing the appropriate expression to form a meaningful sentence: (1-10) Marks 10

1. The meeting was put by/put off for Sunday.

Ans. The meeting was put off for Sunday.

2. We must root out/rule out corruption.

Ans. We must root out corruption.

3. The chief guest gave away/gave up the prizes.

Ans. The chief guest gave away the prizes.

4. Do you look on/look out him as a gentleman?

Ans. Do you look on him as a gentleman?

5. She is running down/putting up weight these days.

Ans. She is putting up weight these days.

6. "Apple of discord" means cause of quarrel/a hypocrite.

Ans. Cause of quarrel.

7. "At one's beck and call" means to show that one is ready to discuss peace-making/at one's service.

Ans. At one's service.

8. "Gift of the gab" means talent for speech/an honour or compliment.

Ans. Talent for speech.

9. ''To bury the hatchet'' means to discourage/to settle a quarrel.

Ans. To settle a quarrel.

10. "A windfall" means an unexpected piece of good fortune/a sudden great and important change, improvement or development.

Ans. An unexpected piece of good fortune.

(B) Write a paragraph on any one of the following in approximately 200 words. Marks 10
(1) Rajasthan Vision 2030 (2) Health Tourism in Rajasthan

(1) Rajasthan Vision 2030

Rajasthan Vision 2030 outlines a comprehensive roadmap for the sustainable development of the north-western Indian state, encapsulating a vision for the year 2030. Spearheaded by the government, this ambitious initiative seeks to propel Rajasthan into a vibrant and progressive entity across various sectors. The vision encompasses economic growth, social development, and environmental sustainability, aiming to create a holistic framework for the state's advancement. Emphasizing infrastructure development, the plan envisions modernized urban centres, efficient transportation networks, and robust connectivity to bolster economic activities. In the realm of social welfare, Rajasthan Vision 2030 underscores the importance of education, healthcare, and skill development, striving to uplift the standard of living for all residents. The plan also recognizes the significance of sustainable environmental practices, advocating for the preservation of natural resources and the adoption of eco-friendly technologies. By fostering innovation and entrepreneurship, the vision aspires to position Rajasthan as a hub for industry and commerce, generating employment opportunities and fostering inclusive growth. With a commitment to good governance and citizen participation, Rajasthan Vision 2030 sets a dynamic course for the state's future, aiming to transform it into a beacon of prosperity and well-being by the year 2030.

(2) Health Tourism in Rajasthan

Health tourism in Rajasthan has emerged as a significant facet of the state's tourism landscape, drawing visitors seeking holistic well-being amidst a backdrop of cultural splendor. Rajasthan not only boasts historical marvels but also houses renowned wellness retreats, spas, and Ayurvedic centers that attract health-conscious travelers. Cities like Jaipur, Jodhpur, and Udaipur offer a range of wellness services, from traditional Ayurvedic treatments to modern spa therapies, set against the serene and regal ambiance of the state. The practice of yoga and meditation, deeply rooted in Rajasthan's cultural heritage, has gained prominence, with many wellness centers offering personalized programs to rejuvenate the body and mind. The state's favorable climate, coupled with its picturesque surroundings, contributes to the therapeutic allure of health tourism in Rajasthan. Visitors can experience not only the physical rejuvenation but also immerse themselves in the cultural and historical tapestry of the region, creating a unique blend of relaxation and exploration. With a focus on promoting well-being, health tourism in Rajasthan not only taps into the global wellness trend but also leverages the state's inherent charm to provide a holistic and enriching experience for those seeking a rejuvenating escape.