Fact Sheet Prep Series Part - 13

ANSWER KEY WITH EXPLANATION

GEOGRAPHY & ENV.

(PART - III)

1 Ans. c

Explan - High volume of water so that velocity and discharge may be sufficiently high, relatively narrow valley so that water may not spread in the otherwise wide and flat valley's, low sediment so that the river may resort to active erosion, soft rock etc are some of the factors that favour the river capturing process. It is a natural process and does not take place in all conditions.

2. Ans. a

Extra Information - The waves rush across the ocean and increase their momentum over a stretch of thousands of kilometers. They are shallow water waves different from the wind. Generated waves which usually have a period of five to twenty seconds which refers to the time between two succession waves of about 100 to 200 metres.

3. Ans. d

Extra Information - On the basis of period of origin Precambrian mountains belongs to the geological time prior to the Cambrian period, a period that extended for more than 4000 million years. Caledonian mountains originated due to the great mountain building movements and associated tectonic movements of the late Silurian and early Devonian period. Hercynian Mountains originated during the Upper Carboniferous to Permian period which consists of the Paleocene, Eocene, Oligocene, Miocene and Pliocene epochs.

4. Ans. d

Extra Information - On the basis of frequency of eruption, there are active, dormant and extinct or ancient volcanoes. The volcanoes which erupt fairly frequently as compared to others are called active. The dormant volcanoes are those in which eruption has not occurred regularly recently. These volcanoes undergo long intervals of repose during which all external sings of activity cease. Those volcanoes in which no eruption has been recorded in historic times are said to be extinct. Before a volcano becomes extinct, it passes through a winning stage during which steam and other hot gases and vapors are exhaled. These are known as fumaroles or solfataras.

5. Ans. c

Explan - In the mid- latitude high speed winds known as jet streams blow from west to east in the upper troposphere near the tropopause. They are narrow meandering bands of swift wind which are embedded in the prevailing westerlies and encircle the globe. Average wind speed is very high with a lower limit of about 120 kilometers per hour in winter and 50 km per hour in summer. There are two main jet streams: they are sub-tropical jet streams and the mid-latitude or polar front jet stream.

6. Ans. a

Related Information - This 2736 km long watershed runs from Kanniyakumari through the Western Ghats, the Ajanta, the Maikala, the Vindhayas and the Aravalis ranges to the Shiwalik hills near Haridwar. Bay of Bengal consists of a large number of rivers like the Ganga, the Brahmaputra, the Mahanadi, the Godavari, the Krishna, the Cauvery, the Penneru, the Penneiyar, the Vaigai, etc. The Arabian Sea drainage spreads over 23 per cent of the country's surface flow area which commands river basins like the Indus, the Narmada, the Tapi, the Sabarmati, the Mahi and the large number of swift flowing western coast rivers descending from the Sahyadris.

7. Ans. d

Related Information - Countries having a common border with India are Afghanistan and Pakistan to the north-west, China, Bhutan and Nepal to the north,

Myanmar to the Far East and Bangladesh to the east. Sri Lanka is separated from India by a narrow channel of sea formed by the Palk Strait and the Gulf of Mannar. The country can be divided into six zones mainly North, South, East, West, and Central and Northeast zone.

8. Ans. d

Explan - The place of origin of an earthquake inside the earth's called its focus and the point on the earth's surface vertically above the focus is called epicenter. On the earth's surface, the maximum damage is caused at the epicenter. The chief cause of the earthquake shocks is the sudden slipping of rock formation along faults and fractures in the earth's crust. This happens due to constant change in volume and density of rocks due to intense temperature and pressure in the earth's interior.

9. Ans. d

Explan - Hurricanes are giant, spiraling tropical storms that can pack wind speeds of over 160 miles (257 kilometers) an hour and unleash more than 2.4 trillion gallons (9 trillion liters) of rain a day. Hurricanes begin as tropical disturbances in warm ocean waters with surface temperatures of at least 80 degrees Fahrenheit (26.5 degrees Celsius). These low pressure systems are fed by energy from the warm seas. If a storm achieves wind speeds of 38 miles (61 kilometers) an hour, it becomes known as a tropical depression. A tropical depression becomes a tropical storm, and is given a name, when its sustained wind speeds top 39 miles (63 kilometers) an hour. When a storm's sustained wind speeds reach 74 miles (119 kilometers) an hour it becomes a hurricane and earns a category rating of 1 to 5 on the Saffir-Simpson scale. Hurricanes are enormous heat engines that generate energy on a staggering scale. They draw heat from warm, moist ocean air and release it through condensation of water vapor in thunderstorms.

10. Ans. c

Explan - Convection rainfall is what happens when the sun heats a water source to the point that water turns into vapor and rises. Rain and other forms of precipitation fall from the clouds. When warm air passes over a body of water, it causes the water to evaporate. Once the water rises high enough, it clumps with other water vapor and becomes a cloud. The air cannot hold an infinite quantity of water, so when the amount of water present in the cloud exceeds the air's ability to hold it, the water falls in droplets as rain. On earth, water flows in a constant cycle and none is ever truly lost. The water that falls out of the clouds as rain and strikes the earth flows downhill until it reaches an ocean or lake. Warm air moving over the water will absorb the water, carrying it high into the atmosphere. Because some forms of pollution bond with water, the pollutants can end up in the clouds where it will eventually rain down as polluted water. This can exacerbate the problem of pollution as the rain spreads it to a large area.

Not all clouds are the same, and some types are more likely to produce rain than others. Usually, clouds that produce rain have the term "nimbus" in their name, such as cumulonimbus clouds, which produce thunderstorms.

11. Ans. a

Explan - The Greater Himalaya (The Himadri) is the most continuous loftiest and northern most range of Himalayas. It has a core of Archaean granites, gneisses and schist's rocks. This range contains one of the highest mountain peaks of the world. The Trans Himalaya is also called the Tibetan Himalaya. This range consisting of mainly Karakoram, Ladakh and Kailash range. The outer Himalayas (Shiwalik) is almost continuous range of low hills, composed of unconsolidated tertiary sediments emerged as most recent phase in Himalaya orogeny. The lesser Himalayas (The Himachal) generally consist of unfossiferous sediments or metamorphosed crystalline. Important range include the Dhauladhar, Pirpanjal, Nag Tiba, Mahabharat and Mussoorie range.

12. Ans. b

Explan - Inland water resources of India are classified as rivers, canals, reservoirs, tanks and ponds, beels, oxbows, lakes, derelict water and brackish water, and they cover an area of 7 mha excluding rivers and canals. Uttar Pradesh has the highest total length of rivers and canals, followed by Jammu & Kashmir and Madhya Pradesh. The total length of navigable waterways in the country is estimated to be 15 783 km, and 83 percent of this is in 10 important rivers of the country. Most tanks and ponds (2.3 mha) are present in the southern states of Andhra Pradesh, Karnataka and Tamil Nadu. The states Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Orissa, Maharashtra, Rajasthan and Uttar Pradesh account for large reservoirs with a total water surface area of 2.1 mha. Most of the lakes, beels and derelict water bodies lie in the states of Kerala and Tamil Nadu, whereas Orissa, West Bengal and Kerala have the largest areas of brackish water. Overall, the inland water resources are unevenly distributed in the country, and five states, i.e. Orissa, Tamil Nadu, Andhra Pradesh, Karnataka and West Bengal, account for more than 50 percent of the inland waterbodies.

13. Ans. d

Related Information - Red Soils are derived from weathering of ancient metamorphic rocks of Deccan Plateau. Its redness is due to iron composition. When iron content is lower it is yellow or brown. They cover almost the whole of Tamil Nadu, Andhra Pradesh, Chhattisgarh, Karnataka, Maharashtra and parts of

Orissa.

14. Ans. d

Explan - Mid-latitude cyclones are the result of the dynamic interaction of warm tropical and cold polar air masses at the polar front. This interaction causes the warm air to be cyclonically lifted vertically into the atmosphere where it combines with colder upper atmosphere air. This process also helps to transport excess energy from the lower latitudes to the higher latitudes. This process also helps to transport excess energy from the lower latitudes to the higher latitudes. The mid-latitude cyclone is rarely motionless and commonly travels about 1200 kilometers in one day. Its direction of movement is generally eastward. Precise movement of this weather system is controlled by the orientation of the polar jet stream in the upper troposphere. An estimate of future movement of the mid-latitude cyclone can be determined by the winds directly behind the cold front. If the winds are 70 kilometers per hour, the cyclone can be projected to continue its movement along the ground surface at this velocity.

15. Ans. d

Explan - The Yucatán Channel or Straits of Yucatán is a strait between Mexico and Cuba. It connects the Yucatán Basin of the Caribbean Sea with the Gulf of Mexico. It is just over 200 kilometres (120 mi) wide and nearly 2,800 metres (9,200 ft) deep at its deepest point near the coast of Cuba. The Straits of Florida, Florida Straits, or Strait of Havami is a strait located south-southeast of the North American mainland, generally accepted to be between the Gulf of Mexico and the Atlantic Ocean, and between the Florida Keys and Cuba. The strait carries the Florida Current, and the beginning of the Gulf Stream, from the Gulf of Mexico. Windward Passage, strait in the West Indies, connecting the Atlantic Ocean with the Caribbean Sea. It is 50 miles (80 km) wide and separates Cuba (west) from Hispaniola (southeast). It has a threshold depth of 5,500 feet (1,700 m) and is on the direct shipping route between the east coast of the United States and the Panama Canal. The Jamaica Channel, between Jamaica (west) and Hispaniola (east), forms a southwest extension of the Windward Passage.

16. Ans. d

Explan - River Vamsadhara (also called Bansadhara in Odisha) is an important east flowing river between Mahanadi and Godavari, in Southern Odisha and North Eastern Andhra Pradesh states in India.

The river originates in the border of Thuamul Rampur in the Kalahandi district and Kalyansinghpur in Rayagada district of Odisha and runs for a distance of about 254 kilometers, where it joins the Bay of Bengal at Kalingapatnam, Andhra Pradesh. The total catchement area of the river basin is about 10,830 square kilometers.

Tourist attractions of Mukhalingam and Kalingapatnam in Srikakulam district are located on the banks of this river. The Kali River or Kalinadi is a river flowing through Karwar, Uttara Kannada district of Karnataka state in India.The river rises near Diggi, a small village in Uttar Kannada district. The river is the lifeline to some 4 lakh people in the Uttara Kannada district and supports the livelihoods of tens of thousands of people including fishermen on the coast of Karwar. There are many dams built across this river for the generation of electricity. One of the important dams build across Kali River is the Supa Dam at Ganeshgudi. The river runs 184 kilometers before joining Arabian Sea. Sharavathi is a river which originates and flows entirely within the state of Karnataka in India. It is one of the few westward flowing rivers of India and a major part of the river basin lies in the Western Ghats. The famous Jog Falls are formed by this river. The river itself and the region around it are rich in biodiversity and are home to many rare species of flora and fauna.

The river Sharavathi originates at a place called Ambutheertha in the Thirthahalli taluk of Shimoga district. The Bharathapuzha River is the second longest West Flowing River that drains into the Arabian Sea in Kerala State. This basin is bounded in the East by the Cauvery basin, in the West by the Arabian Sea. Its drainage area is 6,186 sq. km spread over the two states namely Tamil Nadu and Kerala. The basin is elongated in shape and finds its outlet into the Arabian Sea. The Bharathapuzha or Ponnani river as it is called in the lower reaches, rises in the Eastern slopes of Anamalai hills of the Western Ghats at an elevation of 2,250 m above MSL and flows in the North-Westerly direction in Pollachi taluk of Coimbatore district in Tamil Nadu State.

17. Ans. c

Explan - Tidal or Mangrove Forests: These forests grow along the coast and on the edges of the deltas, e.g. the deltas of the Ganga, Mahanadi, Godavari, Krishna and Kaveri. Tides play an important role in formation of mud and silt along these coastal mangrove forests. They are called 'Tidal Forests' because their dense growth depends upon tidal water which submerges the deltaic lands during high tides. In West Bengal these forests are known as 'Sundarbans'. The 'sundri' is most significant tree in these forests. The other notable trees of these forests are hogla, garan, gewa, golpata, pasur, etc. These forests supply timber and fire wood palm and coconut trees adorn the coastal strip.

18. Ans. a

Extra Information - Dolomite is not as suitable as limestone because of its restricted solubility. Chalk is relatively unsuitable because of its softness and unlithified nature. Rainfall becomes carbonate by absorbing atmospheric CO2. Moreover, rainfall encourages growth of plants whose decomposition is an additional source of CO2 to the flowing water. In dry areas the development of karst landscape is inhibited.

19. Ans. d

Related Information - South of the Nilgiri lies the Palghat Gap, which facilities easy communication between Kerala and the interior of India. The Anaimalai Range runs south of the Palght Gap. Its highest peak Anaimudi (2695 m) is also the highest in South India. The Anaimalai throws off two branches viz. the Palni Range in the north-east and the Cardamom or the Elumalai Range in the south. Eastern Ghats are not as continuous as Western Ghats and are much fragmented by river valleys.

20. Ans. d

Explan - Sedimentary rocks make up about 80% of the rocks exposed at the Earth's surface. The layer of sedimentary rocks is relatively thin (especially compared with the average thickness of the continental lithosphere) although there is good evidence that several tens of thousands of feet of sediment can accumulate in a basin.

Sedimentary rocks are layered - stratified. If the individual units are greater than 1 cm thick they are called beds; units less than 1 cm are laminae. Each depositional unit represents the accumulation of material under conditions in which accumulation was greater than erosion. The north-western part of the plateau is made up of lava flows or igneous rocks known as the Deccan Traps. The rocks are spread over the whole of Maharashtra and parts of Gujarat and Madhya Pradesh, thereby making it one of the largest volcanic provinces in the world. India alone accounts for 10% of the global coal resources at over 101 billion tons (thermal & coking) of proven reserves, placing her at the third position globally behind the USA and China.

- At the current rate of consumption it is estimated that it will take more than 200 years to consume the available coal reserves.
- 83% of the existing coal reserves in India belong to the Non-coking category (grades E, F, G) which is consumed mainly for Power, cement and fertiliser production.
- India has a total reserve of lignite of 38.76 billion tons, almost 80% of which is found in Neyveli, Tamil Nadu.

21. Ans. c

Explan - Prevailing Westerlies are the winds in the middle latitudes between 35 and 65 degrees latitude. They tend to blow from the high pressure area in the horse latitudes towards the poles. These prevailing winds blow from the west to the east steering extra-tropical cyclones in this general manner. Tropical cyclones which cross the subtropical ridge axis into the Westerlies recurve due to the increased westerly flow. The winds are predominantly from the southwest in the Northern Hemisphere and from the northwest in the Southern Hemisphere. Westerlies are generally strongest in the winter hemisphere and at times when the pressure is lower over the poles. Furthermore, they are weakest in the summer hemisphere and when pressures are higher over the poles. Westerlies are particularly strong, especially in the southern hemisphere, where there is less land in the middle latitudes to cause the flow pattern to amplify or become more north-south oriented. This creates frictional or drag in the motion which ultimately slows the Westerlies down. The strongest westerly winds in the middle latitudes can come in the Roaring Forties which are between 40 and 50 degrees latitude. The Westerlies play an important role in carrying the warm, equatorial waters and winds to the western coasts of continents, especially in the southern hemisphere because of its vast oceanic expanse. Geography and Climate of the Southern Hemisphere in comparison to the Northern Hemisphere, the Southern Hemisphere has fewer land masses and more water. The South Pacific, South Atlantic, Indian Oceans and various seas such as the Tasman Sea between Australia and New Zealand and the Weddell Sea near Antarctica make up around 80.9% of the Southern Hemisphere. Land comprises only 19.1%. In the Northern Hemisphere, the majority of area is composed of land masses instead of water.

The continents making up the Southern Hemisphere include all of Antarctica, around 1/3 of Africa, most of South America and nearly all of Australia. Because of the large presence of water in the Southern Hemisphere, climate in the Earth's southern half is more mild overall than the Northern Hemisphere. In general, water heats and cools more slowly than land so water near any land area usually has a moderating effect on the land's climate. Since water surrounds land in much of the Southern Hemisphere, more of it is moderated than in the Northern Hemisphere.

22. Ans. c

Explan - Nallamala Hills, also known as the Nallamalla Range, is part of the Eastern Ghats. It spreads over the districts of Guntur, Kadapa, Kurnool, Prakasam and Mahabubnagar. The highest peak of the Nallamala Hills is the 2,835 ft high Sikhareswaram. The Chenchu tribe is the main settlement of the Nallamala Hills. The Nagarjunasagar Srisailam Sanctuary is situated near the hills. Radial Pattern: It is a pattern characterised by out

flowing rivers, away from a central point, analogous with the spokes of a wheel. It tends to develop on the flanks of a dome or a volcanic cone. A good example of a radial drainage pattern is provided by the rivers originating from the Amarkantak Mountain. Rivers like Narmada, Son and Mahanadi originating from Amarkantak Hills flow in different directions and are good examples of radial pattern. Radial drainage patterns are also found/in the Girnar Hills (Kathiwar, Gujarat), and Mikir Hills of Assam.

23. Ans. c

Extra Information - Ratooning (from Spanish retoño, "sprout") is a method of harvesting a crop which leaves the roots and the lower parts of the plant uncut to give the ratoon or the stubble crop. The main benefit of ratooning is that the crop matures earlier in the season. Ratooning can also decrease the cost of preparing the field and planting.

This method cannot be used endlessly as the yield of the ratoon crop decreases after each cycle. Ratooning is most often used with crops which are known to give a steady yield for three years under most conditions.

Specific applications

In sugarcane cultivation, ratooning leads to thinner canes with low sugar content. There is also an increased risk of pests and disease. Procedure - In this method during the first harvest the part of the sugarcane plant which is sweet enough (mainly the upper part) is cut and the bottom bit is left which has buds (nodes) from which new shoots or ratoons grow. The disadvantage is that the second or third successive crop may not be disease resistant. Therefore after 2–3 years new sets are planted.

Rice is grown as a monocarpic annual plant. However, in tropical areas it can survive as a perennial, produce a ratoon crop, and survive for up to 30 years.

24. Ans. d

Extra Information - The Planning Commission has categorised 15 agro-climatic zones in India, taking into account the physical attributes and socio-economic conditions prevailing in the regions

25. Ans. a

Explan - Bailadila range of mines is perched on the southern tip of Chhattisgarh in Dantewada District. The range comprises of 14 iron ore deposits rising to a height of 1260 metres above mean sea level.

"Bailadila" range of hills derive its name from the shape of hills. As the hills of the range look like 'the hump of an ox' it's named so by the native inhabitants of this place.

The association of very rich and extensive iron ores with hematite quartzite in the Bailadila range has first been made known to the world between 1898-1900 by Mr. P. N. Bose who was the first to do geological mapping of this region. A systematic geological mapping was done later between 1932-38 through which 14 iron ore bearing hills have been chalked out from the range. In view of the urgency of assessment of the mineral potentialities of this region, a separate cirlce of GSI was formed in December, 1958, and in the same year IBM was assigned the job of detailed proving of some of these deposits.

26. Ans. a

Explan - It is generally accepted that the Mediterranean climate occurs in southern and south-western Australia, central Chile, coastal California, and the Western Cape of South Africa and around the Mediterranean Basin. The largest area with a Mediterranean climate is the Mediterranean Basin, which has given the climate its name, although stretches of the Mediterranean coast (in Egypt, Libya and part of Tunisia) are too dry to be thus classified. More than half of the total Mediterranean-climate regions on earth occur on the Mediterranean Sea.

Mediterranean-climate regions are found, roughly speaking, between 31 and 40 degrees latitude north and south of the equator, on the western side of continents. Yet they can extend eastwards for thousands of kilometers into arid regions if not arrested by mountains or confronted with moist climates, such as the summer rainfall that occurs in certain regions of Australia and South Africa. The most extended penetration goes from the Mediterranean Basin up into western Pakistan and into some areas of Turkmenistan and Uzbekistan (the source of many of our cherished bulbous plants). In winter, periods of rain alternate with warm, sunny days.

27. Ans. c

Extra Information - Hot Deserts of the World.

The main form of precipitation in a hot desert is rain. But that's only ten inches or less of rain per year.

28. Ans. d

Explan - The Nalsarovar Bird Sanctuary in Ahmadabad is indeed a coveted locale for the bird enthusiasts from every corner of the country as well as from foreign turfs. Situated at a distance of approximate 54 kilometers from Ahmadabad, the Nalsarovar Bird Sanctuary in Ahmadabad experiences extreme fluctuations in the temperature around the year. A must-visit destination for bird lovers, the Ranganathittu Bird sanctuary is located two kilometres from Srirangapatinam, on the banks of the river Kaveri. Established under the campaign of noted ornithologist Dr. Salim Ali, the six islets along its crocodile-infested backwaters are a haven for avian flocks. It is a breeding ground for little cormorants, white ibis, darters, storks and other exotic and migratory birds.

Sultanpur Bird Sanctuary is a popular weekend getaway from New Delhi, Gurgaon, Faridabad & Noida, Sultanpur Bird Sanctuary has been declared as National park by Haryana Government. This Bird Sanctuary, ideal for birding and bird watchers, is best visited in winters when a large number of migratory birds come here. Chandraprabha sanctuary is situated to the Southeast of

Varanasi. Though one of India's lesser-known sanctuaries, Chandraprabha is endowed with beautiful picnic spots, dense forests, and scenic waterfalls like Rajdari and Devdari that attract a large number of tourists. The Chandraprabha sanctuary was established in May 1957. Asiatic lions were introduced at Chandraprabha in 1958.

29. Ans. d

Explan - These towns have their own identity but are under the influence and power of the major body i.e. the main town or the city. They have all the necessary amenities and facilities present within their limits except for a few purposes like employment and sometimes education, they have to depend on the main city i.e. the parent city. Zoning regulations are not an issue in the development of satellite townships. These townships never become a rival to their parent city because their size and development is restricted and controlled. Sometimes, satellite townships are considered as a part of the market for some goods and services that are produced in the parent city.

30. Ans. a

Explan - The endogenetic forces and movements are divided, on the basis of intensity, into two major categories: a) Sudden forces, b) Diastrophic forces.

Sudden forces are the result of long period preparation deep within the earth. Only their cumulative effects on the earth's surface are quick and sudden. Geologically, these sudden forces are termed as 'constructive forces' because these create certain relief features on the earth's surface. Diastrophic forces include both vertical and horizontal movements which are caused due to forces deep within the earth. These forces also termed as constructive forces, affect larger areas of the globe and produce meso-level reliefs, for example, mountains, plateau, plains, lakes, big faults, etc. They include: (i) Orogenic processes involving mountain building through severe folding and affecting long and narrow belts of the earth's crust; (ii) epeirogenic processes involving uplift or warping of large parts of the earth's crust (iii) earthquakes involving local relatively minor movements; (iv) plate tectonics involving horizontal movements of crustal plates.

31. Ans. a

Explan - The Bishnois, a Vaishnavite sect, living in western Rajasthan on the fringe of the Thar Desert, have for centuries, been conserving the flora and fauna to the extent of sacrificing their lives to protect the environment. For these nature-loving people, protection of the environment, wildlife, and plants is a part and parcel of their sacred traditions. The basic philosophy of this religion is that all living things have a right to survive and share all resources.

32. Ans. d

Related Information - Coral reefs are the most diverse of all marine ecosystems. They teem with life, with perhaps one quarter of all ocean species depending on reefs for food and shelter. Because they are so diverse, coral reefs are often called the rainforests of the sea. Coral reefs are also very important to people. The value of coral reefs has been estimated at 30 billion U.S. dollars and perhaps as much as 172 billion U.S. dollars each year, providing food, protection of shorelines, jobs based on tourism, and even medicines. Unfortunately, people also pose the greatest threat to coral reefs. Overfishing and destructive fishing, pollution, warming, changing ocean chemistry, and invasive species are all taking a huge toll. In some places, reefs have been entirely destroyed, and in many places reefs today are a pale shadow of what they once were.

33. Ans. b

Explan - The Great plain of Northern India was formed by the sediments brought down by the Indus-Ganga-Brahmaputra and their tributaries and it is popularly known as the Indo-Ganga-Brahmaputra plain. After the upliftment of the Himalayas, sediments and debris brought down by the rivers, began to accumulate there to form the vast alluvial plain of northern India. This extensive plain is level and monotonous; it is characterized by some local diversities. Hence, it may be classified into three divisions.

34. Ans. b

Explan - The correctly matched pair's are-

1. Cumulo-nimbus clouds - Thunderstorm clouds
2. Alto-cumulus clouds - Form fairly regular pattern of lines, groups or waves
3. Cirrus clouds - Indicative of Dry weather
4. Alto-stratus clouds - Thin sheets of grey or blue colour having fibrous appearance.

35. Ans. d

Related Information - Border irrigation is a controlled surface flooding method of water application. The border method of irrigation is most suitable for close growing grain crops, such as wheat, barley and fodder crops. Field trials in India have shown that border irrigation is suitable in most areas of the country. The basin method of irrigation is essentially the check basin method applied to orchards. In sprinkler irrigation, water is sprayed into the air through a sprinkler nozzle and allowed to fall on the land surface in a uniform pattern at a rate less than the infiltration rate of the soil. Sprinklers were introduced in India during the early 1950s. Initially, the sprinklers were used on high value plantation crops such as tea, coffee, chicory, cardamom and in orchards. Their use

is gaining popularity on food crops, orchards, cotton and vegetables in areas where sprinklers are economically justifiable and technically feasible. Sprinkler irrigation can be used for almost all crops (except rice and jute) and on nearly all soils. Drip irrigation, also called trickle irrigation, involves slow application of water to the plant root zone. The losses by deep percolation and evaporation are minimized. A precise amount of water is applied to replenish the depleted soil moisture at frequent intervals, for optimum plant growth. The system enables the application of water and fertilizer at an optimum rate to the plant root system. The amount of water supplied to the soil is almost equal to the daily consumptive use, thus maintaining a low moisture tension in soil.

36. Ans. b

Explan - The correctly matched pairs are given in Option (b) 3 1 4 2. Thus-

- A. Detroit - Automobiles
- B. Havana - Cigar
- C. Kimberley - Diamond mining
- D. Milan - Silk

37. Ans. c

Explan - Both the statements are correctly stated.

38. Ans. a

Explan - Epeirogenetic movements are further divided into two types: Upward movement and downward movement. Horizontal forces and movements are also called as tangential forces. Orogenetic or horizontal forces work in two ways, namely in opposite direction towards each other. This is called 'tensional force' when it operates in opposite directions. Such type of force and movement are also called as divergent forces. Tensional forces create rupture, cracks, fracture and faults in the crustal parts of the earth. The-force when operates face to face, is called compression force or convergent force. Compressional force causes crustal bending leading to the formation of fields or crustal warping leading to local rise or subsidence of crustal parts. Crustal bending: When horizontal forces work face to face, the crustal rocks are bent due to resistant compressional and tangential forces.

39. Ans. c

Explan - Dry land areas may be characterized by the following features: Uncertain, ill-.distributed and limited annual rainfall; Occurrence of extensive climatic hazards like drought, flood etc; Undulating soil surface; Occurrence of extensive and large holdings; Practice of extensive agriculture i.e. prevalence of mono cropping etc; Relatively large size of fields; Similarity in types of crops raised by almost all the farmers of a particular region; Very low crop yield; Poor market facility for the produce; Poor economy of the farmers; and Poor health of cattle as well as farmers. Key elements of effective combat with perils of Dryland agriculture: Capturing and Conservation of Moisture; Effective Use of Available Moisture; Soil Conservation Control of Input Costs.

40. Ans. d

41. Ans. d

Extra Information - Ahmadabad grew as another cotton textile centre. The size of cotton mills is small here, but they produce high quality goods. The raw materials for the industry come from cotton growing areas of Maharashtra and Gujarat.

42. Ans. d

43. Ans. c

Explan - Option (c) pair is incorrectly stated. The correctly matched pair will be - Mukandara Hills: Rajasthan (and not Maharashtra).

44. Ans. a

Related Information - Sedimentary rocks are formed by sediment that is deposited over time, usually as layers at the bottom of lakes and oceans. This sediment can include minerals, small pieces of plants and other organic matter. The sediment is compressed over a long period of time before consolidating into solid layers of rock. Sandstone forms the metamorphic rock quartzite. Mudstone forms the metamorphic rock slate. Chalk is a soft, white form of limestone. Flint is a hard, sedimentary form of the mineral quartz.

45. Ans. a

Explan - Groundnut region: This includes Kachchh and Kathiawar areas of Gujarat where groundnut, millets and cotton forms the typical third-order crop combination. Maize is the first ranking crop in the semi-arid tracts of eastern Rajasthan and constitutes a third- order combination with wheat and gram. Cotton is the first ranking crop in eastern part of Maharashtra, and southern Gujarat.

46. Ans. c

47. Ans. c

48. Ans. b

49. Ans. c

50. Ans. a