Explanation

1. A. Direct NCERT question. Refer map (Page 14, class 6 NCERT for History)
2. D. Ostriches were found in India during the Palaeolithic period. Large quantities of ostrich egg shells were found at Patne in Maharashtra.
3. B. Yuga in Hinduism is an epoch or era within a four-age cycle. A complete Yuga starts with the Satya(Krita) Yuga, via Treta Yuga and Dvapara Yuga into a Kali Yuga. Our present time is a Kali Yuga, which started at 3102 BCE with the end of the Kurukshetra War (or Mahabharata war).
4. **C.Neolithic Period (New Stone Age)**
   Starting of agriculture, moving from nomadic to settled life, Wheel discovered. Ragi, wheat and horse gram were cultivated, they knew to make fire, Knew pottery, Art was seen in cave paintings of dance. Also show first intentional disposal of the dead.
5. B .The Bhimbetka rock shelters are an archaeological site of the Paleolithic, exhibiting the earliest traces of human life on the Indian Subcontinent, and thus the beginning of the Indian Stone Age. It is located in the Raisen District in the Indian state of Madhya Pradesh, near Abdullaganj town and inside the Ratapani Wildlife Sanctuary. At least some of the shelters were inhabited by Homo erectus over 100,000 years ago. Some of the Stone Age rock paintings found among the Bhimbetka rock shelters are some 30,000 years old. The caves also deliver early evidence of dance. They were declared a World Heritage Site in 2003.
6. D. Self-explanatory
7. **D. Mother Goddess**
   The most important terracotta figure in the Indus Valley Civilization is the figure of Mother Goddess. This figure is crude standing female adorned with necklaces hanging over prominent breasts and wearing a loin cloth and a girdle. The most distinct feature of the mother goddess figurines is a fan-shaped head-dress with a cup-like projection on each side. Rest of the facial figures are very crude and distant from being realistic.
8. C . Mohenjodaro

- Great Bath (Largest Brick Work)
- Great Granary (Largest Building)
- Impressive drainage system
- Bronze image of dancing girl
- Image of steatite bearded man
- Piece of woven cotton
- Seal of pashupati
- Prepared Garments
- Skeletons on stairs of well (Mount of the dead)

9. **A . Developments in Indus Valley Civilization**
   Citadel / Acropolis at cities for member of ruling class (west side) & brick houses below citadel in town for commoners. Remarkable grid system of roads → Roads cutting at right angle to each other. Large scale use of burnt bricks & total absence of stone buildings. Remarkable underground drainage system connecting all houses & streets covered by bricks / stone slabs. Agriculture technology was well developed (But no use of ploughshare) : Wheat, Rice, Barley, Peas etc. + Domesticated large scale of animals. Cotton was 1st produced by Indus people hence Greeks called it Sindon which is derived from Sindh.
10. B. Chanhudaro - Only city without citadel. Remains of Indus valley civilisation was first found at Harappa, ie why it is called Harappan civilisation. It was discovered by dayaram Sahni.
11. D . No temples has been found at any of the site hence can be said that it was ruled by merchants not priests. Worshiped Goddess Earth, Pipal Tree, Pashupati Mahadeva & Animals (Bull / Unicorn Rhino)
    Pasupathi mahadeva

- The human figure is surrounded by four wild animals: an **elephant** and a **tiger** to its one side, and a water buffalo and a **rhinoceros** on the other. Under the dais are two deer or ibexes looking backwards, so that their horns almost meet the center. At the top of the seal are seven pictographs, with the last apparently displaced downwards for lack of horizontal space.

12. A. http://www.civilservicesias.com/2014/10/Indus-valley-civilization-harappan-sites-list.html
    Refer this link for more Harappan sites and the rivers they are associated with.
13. **C Pasupathi mahadeva**
    The human figure is surrounded by four wild animals: an **elephant** and a **tiger** to its one side, and a water buffalo and a **rhinoceros** on the other. Under the dais are two deer or ibexes looking backwards, so that their horns almost meet the center. At the top of the seal are seven pictographs, with the last apparently displaced downwards for lack of horizontal space.

14. A. Kalibangan (literally black bangles) is located at Pilibangān, between Suratgarh and Hanumāngarh in Hanumangarh district of Rajasthan. It was one of the main sites of the Indus Valley Civilization and most scholars agree that it was located on the bank of River Saraswati which dried up by 2000 BC. Kalibangan has given the

evidence of both Pre-harappan culture in the lower layer and harappan civilization in the upper layer. The Kalibangan flourished for at least 450-600 years.

Kalibangan

- Granary & Wooden plough
- Wells in every house
- Camels Bone

15. B. The Harappans probably got copper from present-day Rajasthan, and even from Oman in West Asia. Tin, which was mixed with copper to produce bronze, may have been brought from present-day Afghanistan and Iran. Gold could have come all the way from present-day Karnataka, and precious stones from present-day Gujarat, Iran and Afghanistan.

16 Answer: [A] It is a paradox that countries with large natural resources lack economic growth

As per natural phenomenon, a country that has abundant natural resources does not need to import as many raw materials, and has opportunity to increase its economic strength through income gained from resources export. But, the "resource curse" is a paradox according to which a country with higher natural resources has less economic growth. The reason lies in the fact that wealth generated from natural resources not distributed adequately to the local people, which in turns leads to social conflict. Such phenomenon is very much at work in countries such as Nigeria and other African and Middle East countries, where the wealth of natural resources has not empowered the local communities, but has fuelled social conflict instead. Conflict brews among
agents of world powers that buy oil, the ruling elites who profit from selling it, and the local population that struggles to maintain control over these resources.

17 Answer: [C] Only 2

Deflation implies negative inflation. Disinflation means decrease in rate of inflation. A reduced money supply or credit availability in an economy is the reason for deflation. Reduced investment spending by government or individuals may also lead to this situation. Deflation leads to low demands for goods and services, which in turn leads to low production in the factories and hence, low equirement of manpower to factories. Thus, it leads to a problem of increased unemployment
in an economy.

18 .Ans (B)

occasionally poor: They are rich most of the time but may sometimes have a patch of bad luck.
ncert class-11 chap 4

19 . Ans [d]

1) GDP is the total value of final goods and services produced within the geographical boundary of the country.
2)It is the income of all nationals (resident and non resident) of a country.
3)GNP= GDP + [Exports – Imports]
4)GNP= Net National Product +depreciation

20 Ans [b]

People engaged in work[work force]+ people available 4 work= labour force.
If marginal product is zero[contribution to production is nil],then its disguised unemployment .

21 (A) The phrase double coincidence of wants is used in barter is to find two persons whose disposable possessions mutually suit each other's wants. There may be many people wanting and many possessing those things wanted; but to allow of an act of barter there must be a double coincidence, which rarely happens." Thus both parties have to agree to sell and buy each others commodities. This is known as double coincidence of wants.

22 Ans (a)Calculation of National Income by compiling income of all house hold is called income method.

23 ans (d)

The Index of Industrial Production (IIP) is an index for India which details out the growth of various sectors in an economy such as mineral mining, electricity and manufacturing. The all India IIP is a composite indicator that measures the short-term changes in the volume of production of a basket of industrial products during a given period with respect to that in a chosen base period. It is compiled and published monthly by the Central Statistical Organisation (CSO) six weeks after the reference month ends, published every month.
The industries covered in the Index of Eight Core are namely Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity.
Base yr of IIP is 2011-12... The revised Eight Core Industries have a combined weight of 40.27 per cent in the IIP

24 . ans c Both are true.

The Human Development Index (HDI) is a composite statistic (composite index) of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. Published on 4 November 2010 (and updated on 10 June 2011), the 2010 Human Development Index (HDI) combines three dimensions:[5][6]

Explanation

1. A long and healthy life: Life expectancy at birth
2. Education index: Mean years of schooling and Expected years of schooling
3. A decent standard of living: GNI per capita (PPP US$)

25 ans (b). HDR is published by UNDP..
World bank publishes World Development report.

26 Answer: B
The Gender Inequality Index (GII) is an index for measurement of gender disparity that was introduced in the 2010 Human Development Report 20th anniversary edition by the United Nations Development Programme (UNDP). According to the UNDP, this index is a composite measure which captures the loss of achievement within a country due to gender inequality. It uses three dimensions to do so: reproductive health, empowerment, and labour market participation

27 Answer: C
8 core industries under Index of Industrial Production includes:
1. Coal
2. Fertilizer
3. Electricity
4. Crude Oil
5. Natural gas
6. Refinery Product
7. Steel
8. Cement

28 .Answer: A
Footloose Industry: Footloose industry is a general term for an industry that can be placed and located at any location without effect from factors such as resources or transport. These industries often have spatially fixed costs, which mean that the costs of the products do not change despite where the product is assembled.
Green GDP: The green gross domestic product (green GDP) is an index of economic growth with the environmental consequences of that growth factored into a country's conventional GDP. Green GDP monetizes the loss of biodiversity, and accounts for costs caused by climate change

29 . Answer: A
The Human Development Index (HDI) is a composite statistic of life expectancy, education, and income per capita indicators, which are used to rank countries into four tiers of human development. A country scores higher HDI when the life expectancy at birth is longer, the education period is longer, and the income per capita is higher.
India's ranking on Human Development Index (HDI) is 131st— according to the 2016 edition of the Global Human Development report, released by the United Nations

30 Answer: C
Indian GDP is now measured by using gross value added (GVA) at market price, rather than factor cost.In this question, intentionally factor cost has been replaced by market price. So, statement 1 is incorrect.
Simply put, GDP is the total value of goods and services produced within the country during a year. You take all final finished goods and services produced domestically in volume terms and multiply this by their market prices to arrive at the value of output. Intermediate goods need to be excluded to avoid double-counting.
Whereas, new base year has been 2011-2012 not the 2012-2013. So, statement 2 is also incorrect

31 Answer: B
The MDG targets for 2015 were set to get us "half way" to the goal of ending hunger and poverty, with similar proportional goals in other fields. The SDGs are designed to finish the job – to get to a statistical "zero" on hunger, poverty, preventable child deaths and other targets

32 Answer: D
All economic activity can be broadly classified into three classes - Primary, Secondary and Tertiary Sector. The primary sector of the economy is the sector of an economy making direct use of natural resources. This includes agriculture, forestry, fishing and mining. In contrast, the secondary sector produces manufactured goods, and the tertiary sector produces services.

33 Answer: D
Inverted duty structure is a system of taxation on imports-exports (customs duties) such that the import duty on the raw material (say, rubber) required for manufacturing a product (say, tyres) is more than the import duty on the same finished product (the tyres). This renders the manufacturing sector in an economy uncompetitive. This is a key issue that has been highlighted in newspapers as well as the Economic Survey - almost every year. Currency devaluation by China makes importing from China cheaper. Complex labour laws in India - which are now being liberalized , also discourage local manufacturing.

34 . Answer: D. Anything that includes an economic activity related to sea/ ocean is included in blue economy.

35 ans C

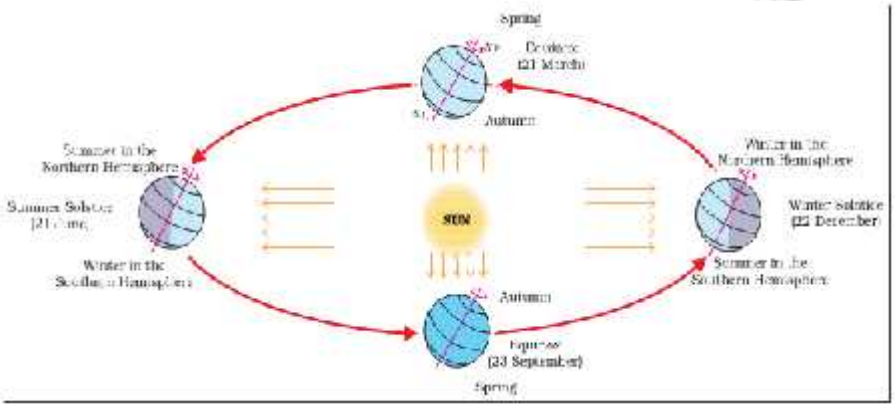
Explanation

Gini coeff= area above Lorenz curve/ area below Lorenz curve.
The Lorenz Curve (the actual distribution of income curve), a graphical distribution of wealth developed by Max Lorenz in 1906, shows the proportion of income earned by any given percentage of the population. The line at the 45º angle shows perfectly equal income distribution, while the other line shows the actual distribution of income. The further away from the diagonal, the more unequal the size of distribution of income.

The Gini Coefficient, which is derived from the Lorenz Curve, can be used as an indicator of economic development in a country. The Gini Coefficient measures the degree of income equality in a population. The Gini Coefficient can vary from 0 (perfect equality) to 1 (perfect inequality). A Gini Coefficient of zero means that everyone has the same income, while a Coefficient of 1 represent a single individual receiving all the income.

The Gini Coefficient is equal to the area between the actual income distribution curve and the line of perfect income equality, scaled to a number between 0 and 100. The Gini coefficient is the Gini index expressed as a number between 0 and 1.

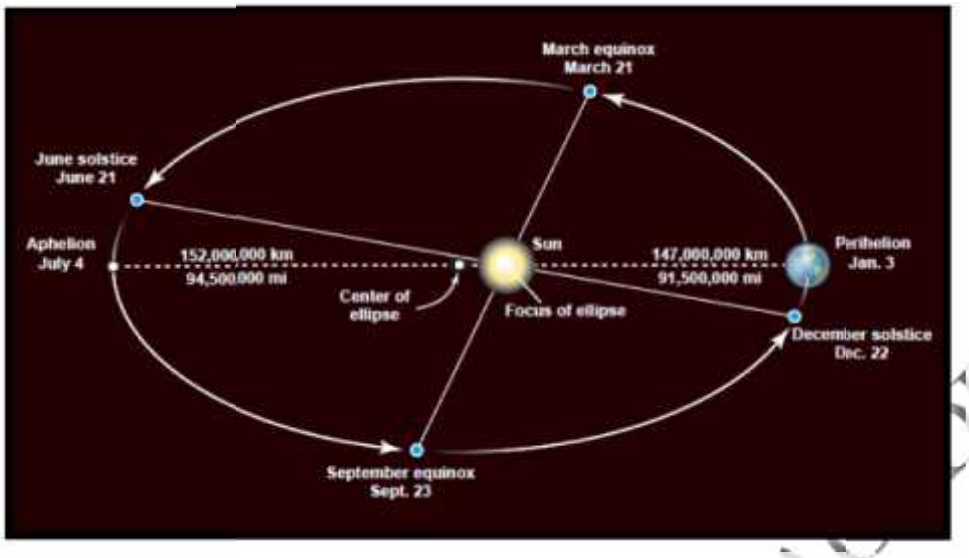
36 Ans d.
Summer solstice is when sun reaches directly above Tropic of cancer. Northern hemisphere will experience the longest day while southern hemisphere will experience the longest night during summer solstice. During summer solstice, North Pole is directed towards the sun



37. Ans **a .**
Circle of illumination is the circle that divides the day from night on the globe. This circle makes an angle of 66 ½° during solstices with equatorial plain. Subs-solar point is the point on earth's surface which is directly below sun. Torrid Zone extends from Tropic of Cancer to Tropic of Capricorn, which are the northern and southern limits respectively, of sun's reach. So sub-solar point can never be beyond the Torrid Zone.

Shortest distance from sun is on Jan 3rd of every year, as it is the time when earth reaches its **perihelion** owing to its elliptical orbit and sun at one of the foci. **Aphelion** is July 4th

Explanation



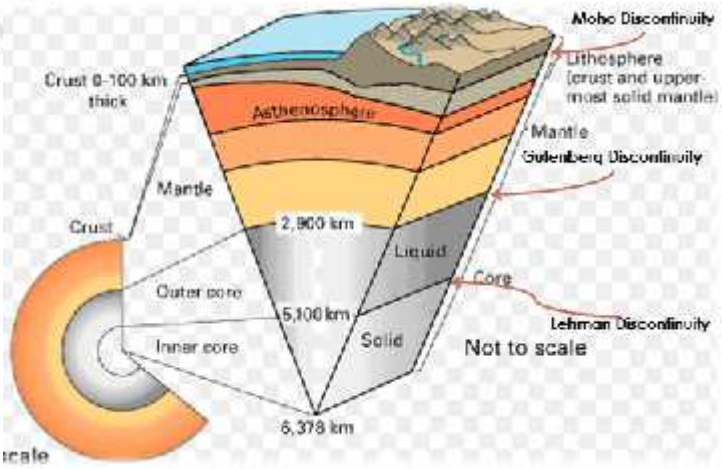
38. D

Solar system has 8 Planets and 5 Dwarf planets (Pluto, Eris, Haumea, and Makemake, Ceres). **Asteroid belt** is between terrestrial planets and Jovian planets. Consists mainly of small bodies or remnants from when the Solar System formed. It is composed primarily of rock and metal.

Kuiper Belt is circumstellar disc beyond the planets, from the orbit of Neptune (at 30 AU) to approximately 50 AU from the Sun. Similar to asteroid belt but 20 times wide and 200 times massive. Composed of frozen volatiles (ices), such as methane, ammonia and water. It accommodates dwarf planets namely Pluto, Haumea and Makemake

Terrestrial planets are named so as they are earth like. They are made of rock and metal and has high densities. They are comparatively small in size. Jovian planets are Jupiter like and are gas giants. They have thick atmosphere of He and H_2 and are comparatively low densities with much larger size.

39. A Earth's interior is studied using various direct and indirect sources. Direct Sources are solid earth materials such as surface rocks as well as rocks from mining, volcanic eruption. Indirect sources include the analysis of properties of matter obtained from the interior, meteors which are similar to earth developed similar to earth, gravitation which is greater near the poles and less by the equator due to geoid shape, uneven distribution of mass of material and gravity anomaly. Other indirect sources include magnetic field due to magnetic material distribution and seismic activity. Seismic waves are the major source to know earth's interior.



Density of rocks in oceanic region is more (**3 g/cm^3**) than continental crust (**2.7 g/cm^3**)

40. B The release of energy during earthquake occurs along **faults**, a sharp break in the crustal rocks. Rocks along a fault try to move in opposite directions, but are locked from movement due to the frictional force due to the pressure of overlying rocks. Tendency to move overcomes frictional force, there by letting the rocks slide past one another. This deforms the blocks and causes the release of energy as waves travel in all directions. Point of release of energy, below earth surface is called focus or hypocentre where as the point on the surface of earth nearest to focus is called epicentre, directly above the focus, receives quake waves first

The seismic waves are of two types. Body Waves and Surface Waves.

Body waves are generated due to the release of energy at the focus. It moves in all directions through the body of the earth. It has two subdivisions

1. **P- Waves/ Primary waves/ Compressional**: They move faster and are the first to arrive the surface. It can travels through gaseous, liquid or solid medium. It causes vibrations parallel to the direction of propagation, squeezes and stretches the material and create density difference. They are longitudinal
2. **S- Waves/ Secondary waves/ Shearing Waves:** They arrive a bit late to the surface w.r.t p-waves. It can travel only in solid medium and vibrates perpendicular to the direction of propagation i.e. transverse

Surface waves are generated when body waves interact with surface rocks. They are the last to be recorded in seismograph and are the most destructive ones. It has two subdivisions

1. **Love waves**: They are of triangular wave pattern perpendicular to the direction of propagation
2. **Rayleigh waves**: They are of sinusoidal wave pattern perpendicular to the direction of

Two different parameters i.e either magnitude or intensity is used as the scale

1. **Richter Scale**: Records the magnitude of energy released and is expressed as absolute numbers. Its range is from 0-10. If the value is > 5 then it is a devastating earthquake. The magnitude increases exponentially from on scale value to the next point ahead of it
2. **Mercalli Scale**: It is the intensity scale and it takes into account the visible damage of the event. Ranges is from 1-12

41. D

Types of rocks on the basis of mode of formation are

1. **Igneous Rocks**: They are primary rocks formed by the solidification of magma.

They are of two types on the basis of place and time taken to cool

a. **Intrusive Igneous Rocks or Plutonic Rocks**: Cooled inside the earth's crust whose mineral grains would be very large as cooling is slow. E.g.: Granite, Quartz
b. **Extrusive Igneous Rocks:** Cooled outside the earth's crust. Sudden cooling results in small and smooth grains. E.g.: Basalt

They are of two types on the basis of Silicon content

a. **Acid Igneous Rocks:** High content of silica—upto 80%. It cools fast and so high volcanic mountains are formed of this type of rock. It has lesser content of heavier minerals (Fe,Mg) hence lighter colour. It is hard, compact, massive and resistant to weathering. E.g.: Granite, Quartz
b. **Basic Igneous Rocks:** They are poor in silica,magnesia content-upto 40%. It cools slow and thus forms plateaus. The presence of heavy elements gives dark colour. These are not very hard and are less resistant to weathering. E.g.: Basalt

2. **Sedimentary Rocks:** Its process of formation is called **lithification** in which sediments are converted into rocks due to compaction. The deposits retain their character even after lithification. E.g.: Sandstone, Shale
3. **Metamorphic Rocks:** Rocks that undergo change of form due to **Pressure**, **Volume** and **Temperature (PVT)** are called Metamorphic rocks. They are normally associated with tectonic processes. Metamorphism can cause rock grains to get arranged in layers or lines, called foliation or lineation. It can cause banding as well, which is the arrangement of alternating thick and thin layers. Metamorphism happens on existing sedimentary or igneous rocks

42. C .Concept of Platectonics was postulated by McKenzie, Parker and Morgan in 1967. According to Continental Drift theory of Wegner, all continents were initially one super continent Pangaea, which broke apart and drifted across the globe. Plate Tectonics theory concluded that it is not the continents that are moving, but the plates with continental masses resting on it which is moving. There are 3 types of plate margins

1. Converging
2. Diverging and
3. Transverse

Evidences cited for Platectonics theory are

1. Pacific Rim of Fire
2. Earthquakes: Shallow focused quakes occur at the boundary of oceanic and continental crust ~100km from the trench while medium focussed ones occurs at the middle of Benioff Zone(The zone where submerged oceanic plate melts, inside asthenosphere) ~100-400 km from the trench. Deep Focused quake happens at the end of Benioff Zone i.e ~ 400-700km from the trench. Divergent plate boundaries will not have deep focussed earthquakes
3. Fold Mountains, Trenches and Ridges along the plate boundaries
4. Hotspot trails: Since tectonic plates move over supposedly stationary plumes (hotspots), trails of seamounts are formed over time spans. Eg: Reunion hotspot gave rise to Deccan Plateau, have their trails left over on Indian Ocean basin
5. Satellite Laser Imaging study

Criticisms against the theory are

1. Intra-plate volcanism and hotspots could not be explained
2. Not specifying the underlying forces
3. Not explained why boundaries are where they are
4. Surface area of earth has been considered constant

43. D

Explanation

Earth's magnetism is the result of core rotating faster than the rest of earth. The phenomena is termed as **geo-dynamo.** The volume of earth's core is stretched in the N-S axis and it is not so always. The stretch can go E-W too. Earth rotates from West to East and so does the core. Because core is rotating relatively faster than the mantle, mantle appears to be flowing from East to West, w.r.t core. This generates a magnetic field, which has its field lines starting from South Pole and goes into the North Pole. When the second condition of E-W stretch comes, this changes field lines flow from North to South i.e. earth's polarity is reversed.
https://www.youtube.com/watch?v=CiCBrXKIH_0

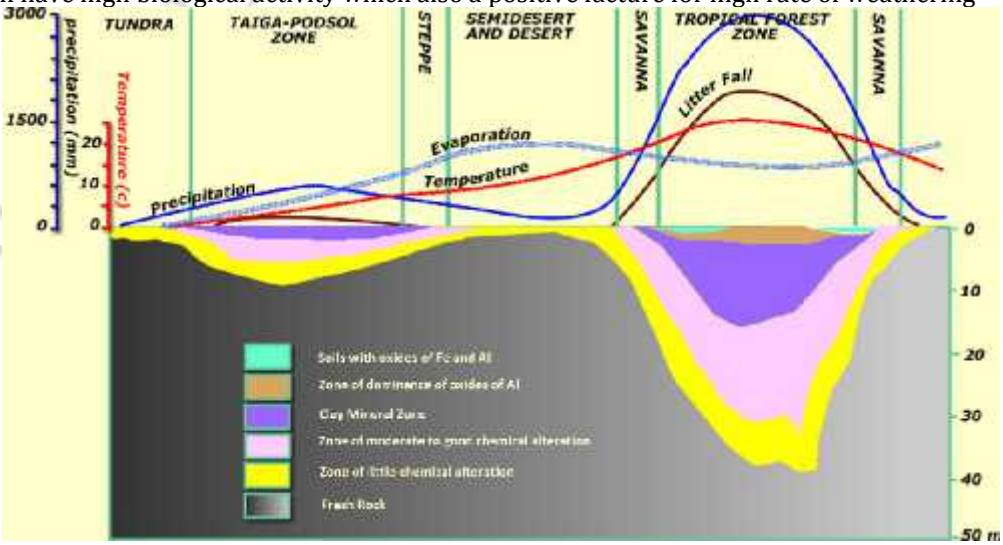
Aurora or polar lights, is a phenomena caused when solar wind, which are charged particles flowing from sun, interacts with the magnetic field lines. Auroras are produced when the magnetosphere is sufficiently disturbed by the solar wind that the trajectories of charged particles in both solar wind and magnetospheric plasma, mainly in the form of electrons and protons, precipitate them into the upper atmosphere (thermosphere/exosphere) due to Earth's magnetic field, where their energy is lost. The resulting ionization and excitation of atmospheric constituents emits light of varying color and complexity at the polar region, where the magnetic field lines of geomagnet converge.
http://static.wixstatic.com/media/654005_db0e4bd518f841c59c82a23d3c383148.gif_srz_p_512_288_75_22_0.50_1.20_0.00_gif_srz
Aurora formation is the outcome of earth's magnetosphere protecting earth from incoming solar wind, which on entering earth's atmosphere can cause saviour damage to life

44. C
98% of the crust is composed of **8 Major elements.** The Percentage share of Major Elements of Earth's crust is as below

No	Elements	Share
1	**Oxygen**	46.60%
2	**Silicon**	27.72%
3	**Aluminium**	8.13%
4	**Iron**	5.00%
5	**Calcium**	3.63%
6	**Sodium**	2.83%
7	**Potassium**	2.59%
8	**Magnesium**	2.09%
9	**Others**	1.41%

Rest is constituted by **Ti**, **H_2**, **P**, **Mn**, **S**, **C**, **Ni** and other elements

45. A Weathering is not a prerequisite for mass movements but weathering aids mass movement. Weathering is at the highest rate in the tropical forest region owing to the availability of temperature, precipitation and organic matter. Tropical region have high biological activity which also a positive facture for high rate of weathering



46. D Soil formation is a gradual time consuming process which starts with the weathering of parent material. Weathered or transported material are colonized by bacteria & inferior plant bodies (mosses or lichens) and minor

organisms. Humus gets accumulated from dead remains of organisms and plants. Minor grasses and ferns may grow. Grasses and ferns are replaced by bushes and trees through seeds brought in by birds and wind. Plant roots penetrates down and burrowing animals bring up particles, making the soil porous making it capable to retaining water.

Five basic factors that control soil formation are

1. **Parent Material**: It is a passive control factor in soil formation. Soil can be in-situ weathered rock debris or transported deposits. The formation depends on texture (size), structure and mineral composition. Nature and rate of weathering and depth of weathering are important
   There may be different soils over same bedrock or can have similar soils over different bedrocks
2. **Topography:** It is a passive controlling factor. Its influence is determined by the amount of exposure of parent material to sunlight and also to the surface as well as subsurface drainage. Slope determines the thickness of soil. Thin soil layer will be seen on steep slopes while gentle slopes with low erosion and high percolation of water, favors soil formation. In flat areas, soil may be dark due to clay accumulation. In middle latitudes, south facing slopes and north facing slopes have different soils, based on the exposure level of sunlight
3. **Climate**: It is an active element. The elements of climate that affects soil formation are moisture and temperature.
   The intensity, frequency and duration of precipitation, evaporation, humidity etc determines the rate of chemical and biological activities. Excess water helps in downward transportation of components through the soil (eluviation) and deposits the same down below (illuviation). In equatorial rainy areas, material like Ca, Na, Mg, K, Si are removed from soil. In dry climates, evaporation > precipitation results in ground water brought up due to capillary action, evaporates leaving behind salts to form hardpans. In tropical areas and in areas of intermediate precipitation, Kanker is formed.
   Chemical activity is directly proportional to temperatures (except carbonation) and stops in freezing conditions. So tropical soils have deep soil profiles than tundra region with mechanically broken materials
4. **Biological Activity:** Vegetative cover helps in adding organic matter, moisture retention and nitrogen levels etc. Organic acids formed during humification aid decomposition of minerals and parent rock. Bacterial activity intensity will be different in cold and warm climates. Humus accumulates in cold conditions were bacterial growth is low, which is formed into peat. Nitrogen fixation by Rhyzobium, Aceto Bacter or Blue Green Algae alters soil quality. Burrowing animals, insects and worms influences soil property, as they rework soil up and down. Earthworms feed on soil, which changes the texture and chemistry of the soil
5. **Time:** Time determines soil maturity and soil profile. Young soils, formed from deposited alluvium or glacial till exhibits no horizons. No specific length of time can be defined as needed for soil development and maturity

47. B **Explanation**

Less no of streams with poor integration is the characteristic of a youth stage. Plenty of streams which are well integrated is the feature of mature stage.

Youth Stage: Features are few streams, poor integration, shallow V-shaped valleys, no flood plains/ flood plains are narrow, broad and flat stream divides with marshes, swamp and lakes, meanders if present will be over these broad divides, waterfalls and rapids at locations of exposed hard rocks.

Mature Stage: Plenty of streams, deep V-shaped or U-shaped valleys, broad trunk streams and flood plains, flat and broad inter-stream areas, swamps and marshes disappear, waterfalls and rapids are absent

Old Stage: few small tributaries with gentle gradients, free meandering streams, natural levees, oxbow lakes, broad and flat divides with lakes, swamps etc, . The river will be at or slightly above the sea level. Distributaries are present

Monadnocks are also called as Inselbergs.

Gorges are deep valleys of U shape with steep straight sides on hard rocks, which is a feature of mature stage.

Canyons are gorges with step like side slops, with wide top and narrow bottom formed in horizontally bedded sedimentary rocks

48. B

Karst Topography is the landform formed out of limestone, dolomite or gypsum which contain $CaCO_3$, which are soluble in water. This topography is developed by underground water that flows horizontally through the bedding planes, joints or through the materials themselves which causes erosion. For the development of Karst topography, presence of soluble rocks, preferably limestone at the surface or sub-surface level is needed. The rocks should be dense, highly jointed and thinly bedded.

Deltas which are formed at the river mouths spreads and accumulates a low cone and are well stratified

Alluvial fans are poorly stratified formed at places where streams flowing from higher levels break into foot slope plains of low gradient.

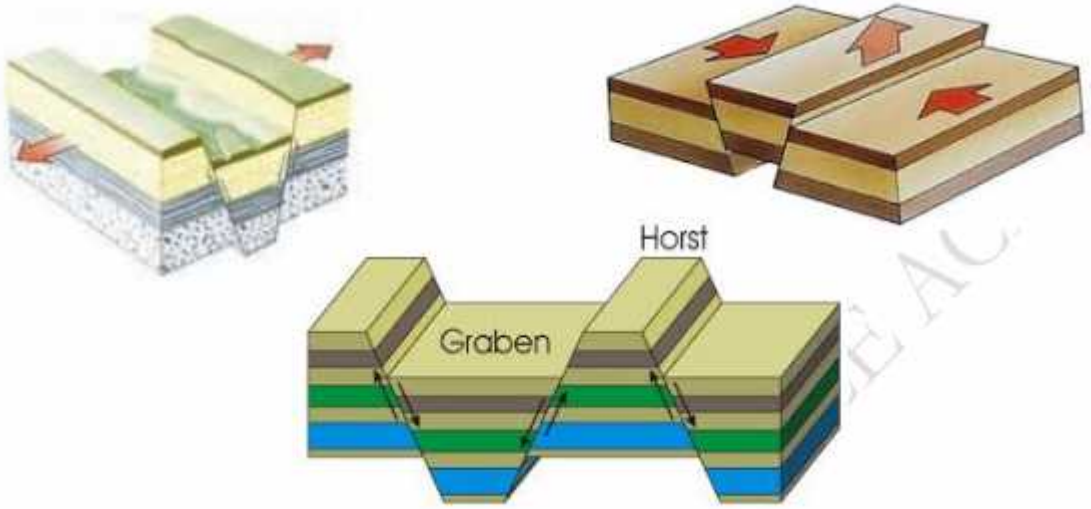
Meander are not landforms but they are loop like channel patterns developing over flood plains and delta plains. Factors leading to the formation of meanders

1. Propensity of water flowing over very gentle gradients to work laterally on banks

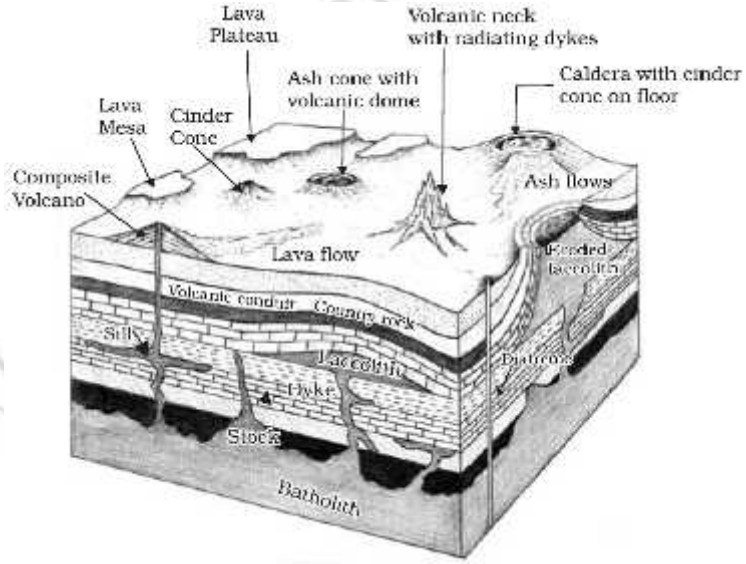
2. Unconsolidated nature of alluvial deposits
3. Coriolis force acting on water flow

49. A **Playas** are shallow lakes formed in basins surrounded by hills. Drainage will be to the center of the basin. Playa plain covered by salts when water is evaporated out are called **Alkali flats.**
Topography developed by glacial action is called **Basket of Eggs topography** because of the various landforms developed by glaciers.

50. A Formation of **Block Mountains** are either due to compressive or tensile forces in lithosphere along faults. This forms Horst and Graben (Rift Valley)



Fold Mountains are formed when two lithospheric plates get compressed with each other. It is seen along plate margins and is usually associated with volcanic activity.
Volcanic Mountains are called as mountains of accumulation as they are formed by the accumulation of magma. Mafic magma is with low silica and high Fe and Mg and forms Basalt. Felsic magma has high silica and low Fe and Mg and forms Andicite.
Batholith is an intrusive volcanic landform formed in earth's crust when magma chamber cools and become a single large rock as such.

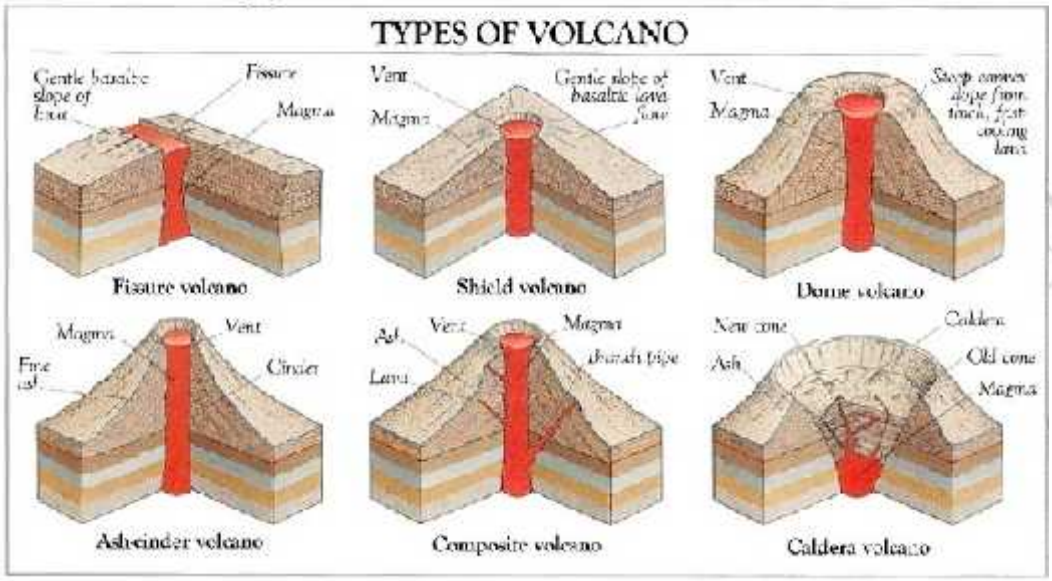


Caldera is the most explosive of volcanoes. As a result of explosion, caldera will no longer remain as a volcanic mountain again as it destroys itself

Explanation

Extrusive volcanic landforms

- Volcano types:



51. A .Parliamentary Accounts Committee

It has been in existence from 1921 and was formed under the Government of India Act, 1919. It is constituted by the Parliament each year for parliamentary oversight over finances of the government. It is a joint committee consisting of 15 members from Lok Sabha and 7 from Rajya Sabha who are elected according to principle of proportional representation by means of the single transferable vote. Since 1967, its chairman by convention is selected from the Opposition parties.The committee is empowered to call witnesses to give evidence and produce documents required by the committees.

52. B. Dr. Abdul Kalam Island

Dr. Abdul Kalam Island, formerly known as Wheeler Island, is an island off the coast of Odisha, India, approximately 150 kilometres (93 mi) from the state capital Bhubaneshwar. The Integrated Test Range missile testing facility is located on the island. The island was originally named after English commandant Lieutenant Wheeler. On 4 September 2015, the island was renamed to honour the late Indian president, Dr. APJ Abdul Kalam

53. C .Juno

Juno is a NASA space probe orbiting the planet Jupiter. Juno's mission is to measure Jupiter's composition, gravity field, magnetic field, and polar magnetosphere. It will also search for clues about how the planet formed, including whether it has a rocky core, the amount of water present within the deep atmosphere, mass distribution, and its deep winds, which can reach speeds up to 618 kilometers per hour (384 mph).Juno is the second spacecraft to orbit Jupiter, after the nuclear powered Galileo orbiter, which orbited from 1995 to 2003.

54. A . IFSC

An IFSC is thus a jurisdiction that provides world class financial services to non-residents and residents, to the extent permissible under the current regulations, in a currency other than the domestic currency (Indian rupee) of the location where the IFSC is located. **Gujarat International Finance Tec-City (GIFT City)** multi services special economic zone (SEZ) has set up the first International Financial Service Centre in India (IFSC) in accordance with the SEZ Act 2005 (SEZ Act), SEZ Rules 2006 and the regulations made thereunder.

55. C .Prasar Bharati Corporation

It is the public service broadcaster of India established as an autonomous organization through an Act of the Parliament. It functions through its two armsDoordarshan and AIR.

56. D. CIC

It is an independent body constituted under the RTI Act. It is a statutory body. The jurisdiction of the Commission extends over all Central Public Authorities. It is the final appellate authority as per RTI Act 2005 and its decisions are final and binding.

57. B. Tangalia weaving

A Tangaliya Shawl is a handwoven, GI protected shawl and textile made by the Dangasia community from Schedule Caste in Gujarat, India.

58. C. Universal Immunization Programme (UIP)

Universal Immunization Programme is a vaccination program launched by the Government of India in 1985. It became a part of Child Survival and Safe Motherhood Programme in 1992 and is currently one of the key areas under National Rural Health Mission(NRHM) since 2005. The program now consists of vaccination for 12 diseases-tuberculosis, diphtheria, pertussis (whooping cough), tetanus, poliomyelitis, measles, Hepatitis B, Diarrhoea, Japanese Encephalitis, rubella, Pneumonia(Heamophilus Influenza Type B)and Pneumococcal diseases (Pneumococcal Pneumonia and Meningitis). Hepatitis B and Pneumococcal diseases was added to the UIP in 2007 and 2017 respectively.

59. D.CERN

CERN is the world's largest nuclear and particle physics laboratory. At CERN, scientists and engineers are probing the fundamental structure of the Universe. CERN is based in Geneva. Presently CERN has 22 member states, four associate member states, and seven observers including four states and three International Organizations.

60. B. Ashalim Project

Israel is building its largest solar power station in Negev desert called Ashalim Project.

61. D.Hakki Habba

It is a three day bird festival which was held at Daroji Sloth Bear Sanctuary near world famous Hampi in Ballari district, Karnataka. It was the 3rd edition jointly organized by State's Forest Department and Eco Tourism Board in association with the local birdwatchers' association.

62. A.Olive Ridley Turtles

They are smallest and most abundant of all the sea turtle species. They are Omnivores. Gets their name from olive green colouration of its heart shaped shell. They are found only in warmer waters, including the southern Atlantic, Pacific and Indian Oceans. They are known for their arribadas (synchronised mass nesting) during which time tens of thousands of female turtles come ashore to nest in the span of a few days. Gahirmatha located in the Bhitarkanika Wildlife Sanctuary, Odisha houses the world largest mass nesting site of these turtles.

63. C.Quantum Cryptography

Quantum cryptography is the science of exploiting quantum mechanical properties to perform cryptographic tasks. The best known example of quantum cryptography is quantum key distribution which offers an information-theoretically secure solution to the key exchange problem. Currently used popular public-key encryption and signature schemes (e.g., RSA and ElGamal) can be broken by quantum adversaries. The advantage of quantum cryptography lies in the fact that it allows the completion of various cryptographic tasks that are proven or conjectured to be impossible using only classical (i.e. non-quantum) communication (see below for examples). For example, it is impossible to copy data encoded in a quantum state and the very act of reading data encoded in a quantum state changes the state. This is used to detect eavesdropping in quantum key distribution.

64. B.CAPF -Central Armed Police Forces as per MHA

- Assam rifles: It came into existence in 1835. It has functions of counter insurgency and border security operations along Myanmar border.
- Border Security force: It came into existence after 1965 India-Pakistan war. It is the primary border security force of India manning western borders of India.
- Central Industrial Security Force: It was set up in 1969. It is the largest such force in the world. Its job is to provide security to various PSUs and commercial places.
- Central Reserve Police Force: It was set up in 1939. It is the largest central armed police force in India. It looks after internal security in India like naxal operations. It also helps with UN peacekeeping missions.
- Indo-Tibetan Border Police: It was formed after IndiaChina war in 1962. It guards the China border. It is also trained in disaster management, UN peacekeeping etc.
- National Security Guard: It combats terrorist activities and also internal disturbances in States.

65. B.Small Finance Banks

Small finance banks were key recommendations of the committee on financial inclusion chaired by Nachiket Mor. Small finance banks are niche banks (banks that focuses and serves the needs of a certain demographic segment of the population) with main function to perform lending activities among weaker section The SGBs are essentially scaled down versions of commercial banks, with both deposit-taking and loanmaking functions

66. A.M-SIPS

The cabinet recently approved amendments to the Modified Special Incentive Package Scheme (M-SIPS) in a bid to achieve net zero imports in the electronics sector by 2020.

What is MSIPS?

The M-SIPS policy was launched in July 2012 for a three year period by the Ministry of Electronics and Information Technology (MeitY).Its primary objective was to encourage investments in Electronics System Design and Manufacturing (ESDM) Sector and speed up the disbursement process. The policy encourages companies to produce domestically by providing them 20-25% subsidy on capital expenditure.

67. D.RBI and its Functions

It was established in 1935 under the provisions of RBI Act, 1934.

RBI has seven major functions:

- Print Notes: RBI has the sole autonomy to print notes. GoI has the sole authority to mint coins and one rupee notes.
- Banker to the Government: It manages government's deposit accounts. It also represents govt. as member of the IMF and World Bank.
- Custodian of Commercial Bank Deposits
- Custodian to Country's Foreign Currency Reserves
- Lender of Last Resort: Commercial banks come to RBI for their monetary needs in case of emergency.
- Central Clearance and Accounts Settlement: As RBI keeps cash reserves from commercial banks therefore it rediscounts their bills of exchange easily.
- Credit Control: It controls supply of money in the economy through its monetary policy.

68. A. Raisina hills

Raisina Hill, often used as a metonym for the seat of the Government of India, is an area of Lutyens' Delhi, New Delhi, housing India's most important government buildings, including Rashtrapati Bhavan, the official residence of the President of India and the Secretariat building housing the Prime Minister's Office and several other important ministries. It is surrounded by other important buildings and structures, including the Parliament of India, Rajpath and India Gate.

69. C. Hirakud dam

Hirakud Dam is built across the Mahanadi River, about 15 kilometres from Sambalpur in the state of Odisha in India. Behind the dam extends a lake, Hirakud Reservoir, 55 km long. It is one of the first major multipurpose river valley projects started after India's independence.

70. A.Bedaquiline

Bedaquiline is the active substance in a TB drug which is also sometimes known by the trade name of Sirturo. Bedaquiline works by blocking an enzyme inside the Mycobacterium tuberculosis bacteria called ATP synthase. This enzyme is used by the bacteria to generate energy. Without the ability to generate energy, the TB bacteria die and the patient's condition can start to improve.

71. **Ans-C**

3rd statement is a provision of **Indian Councils Act of 1861 , not 1853 act**

72. **Ans-A**

Government of India Act of 1919 is also known as **Montagu -Chelmsford Reforms**

Statement one-correct

Statement two is incorrect because it is **Government of India Act of 1935** that extended the principle of communal representation by providing separate electorates for **depressed classes (scheduled castes), women and labour(workers).**

Montagu -Chelmsford Reforms extended the principle of communal representation by providing separate electorates for **Sikhs, Indian Christians, Anglo-Indians and Europeans.**

73. **Ans-B**

Statement b is incorrect because the office of viceroy has to be appointed by the **British King** on the advice of the **dominion cabinet** .

74. **Ans-D**

Features of Federal Government
1. Dual Government (that is, national government and regional government)
2. Written Constitution
3. Division of powers between the national and regional government.
4. Supremacy of the Constitution
5. Rigid Constitution
6. Independent judiciary
7. Bicameral legislature

Statement 2-Separation of powers - is a feature of **presidential system** and Leadership of the Prime Minister (statement 4) is a feature of **Parliamentary System**

75. **Ans-D**

The Indian federal system is based on the 'Canadian model' (and not on the 'American model'). The 'Canadian model' differs fundamentally from the 'American model' in so far as it establishes a very strong centre.

The units of a federation are known by various names like **states (as in U S)** or **cantons (as in Switzerland)** or **provinces (as in Canada)** or **republics (as in Russia).**

76. **Ans-C**

They are justiciable in nature. The aggrieved person can directly go to the Supreme Court which can issue the writs of **habeas corpus**, **mandamus, prohibition , certiorari** and **quo warranto** for the restoration of his rights.

Fundamental Rights are not absolute and subject to reasonable restrictions.

They can also be suspended during the operation of a National Emergency except the rights guaranteed by **Articles 20 and 21**.

FR available only to citizens and not to foreigners are **article 15,16,19, 29,30.**

The Fundamental Rights are enshrined in **Part III** of the Constitution

77. **Ans-D**

Preamble has been amended by the 42nd Constitutional Amendment Act (1976), which added three new words—**socialist , secular** and **integrity** .

78. **Ans-B**

1. Names of the States and Union Territories and their territorial jurisdiction.
2. Emoluments, allowances, privileges
3. Forms of Oaths or Affirmations
4. Allocation of seats in the Rajya Sabha to the states and the union territories
5. Administration and control of scheduled areas and scheduled tribes
6. Administration of tribal areas in the states of **Assam, Meghalaya, Tripura and Mizoram.**
7. Division of powers- List I (Union List), List II (State List) and List III (Concurrent List)
8. Languages -presently there are **22 languages**
9. Acts and Regulations dealing with land reforms and abolition of the zamindari system -added by the 1st Amendment (1951) to protect the laws included in it from judicial scrutiny on the ground of violation of fundamental rights
10. Anti -defection Law.
11. Panchayats-added by the 73rd Amendment Act of 1992.
12. Municipalities- added by the 74th Amendment Act of 1992.

79. **Ans-A**

Indian Constitution also contains a large number of unitary or non -federal features, viz **a strong Centre, single Constitution , single citizen ship, flexibility of Constitution , integrated judiciary ,appointment of state governor by the Centre, all -India services, emergency provision s**, and so on .

The directive principles are meant for promoting the ideal of **social and economic democracy** –It is the Fundamental Rights that are meant for promoting the ideal of political democracy

Fundamental Duties were added during the operation of internal emergency (1975–77) by the **42nd Constitutional Amendment Act of 1976** on the recommendation of the **Swaran Singh Committee.**

80. **Ans-C**

Japanese Constitution- Procedure established by Law.
Government of India Act of 1935- Emergency provisions (Weimar Constitution of Germany-Suspension of Fundamental Rights during Emergency)
Irish Constitution- nomination of members to Rajya Sabha (South African Constitution-election of members of Rajya Sabha.)
Irish constitution-method of election of president (impeachment of the president-us constitution)

81. **Ans-B**

JUSTICE, Social , **Economic** and Political ;
The directive principles are meant for promoting the ideal of social and economic democracy
The Fundamental Rights are meant for promoting the idea of political democracy

82. **Ans-C**
Seats allocated to each **British province** were to be **indirectly elected** by the **members of the provincial assemblies**, who themselves were elected on **limited franchise.**
The representatives of princely states were to be nominated by the heads of the princely states.
Thus the Constituent Assembly was to be a partly elected and partly nominated body .

83. **Ans-C**
'Territory of India' is a wider expression than the 'Union of India' because the latter includes only states while the former includes not only the states but also union territories and territories that may be acquired by the Government of India at any future time.
The union territories and the acquired territories, on the other hand, are **directly administered by the Central government.**
Being a sovereign state, India can acquire foreign territories according to the modes recognised by international law, i.e., **cession** (following treaty, purchase, gift, lease or plebiscite), **occupation** (hitherto unoccupied by a recognised ruler), **conquest or subjugation.**

84. **Ans-B**
Nagaland in 1963
Haryana in 1966
Sikkim in 1975
Arunachal Pradesh in 1987

85. **Ans-B**
Regulating Act of 1773 designated the Governor of Bengal as the **'Governor General of Bengal** '. The first such Governor-General was **Lord Warren Hastings. Charter Act of 1833** made the Governor-General of Bengal as the Governor General of India

86. **Ans-A**
The Constitution deals with the citizenship in Part II. However, it contains neither any permanent nor any elaborate provisions in this regard. **It only identifies the persons who became citizens of India at its commencement (i.e., on January 26, 1950). It does not deal with the problem of acquisition or loss of citizenship subsequent to its commencement.** It leaves the same to the Parliament.
In India both a citizen by birth as well as a naturalised citizen are eligible for the office of President (while in USA, only a citizen by birth and not a naturalised citizen is eligible for the office of President.)

87. **Ans-C**
These are the rights denied to alien citizens:
Right against discrimination on grounds of religion, race, caste, sex or place of birth **(Article 15).**
Right to equality of opportunity in the matter of public employment **(Article 16).**
Right to freedom of speech and expression, assembly, association, movement, residence and profession **(Article 19).**
Cultural and educational rights **(Articles 29 and 30).**

88. **Ans-B**
The parliamentary system is based on the principle of cooperation and co- ordination between the legislative and executive organs (while the presidential system is based on the doctrine of separation of powers between the two organs).

89. **Ans- A**
The term 'Federation' has nowhere been used in the Constitution. Article 1, on the other hand, describes India as a **'Union of States'**.
The state and local governments derive their authority **from the constitution** rather than from the Union government.

90. **Ans-B**
The Preamble reveals four ingredients or components:
1.The Preamble states that the Constitution derives its **authority from the people of India.**
2.**Nature of Indian State:** It declares India to be of a sovereign, socialist, secular democratic and republican polity.
3.**Objectives of the Constitution:** It specifies justice, liberty, equality and fraternity as the objectives.
4.**Date of adoption** of the Constitution: It stipulates **November 26, 1949** as the date.

91. (b). Tropical rainforest- rosewood, ebony, mahogany are common.
Tropical Deciduous- Sal, Teak, neem, shisham. Monsoon forests of India, Australia.
Temperate deciduous- mid latitudinal coastal regions of USA, China.

Explanation

92. (c). Stenothermal- narrow temp range-most animals. Eurythermal-large temp range. Stenohaline-narrow salinity range, euryhaline- wide salinity.
93. (c) definition. Conformers: body temp change with the surrounding temp.
94. (a) . 1=true; 2= Since small animals have a larger surface area relative to their volume, they tend to lose body heat very fast when it is cold outside; then they have to expend much energy to generate body heat through metabolism. This is the main reason why very small animals are rarely found in polar regions.
95. (C) Polar bear do hibernation to escape cold. All others aestivate.
96. (d). If the hemoglobin bound so strongly to the oxygen that it didn't release it, our tissues wouldn't be able to take up the oxygen, and they would be unable to do aerobic respiration, hence 3 is correct. 1 and 2 self explanatory.
97. d. competition affects both species negatively. However when resources are elimited the competitively superior species will eventually eliminate the other species
98. b . 1 is COMMENSALISM . The fish gets protection from predators which stay away from the stinging tentacles. The anemone does not appear to derive any benefit by hosting the clown fish . 2=The algal partner photosynthesizes and provides food for the fungus, so it can grow and spread.

Table 13.1 : Population Interactions

Species A	Species B	Name of Interaction
+	+	*Mutualism*
–	–	*Competition*
+	–	*Predation*
+	–	*Parasitism*
+	0	*Commensalism*
–	0	*Amensalism*

99. d. Khangchendzonga is not under MAB. All others are.
MAB BSRs of India: Nilgiri, Gulf of Mannar, Sunderban, Nanda Devi, Nokrek, Pachmarhi, Similipal, Achanakmar-Amarkantak and Great Nicobar and Agasthyamalai.
100. b.1 is wrong: Southern slopes have thicker vegetation, due to more sunlight received. 2 is correct; reason= E. slope is rainshadow