Question 1

Solution: a)

Unlike parallels of latitude, all meridians are of equal length. Thus, it was difficult to number the meridians. Hence, all countries decided that the count should begin from the meridian which passed through Greenwich, where the British Royal Observatory is located. This meridian is called the Prime Meridian. Its value is 0° longitude and from it we count 180° eastward as well as 180° westward. The Prime Meridian divides the earth into two equal halves, the Eastern Hemisphere and the Western Hemisphere. Therefore, the longitude of a place is followed by the letter E for the east and W for the west. It is, however, interesting to note that 180° East and 180° West meridians are on the same line.

Question 2

Solution: a)

The government appointed an expert committee chaired by Prof. Ranjit Roy Chaudhury (is a leading clinical pharmacologist in the country, who heads the India-WHO Programme in Rational Use of Drugs in India) to formulate policy and guidelines for approval of new drugs, clinical trials and banning of drugs.

The Supreme Court ordered the Centre to wait for its nod while the authorities re-examined the cases under the new regulatory regime for 157 clinical trials that were approved by the government.

Question 3

Answer: c)

The earliest surviving miniature paintings are on palm leaves from the 10th century and on paper from the 14th century. The images accompanied texts in religious manuscripts and illustrations of mythological epics. With the advent of the Mughals in the mid 16th century, the subjects of miniature paintings included portraits, court scenes, flora and fauna. In the Rajput (in Rajasthan) and Pahari (in the Punjab hills) courts, the paintings continued to bring to life poetry, age old legends, religious mythology and the moods of love and changing seasons. The emphasis lay on the creation of a mood and the communication of bhava (emotion) through a rich and lyrical style. Artists worked together in karkhanas (workshops) often working together on a single painting; some specialising in composition and drawing while others were master colourists. The most notable traditions of miniature painting in India are the Mughal, Rajasthani, Pahari and Deccani courts.
Question 4
Solution: a)
On 21st June, the Northern Hemisphere is tilted towards the sun. The rays of the sun fall directly on the Tropic of Cancer. As a result, these areas receive more heat. The areas near the poles receive less heat as the rays of the sun are slanting. The North Pole is inclined towards the sun and the places beyond the Arctic Circle experience continuous daylight for about six months. Since a large portion of the Northern Hemisphere is getting light from the sun, it is summer in the regions north of the equator. The longest day and the shortest night at these places occur on 21st June. At this time in the Southern Hemisphere all these conditions are reversed. It is winter season there. The nights are longer than the days. This position of the earth is called the Summer Solstice.

On 22nd December, the Tropic of Capricorn receives direct rays of the sun as the South Pole tilts towards it. As the sun's rays fall vertically at the Tropic of Capricorn (23½° S), a larger portion of the Southern Hemisphere gets light. Therefore, it is summer in the Southern Hemisphere with longer days and shorter nights. The reverse happens in the Northern Hemisphere. This position of the earth is called the Winter Solstice. For this reason, Christmas is celebrated in Australia in the summer season.

Question 5
Solution: c)
The Bill seeks to amend the Representation of People Act, 1951 (RPA, 1951). The two key changes brought about by the Bill are:

Even if a person is prohibited from voting due to being in police custody or in jail, as long as his name is entered on the electoral roll he shall not cease to be an elector. This implies that he can file nomination for an election.

The definition of “disqualified” in the Act has been amended. Currently, the definition of disqualified means disqualified for either being chosen as or being a Member of Parliament or a State Legislature. The amendment adds a ground to the definition that the disqualification has to be due to conviction for certain specified offences and can be on no other ground. Conviction for one of these offences would result in the person’s name being removed from the electoral roll and he would cease to be an elector.

This amendment Bill seeks to address the situation arising out of the Supreme Court’s judgment.

On July 10, 2013, the Supreme Court ruled that a person, who is in jail or in police custody, cannot contest elections to legislative bodies. The RPA, 1951 states that any contestant to an election to legislative bodies has to be an “elector”, i.e., his name should be on the electoral roll.
and he is not subject to any of the disqualifications mentioned in Section 16 of the Representation of People Act, 1950. Among other things, that section disqualifies anyone from being on the electoral roll if he is disqualified from voting under the provisions of any law relating to corrupt practices and other offences in relation to elections. Another provision in the RPA, 1951 says that anyone in prison or on the lawful custody of the police (other than preventive detention) is not entitled to vote.

The Supreme Court concluded that a person in jail or police custody is not entitled to vote, and therefore, is not an elector, and thus, cannot contest elections.

**Question 6**

**Solution: c)**

This site is located in a fertile plain, near the Bolan Pass, which is one of the most important routes into Iran. Mehrgarh was probably one of the places where women and men learnt to grow barley and wheat, and rear sheep and goats for the first time in this area. It is one of the earliest villages that we know about.

**Question 7**

**Solution: d)**

Women tend to have a lower mortality rate at every age. In the womb, male fetuses have a higher mortality rate (babies are conceived in a ratio estimated to be from 107 to 170 males to 100 females, but the ratio at birth in the United States is only 105 males to 100 females). Among the smallest premature babies (those under 2 pounds or 900 g) females again have a higher survival rate. At the other extreme, about 90% of individuals aged 110 are female.

Life expectancy is one of the factors in measuring the Human Development Index (HDI) of each nation, along with adult literacy, education, and standard of living.

Life expectancy is also used in describing the physical quality of life of an area.

Disparities in life expectancy are often cited as demonstrating the need for better medical care or increased social support.

Life expectancies are also used when determining the value of a life settlement, a life insurance policy sold for a cash asset.

The Glasgow effect refers to the unexplained poor health and low life expectancy of Glaswegians compared to the rest of the United Kingdom and Europe.
The Lindy Effect is a theory of the life expectancy of non-perishable things that posits for a certain class of non-perishables, like a technology or an idea, every additional day may imply a longer life expectancy.

**Question 8**

**Solution: d)**

Agro based industries use plant and animal based products as their raw materials. Food processing, vegetable oil, cotton textile, dairy products and leather industries are examples of agro-based industries.

**Question 9**

**Solution: c)**

Pittsburgh:

It is an important steel city of the United States of America. The steel industry at Pittsburgh enjoys locational advantages. Some of the raw material such as coal is available locally, while the iron ore comes from the iron mines at Minnesota, about 1500 km from Pittsburgh. Between these mines and Pittsburgh is one of the world’s best routes for shipping ore cheaply – the famous Great Lakes waterway. Trains carry the ore from the Great Lakes to the Pittsburgh area. The Ohio, the Monogahela and Allegheny rivers provide adequate water supply.

**Question 10**

**Solution (a)**

Right against exploitation prohibits human trafficking, forced labour and children working under 14 years of age.

Cultural and Educational rights includes preservation and development of both religious and linguistic minorities.

Right to constitutional remedies allows the citizens to move the court if they believe that any of the fundamental rights have been violated by the State.

*Reference: Page 14 (Social & Political Science –III)*

**Question 11**

**Solution (d)**

The Rajya Sabha can also initiate legislation. The members of the Rajya Sabha are elected (not nominated) by the elected members of the Legislative Assemblies of various states.

*Reference: Page 37 (Social & Political Science –III)*
Question 12

Solution: c)
Painted Grey Ware. Plates and bowls are the most common vessels made out of Painted Grey Ware. These are extremely fine to touch, with a nice, smooth surface. Perhaps these were used on special occasions, for important people, and to serve special food. People in Janapadas made earthen pots. Some of these were grey in colour, others were red. One special type of pottery found at these sites is known as Painted Grey Ware. As is obvious from the name, these grey pots had painted designs, usually simple lines and geometric patterns.

Question 13

Solution (c)
Integrated Judiciary means, the decisions made by higher courts ‘are’ binding on lower courts. By appellate system it means a person can appeal to a higher court if they believe that the judgement passed by the lower court is not just.

Question 14

Solution: d)
These animals quickly swallow the grass and store it in a separate part of the stomach called rumen. Here the food gets partially digested and is called cud. But cud later the cud returns to the mouth in small lumps and the animal chews it. This process is called rumination and rumination these animals are called ruminants. Ruminants.

The grass is rich in cellulose, a type of carbohydrate. Many animals, including humans, cannot digest cellulose. Ruminants have a large sac-like structure between the small intestine and large intestine. The cellulose of the food is digested here by the action of certain bacteria which are not present in humans.

NCERT Science class VII chapter 2

Question 15

Solution: c)
Please refer to NCERT class VII Science text book, chapter-3, page 23, Table 3.1.
Question 16

Solution: d)

1. During the day, the land gets heated faster than the water. The air over the land becomes hotter and rises up. The cooler air from the sea rushes in towards the land to take its place. The warm air from the land moves towards the sea to complete the cycle. The air from the sea is called the sea breeze.
2. At night it is exactly the reverse. The water cools down more slowly than the land. So, the cool air from the land moves towards the sea. This is called the land breeze.

NCERT science class VII chapter 4

Question 17

Solution: c)

NCERT class VII chapter 11

The veins have thin walls whereas the arteries have thick elastic walls.

Arteries carry oxygen-rich blood from the heart to all parts of the body. Since the blood flow is rapid and at a high pressure, the arteries have thick elastic walls.

Question 18

Solution: d)

NCERT class VII chapter 14

A fuse interrupts excessive current (blows) so that further damage by overheating or fire is prevented. Wiring regulations often define a maximum fuse current rating for particular circuits. Overcurrent protection devices are essential in electrical systems to limit threats to human life and property damage.

The fuse element is made of zinc, copper, silver, aluminum, or alloys to provide stable and predictable characteristics. The fuse ideally would carry its rated current indefinitely, and melt quickly on a small excess. The element must not be damaged by minor harmless surges of current, and must not oxidize or change its behavior after possibly years of service.
Question 19

Solution: a)

There are three types of mountains- Fold Mountains, Block Mountains and the Volcanic Mountains. The Himalayan Mountains and the Alps are young fold mountains with rugged relief and high conical peaks. The Aravali range in India is one of the oldest fold mountain systems in the world. The range has considerably worn down due to the processes of erosion. The Appalachians in North America and the Ural mountains in Russia (Figure 5.1) have rounded features and low elevation. They are very old fold mountains.

Block Mountains are created when large areas are broken and displaced vertically. The uplifted blocks are termed as horsts and the lowered blocks are called graben. The Rhine valley and the Vosges mountain in Europe are examples of such mountain systems. Locate them on the world map in the atlas and find out some more examples of this type of landforms.

Question 20

Solution: a)

All other statements are wrong

chapter 5, page no. 32
The following table gives the distribution of water in percentage:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceans</td>
<td>97.3</td>
</tr>
<tr>
<td>Ice-caps</td>
<td>02.0</td>
</tr>
<tr>
<td>Ground water</td>
<td>0.68</td>
</tr>
<tr>
<td>Fresh Water</td>
<td></td>
</tr>
<tr>
<td>Fresh water lakes</td>
<td>0.009</td>
</tr>
<tr>
<td>Inland seas &amp;</td>
<td></td>
</tr>
<tr>
<td>Salt lakes</td>
<td>0.009</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>0.0019</td>
</tr>
<tr>
<td>Rivers</td>
<td>0.0001</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Question 21**

Solution: d)

**chapter - 4**

1. Permanent winds – The trade winds, westerlies and easterlies are the permanent winds. These blow constantly throughout the year in a particular direction.

2. Seasonal winds – These winds change their direction in different seasons. For example monsoons in India.

3. Local winds – These blow only during a particular period of the day or year in a small area. For example, land and sea breeze. Do you recall the hot and dry local wind of northern planes of India? It is called loo.

**Question 22**

Solution: d)

reference;

**Question 23**

Solution: b)
The light water reactor (LWR) is a type of thermal reactor that uses normal water, as opposed to heavy water, as its coolant and neutron moderator and a solid compound of fissile element as its fuel. Thermal reactors are the most common type of nuclear reactor, and light water reactors are the most common type of thermal reactor. There are three varieties of light water reactors: the pressurized water reactor (PWR), the boiling water reactor (BWR), and (most designs of) the supercritical water reactor (SCWR).

**Question 24**

**Solution: c)**

The Supreme Court has said that the State governments are advised that as regard to arrest of any person in complaint registered under section 66A of the Information Technology Act, the concerned police officer of a police station may not arrest any person until she/he has obtained prior approval of such arrest from an officer, not below the rank of Inspector General of Police (IGP) in metropolitan cities or of an officer not below the rank of Deputy Commissioner of Police (DCP) or Superintendent of Police (SP) at district level, as the case may be.

Section 66A(b) of IT act makes an offence of sending through a computer resource or communication device "any information which he knows to be false, but for the purpose of causing annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred or ill will, persistently by making use of such computer resource or a communication device.

**Question 25**

**Solution: c)**

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrogen (N2)</td>
<td>78.084</td>
</tr>
<tr>
<td>oxygen (O2)</td>
<td>20.946</td>
</tr>
<tr>
<td>argon (Ar)</td>
<td>0.934</td>
</tr>
<tr>
<td>neon (Ne)</td>
<td>0.0018</td>
</tr>
<tr>
<td>helium (He)</td>
<td>0.000524</td>
</tr>
</tbody>
</table>
methane (CH$_4$) 0.0002

krypton (Kr) 0.000114

hydrogen (H$_2$) 0.00005

nitrous oxide (N$_2$O) 0.00005

xenon (Xe) 0.0000087

The uniformity of composition is maintained by mixing associated with atmospheric motions; but, above a height of about 90 km (55 miles), diffusional processes become more important than mixing, and the lighter gases (hydrogen and helium, in particular) are more abundant above that level.

Of the gases present in variable concentrations, water vapour, ozone, carbon dioxide, sulfur dioxide, and nitrogen dioxide are of principal importance.

Question 26

Solution: b)

Sometimes the oasis may be abnormally large. Tafilalet Oasis in Morocco is a large oasis with an area of about 13,000 sq.km.

Oases also provide habitat for animals and even humans if the area is big enough. The location of oases has been of critical importance for trade and transportation routes in desert areas. Caravans must travel via oases so that supplies of water and food can be replenished. Thus, political or military control of an oasis has in many cases meant control of trade on a particular route. For example, the oases of Awjila, Ghadames and Kufra, situated in modern-day Libya, have at various times been vital to both North-South and East-West trade in the Sahara.

Question 27

Solution: d)
Question 28
Solution: c)

- **Background:** Article 102 of the Constitution provides that a person shall be disqualified from being chosen as a Member of Parliament (MP) if he holds an office of profit under the government of India or the government of a state. However, Parliament can declare by law that the holding of certain offices will not incur this disqualification. The Parliament (Prevention of Disqualification) Act, 1959 lists certain offices of profit under the central and state governments, which do not disqualify the holders from being an MP. The Chairperson of the National Commission for Scheduled Castes and Scheduled Tribes is exempted from disqualification as per this list.

- **Amendment:** The Bill seeks to amend the Parliament (Prevention of Disqualification) Act, 1959. The amendment will exclude the Chairperson of the National Commission for the Scheduled Castes and the Chairperson of the National Commission for the Scheduled Tribes from incurring any disqualification from being an MP.

- The amendment to the 1959 Act reflects the change brought about by the Constitution (Eighty - ninth Amendment) Act, 2003. The constitutional amendment bifurcated the National Commission for the Scheduled Castes and Scheduled Tribes into two independent Commissions: the National Commission for the Scheduled Castes and the National Commission for the Scheduled Tribes. Hence, the amendment to the 1959 Act was necessary to exclude the Chairperson of these two Commissions from incurring any disqualification from being an MP.

Question 29
Solution (b)
Under federalism, the states are not merely agents of the federal government but draw their authority from the Constitution as well.

Reference: Page 12 (Social & Political Science –III )

Question 30
Solution: b)
Herbivory is a form of consumption in which an organism principally eats autotrophs such as plants, algae and photosynthesizing bacteria. More generally, organisms that feed on autotrophs in general are known as primary consumers. Herbivory usually refers to animals eating plants; fungi, bacteria and protists that feed on living plants are usually termed plant pathogens (plant diseases), and microbes that feed on dead plants are saprotrophs.

Herbivores form an important link in the food chain, because they consume plants in order to ingest the carbohydrates produced by a plant with the help of Photosynthesis. Carnivores in turn consume herbivores for the same reason, while omnivores can obtain their nutrients from either plants or animals. Due to a herbivore's ability to survive solely on tough and fibrous plant matter, they are termed the primary consumers in the food cycle (chain). Herbivory, carnivory, and omnivory can be regarded as special cases of Consumer-Resource Systems.


**Question 31**

**Solution: c)**

**Reference: NCERT VI - Science chapter 2**

1. Beriberi : Weak muscles and very little energy to work
2. Scurvy : Bleeding gums, wounds take longer time to heal
3. Rickets : Bones become soft and bent

**Question 32**

**Solution: b)**

**Reference: NCERT VI - Science chapter 3**

Jute fibre is obtained from the stem of the jute plant.

**Question 33**

**Solution: d)**

Mountain Forests
These trees are called coniferous trees. Chir, Pine and Deodar are important trees of these forests.

Thorny Bushes
Cactus, khair, babool, keekar are important and are found in the states of Rajasthan, Punjab, Haryana, Eastern slopes of Western Ghats and Gujarat.

**Mangroves**

**Sundari** is a well-known species of trees in mangrove forests after which Sunderbans have been named

**Tropical Deciduous Forests**

Important trees of these forests are sal, teak, peepal, neem and shisham.

**Question 34**

**Solution: a)**

Sandstone is a sedimentary rock formed by sedimentation of sand grains.

**Question 35**

**Solution: a)**

- The Bill provides for land acquisition as well as rehabilitation and resettlement. It replaces the Land Acquisition Act, 1894.
- The process for land acquisition involves a Social Impact Assessment survey, preliminary notification stating the intent for acquisition, a declaration of acquisition, and compensation to be given by a certain time. All acquisitions require rehabilitation and resettlement to be provided to the people affected by the acquisition.
- Compensation for the owners of the acquired land shall be four times the market value in case of rural areas and twice in case of urban areas.
- In case of acquisition of land for use by private companies or public private partnerships, consent of 80 per cent of the displaced people will be required. Purchase of large pieces of land by private companies will require provision of rehabilitation and resettlement.
- The provisions of this Bill shall not apply to acquisitions under 16 existing legislations including the Special Economic Zones Act, 2005, the Atomic Energy Act, 1962, the Railways Act, 1989, etc.

**Question 36**

**Solution: b)**

The headquarters of the University will be at Fursatganj in the District of Raebareli in the State of Uttar Pradesh.
Question 37

Note: We regret the typo in Question Paper on this question. It was an attempt to interchange the definitions, but didn’t change the words Rabi and Kharif in the definitions.

Assuming that the definition was interchanged the solution will be (d) i.e. none.

Solution: d)

(i) Kharif Crops: The crops which are sown in the rainy season are called kharif crops. The rainy season in India is generally from June to September. Paddy, maize, soyabean, groundnut, cotton, etc., are kharif crops.
(ii) Rabi Crops: The crops grown in the winter season are called rabi crops. Their time period is generally from October to March. Examples of rabi crops are wheat, gram, pea, mustard and linseed.

Question 38

Solution: b)

NCERT class VII chapter 15

Convex mirror is also called as fish eye mirror and these are used in vehicle mirrors

Question 39

Solution: b)

Wool is a poor conductor of heat.

NCERT class VII chapter 4

Question 40

Solution: b)

Wheat: Wheat requires moderate temperature and rainfall during growing season and bright sunshine at the time of harvest. It thrives best in well drained loamy soil. Wheat is grown extensively in USA, Canada, Argentina, Russia, Ukraine, Australia and India. In India it is grown in winter.
Question 41
Solution: d)

A sunrise industry is one that is new or relatively new, is growing fast and is expected to become important in the future. Examples of sunrise industries include hydrogen fuel production, space tourism, and online encyclopedias.

Question 42
Solution: b)

The stupa at Saranath was built to mark the place where the Buddha first taught his message.

Question 43
Solution: a)

The process of taking out minerals from rocks buried under the earth’s surface is called mining. Minerals that lie at shallow depths are taken out by removing the surface layer; this is known as open-cast mining. Deep bores, called shafts, have to be made to reach mineral deposits that lie at great depths. This is called shaft mining. Petroleum and natural gas occur far below the earth’s surface. Deep wells are bored to take them out, this is called drilling. Minerals that lie near the surface are simply dug out, by the process known as quarrying.

Question 44
Solution: b)

National Park
A natural area designated to protect the ecological integrity of one or more ecosystems for present and future generations.
Question 45

Solution: d)

Contour Ploughing: Ploughing parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope.

Question 46

Solution: c)

These were part of the Later Vedic texts.

Question 47

Solution: a)

Anaerobic respiration plays a major role in the global nitrogen, sulfur, and carbon cycles through the reduction of the oxyanions of nitrogen, sulfur, and carbon to more-reduced compounds. Dissimilatory denitrification is the main route by which biologically fixed nitrogen is returned to the atmosphere as molecular nitrogen gas. Hydrogen sulfide, a product of sulfate respiration, is a potent neurotoxin and responsible for the characteristic 'rotten egg' smell of brackish swamps.

Question 48

Solution (d)

The members of the Constituent Assembly felt that the freedom struggle had prepared the masses for universal adult suffrage and this would help encourage a democratic mindset and break clutches of traditional caste, class and gender hierarchies. And since the people of India will have a direct role in electing their representatives, the people's participation would also increase.

Reference: Page 13 (Social & Political Science –III)

Question 49

Solution: c)


http://www.prsindia.org/uploads/media/Lokpal/Lok%20pal%20Final%20Brief%20for%20printing.pdf (page 2, last point)

Removal of Lok Pal
The Chairperson and members of the Lok Pal may be removed on grounds of misbehaviour by an order of the President. The President may make a reference to the Supreme Court to enquire into the Lok Pal's conduct (a) on his own, (b) on the basis of a petition signed by at least 100 MPs or (c) if he is satisfied with a petition by a citizen. The President may issue an order of removal on the basis of the inquiry made by the Supreme Court.

**Question 50**
**Solution:** c)

Reference: [http://www.livemint.com/Politics/P49KxOKkfZUNmTICoGjWIJ/Lok-Sabha-approves-changes-in-money-laundering-Bill.html](http://www.livemint.com/Politics/P49KxOKkfZUNmTICoGjWIJ/Lok-Sabha-approves-changes-in-money-laundering-Bill.html)


The Prevention of Money Laundering Act, 2002 levies a fine up to Rs five lakh. The Bill proposes to remove this upper limit.

Part B of the Schedule in the existing Act includes only those crimes that are above Rs 30 lakh or more whereas Part A did not specify any monetary limit of the offence. The Bill proposes to bring all the offences under Part A of the Schedule to ensure that the monetary thresholds do not apply to the offence of money laundering.

**Question 51**
**Solution:** a)
**NCERT class VII chapter 16**


The amount of water recommended by the United Nations for drinking, washing, cooking and maintaining proper hygiene is a minimum of 50 litres per person per day.

**Question 52**
**Solution:** a)

Saprotrophic nutrition is a process of chemoheterotrophic extracellular digestion involved in the processing of dead or decayed organic matter. It occurs in saprotrophs or heterotrophs, and is most often associated with fungi (for example *Mucor* and *Rhizopus*) and soil bacteria. Saprotrophic microscopic fungi are sometimes called saprobes; saprotrophic plants or bacterial flora are called saprophytes (sapro- + -phyte, "rotten material" + "plant"). The process is most often facilitated through the active transport of such materials through endocytosis within the internal mycelium and its constituent hyphae.
Question 53
Solution: d)
NCERT class VII chapter 9
Soil textures are classified by the fractions of each soil separate (sand, silt, and clay) present in a soil. Classifications are typically named for the primary constituent particle size or a combination of the most abundant particles sizes, e.g. "sandy clay" or "silty clay." A fourth term, loam, is used to describe a roughly equal concentration of sand, silt, and clay, and lends to the naming of even more classifications, e.g. "clay loam" or "silt loam."

Soil texture is a qualitative classification tool used in both the field and laboratory to determine classes for agricultural soils based on their physical texture.

Question 54
Solution: b)
Modern Methods of Irrigation

Modern methods of irrigation help us to use water economically. The main methods used are as follows:

(i) Sprinkler System: This system is more useful on the uneven land where sufficient water is not available. The perpendicular pipes, having rotating nozzles on top, are joined to the main pipeline at regular intervals. When water is allowed to flow through the main pipe under pressure with the help of a pump, it escapes from the rotating nozzles. It gets sprinkled on the crop as if it is raining. Sprinkler is very useful for sandy soil

(ii) Drip system: In this system, the water falls drop by drop just at the position of the roots. So it is called drip system. It is the best technique for watering fruit plants, gardens and trees. The system provides water to plants drop by drop. Water is not wasted at all. It is a boon in regions where availability of water is poor.

Question 55
Solution: c)
The Labrador Ocean current is cold current while the Gulf Stream is a warm current.

Ocean currents are streams of water flowing constantly on the ocean surface in definite directions. The ocean currents may be warm or cold (Fig. 5.6). Generally, the warm ocean currents originate near the equator and move towards the poles. The cold currents carry water from polar or higher latitudes to tropical or lower latitudes. The Labrador Ocean current is cold current while the Gulf Stream is a warm current. The ocean current influence the temperature conditions of the area. Warm currents bring about warm temperature over land surface. The areas where the warm and cold currents meet provide the best fishing grounds of the world. Seas
around Japan and the eastern coast of North America are such examples. The areas where a warm and cold current meet also experience foggy weather making it difficult for navigation.

**Question 56**

**Solution: d)**

It is mostly found in the areas around the Mediterranean sea in Europe, Africa and Asia, hence the name. This kind of vegetation is also found outside the actual Mediterranean region in California in the USA, south west Africa, south western South America and South west Australia. These regions let’s do are marked for hot dry summers and mild rainy winters. Citrus fruits such as oranges, figs, olives and grapes are commonly cultivated here because people have removed the natural vegetation in order to cultivate what they want to. There isn’t much wildlife here.

Mediterranean trees adapt themselves to dry summers with the help of their thick barks and wax coated leaves which help them reduce transpiration.

Mediterranean regions are known as ‘Orchards of the world’ for their fruit cultivation.

**Question 57**

**Solution: d)**

**Sexual assault:** Currently, “assault or use of criminal force to a woman with the intent to outrage her modesty” is punishable under Section 354 of the IPC with 2 years imprisonment. The term outraging the modesty of a woman is not defined in the IPC. Thus, where penetration cannot be proved, the offence is categorized as defined under Section 354 of the IPC.

The Committee recommended that non-penetrative forms of sexual contact should be regarded as sexual assault. The offence of sexual assault should be defined so as to include all forms of non-consensual non-penetrative touching of a sexual nature. The sexual nature of an act should be determined on the basis of the circumstances. Sexual gratification as a motive for the act should not be prerequisite for proving the offence. The offence should be punishable with 5 years of imprisonment, or fine, or both.

Use of criminal force to disrobe a woman should be punishable with 3 to 7 years of imprisonment.

Verbal sexual assault: At present, use of words or gestures to “insult a woman’s modesty” is punishable with 1 year of imprisonment or fine or both under Section 509 of the IPC. This section should be repealed. The Committee has suggested that use of words, acts or gestures that create an unwelcome threat of a sexual nature should be termed as sexual assault and be punishable for 1 year imprisonment or fine or both.
Police reforms: The Committee has recommended certain steps to reform the police. These include establishment of State Security Commissions to ensure that state governments do not exercise influence on the state police. Such Commissions should be headed by the Chief Minister or the Home Minister of the state. The Commission would lay down broad policy guidelines so that the Police acts according to the law. A Police Establishment Board should be established to decide all transfers, postings and promotions of officers. Director General of Police and Inspector General of Police should have a minimum tenure of 2 years.

Question 58
Solution: d)

- A resolution to make special provisions for the Hyderabad-Karnataka Region was passed by the Legislative Assembly and Legislative Council of Karnataka in March 2012. The resolution aims to establish an institutional mechanism to develop the region and promote inclusive growth. It aims to reduce inter-region and inter-district disparity in the State of Karnataka. This Bill was introduced in Parliament to give effect to this resolution.
- The Bill seeks to insert Article 371J in the Constitution to empower the Governor of Karnataka to take steps to develop the Hyderabad-Karnataka Region. As per the Statements of Objects and Reasons of the Bill, this Region includes the districts of Gulbarga, Bidar, Raichur, Koppal, Yadgir and Bellary.
- The President may allow the Governor to take the following steps for development of the region: (i) setting up a development board for the Region; (ii) ensure equitable allocation of funds for development of the Region; and (iii) provide for reservation in educational and vocational training institutions, and state government positions in the Region for persons from the Region.

Question 59
Solution (a)

The Parliament in India Consists of the President, the Rajya Sabha and the Lok Sabha.
Reference: Page 36 (Social & Political Science – III)

Question 60
Solution (b)

The Judicial system provides a mechanism for resolving disputes between the citizens, between the citizen and the government, between two states and between the centre and state government.
Every citizen of India can approach the Supreme Court(Article-32) or the High Court (Article-226) if they believe that their Fundamental rights are violated.
Judiciary has the power to strike down any particular laws passed by the Parliament if it is in violation of the basic structure of the constitution.

Reference: Page 55 (Social & Political Science –III)

**Question 61**

Solution (c)

A Civil law deals with any harm/injury to rights of individuals. For example, disputes relating to sale of land, purchase of goods, rent matters, divorce cases. A petition has to be filed before the relevant court by the affected party only and the court gives the specific relief asked for. Whereas a Criminal Law deals with conduct or acts that law defines as offences. For example, theft, harassing a woman to bring more dowry, murder.

Reference: Page 60 (Social & Political Science –III)

**Question 62**

Solution: d)


It is a system under which appointments and transfers of judges are decided by a forum of the Chief Justice of India and the four senior-most judges of the Supreme Court.

It has no place in the Indian Constitution.

Article 124 deals with the appointment of Supreme Court judges. It says the appointment should be made by the President after consultation with such judges of the High Courts and the Supreme Court as the President may deem necessary. The CJI is to be consulted in all appointments, except his or her own.

**Question 63**

Solution: d)

A Bench of Justices K.S. Radhakrishnan and Pinaki Chandra Ghose referred to the recommendations of the Hota Committee (2004) and the Santhanam Committee report, which highlighted “the necessity of recording instructions and directions by public servants.”

The Bench said: “We notice that much of the deterioration of the standards of probity and accountability with the civil servants is due to the political influence of persons purporting to represent those who are in authority. The Santhanam Committee on Prevention of Corruption, 1962 has recommended that there should be a system of keeping some sort of records in such situations. Rule 3(3) (iii) of the All India Service Rules specifically requires that all orders from superior officers shall ordinarily be in writing.”
Question 64

Solution: d)

All three statements are teachings of Mahavira.

Question 65

Solution: c)

Faience
Unlike stone or shell, that are found naturally, faience is a material that is artificially produced. A gum was used to shape sand or powdered quartz into an object. The objects were then glazed, resulting in a shiny, glassy surface. The colours of the glaze were usually blue or sea green. Faience was used to make beads, bangles, earrings, and tiny vessels.

Question 66

Solution: c)

Troposphere: This layer is the most important layer of the atmosphere. Its average height is 13 km. The air we breathe exists here. Almost all the weather phenomena like rainfall, fog and hailstorm occur in this layer.

Stratosphere: Above the troposphere lies the stratosphere. It extends up to a height of 50 km. This layer is almost free from clouds and associated weather phenomenon, making conditions most ideal for flying aeroplanes. One important feature of stratosphere is that it contains a layer of ozone gas. We have just learnt how it protects us from the harmful effect of the sun rays.

Mesosphere: This is the third layer of the atmosphere. It lies above the stratosphere. It extends up to the height of 80 km. Meteorites burn up in this layer on entering from the space.

Thermosphere: In thermosphere temperature rises very rapidly with increasing height. Ionosphere is a part of this layer. It extends between 80-400 km. This layer helps in radio transmission. In fact, radio waves transmitted from the earth are reflected back to the earth by this layer.

Exosphere: The upper most layer of the atmosphere is known as exosphere. This layer has very thin air. Light gases like helium and hydrogen float into the space from here.
Question 67

Solution: d)

Slash and Burn is a way of cultivating land where farmers clear a piece of land by slashing or cutting down trees and bushes. These are then burnt, which releases the nutrients into the soil. Now crops are grown in this cleared field for a few years.

After repeatedly using the patch of land, the soil loses its nutrients. So it is abandoned. Then they clear another plot of land to plant. In the mean time young trees grow in the old field. In this way soil fertility is restored. People can then return to it and start cultivating it again.

Slash-and-char is an alternative to slash-and-burn that has a lesser effect on the environment. It is the practice of charring the biomass resulting from the slashing, instead of burning it as in the slash-and-burn practice. The resulting residue matter charcoal and biochar improves the soil.

Question 68

Solution: c)

Damodar is not a tributary river of Ganga. The Damodar originates in Chandwa (community development block) in Latehar district, on the Chota Nagpur Plateau, and flows eastward for about 592 km through the states of Jharkhand and West Bengal to the estuary of the River Hooghly. Metamorphic rocks form the watershed between the North Koel and the Damodar to the west of the Chandwa-Balumath road. This divide separates the Son and Damodar basins.

Question 69

Solution: a)

Large quantities of ostrich egg shells found here gives the evidence that Ostriches lived in India during the Palaeolithic period. Designs were engraved on some pieces, while beads were also made out of these eggs.

Question 70
Solution (a)

The Constitution of India guarantees the rights of the individual against the State as well as against other individuals.

Reference: Page 14 (Social & Political Science –III)

Question 71

Solution (d)

Reference: Page 21 (Social & Political Science –III)

Question 72

Solution (d)

Marginalisation can be because group of people or communities who speak a different language, follow different customs, low social status or belong to a different religious group from the majority community. Also Economic, social, cultural and political factors work together to make certain groups in society feel marginalised.

Reference: Page 71 (Social & Political Science –III)

Question 73

Solution: c)

The Chairperson and Members shall be appointed by the President after obtaining the recommendations of a Selection Committee consisting of—
(a) the Prime Minister—chairperson;
(b) the Speaker of the House of the People—member;
(c) the Leader of Opposition in the House of the People—member;
(d) the Chief Justice of India or a Judge of the Supreme Court nominated by him—member;
(e) one eminent jurist, as recommended by the chairperson and members referred to in clauses (a) to (d) above, to be nominated by the President—member
Question 74

Solution (c)

The Constitution of India recognises the right to water as being a part of the Right to Life under Article 21, i.e., right of every person rich or poor to have sufficient amount of water to fulfil one's daily needs at a price that he/she can afford.

Healthcare, education, sanitation are nothing but one's 'basic needs' which the Constitution recognises.

However, striving towards excellence in all spheres of individual and collective activity is a Fundamental duty of the individual.

Reference: Page 109,116,117 (Social & Political Science –III)

Question 75

Solution: c)

The Lok Pal shall have jurisdiction over public servants categorised as Group ‘A’ officers. Presently, these officers fall under the purview of the Central Vigilance Commission (CVC). Therefore, both the CVC and Lok Pal will have jurisdiction over Group ‘A’ officers.

Transfer of officers of CBI investigating cases referred by Lokpal with the approval of Lokpal

Question 76

Solution: c)

It is The Constitution (One Hundred and Twentieth Amendment) Bill, 2013 not 119th.

The Bill proposes to insert a new Article 124A, and amend Articles 124(2) and 217(1) which lay down the procedure for appointment of judges to the Supreme Court and High Court respectively.

The proposed Article 124 A contains two clauses; Clause (i) provides for a Commission, to be known as the Judicial Appointments Commission. f Article 124A(2) enables Parliament to make a law that provides the manner of selection for appointment as Chief justice of India and other Judges of the Supreme Court, Chief justices and other judges of the High Courts.
Furthermore, Article 124A (2) enables that law to lay down the following features of the Commission: (i) the composition, (ii) the appointment, qualifications, conditions of service and tenure of the Chairperson and Members, (iii) the functions, (iv) procedure to be followed, (v) other necessary matters. Consequently, the Bill amends Articles 124 (2) and 217 (1) of the Constitution which provided for appointment of Judges to the Supreme Court and High Court respectively.

**Question 77**

**Solution:** d)

Some methods of soil conservation are:

- **Mulching:** The bare ground between plants is covered with a layer of organic matter like straw. It helps to retain soil moisture.

- **Contour barriers:** Stones, grass, soil are used to build barriers along contours. Trenches are made in front of the barriers to collect water.

- **Rock dam:** Rocks are piled up to slow down the flow of water. This prevents gullies and further soil loss.

- **Terrace farming:** These are made on the steep slopes so that flat surfaces are available to grow crops. They can reduce surface run-off and soil erosion.

- **Intercropping:** Different crops are grown in alternate rows and are sown at different times to protect the soil from rain wash.

- **Contour ploughing:** Ploughing parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope.

- **Shelter belts:** In the coastal and dry regions, rows of trees are planted to check the wind movement to protect soil cover.

**Question 78**

**Solution:** b)

They were present in Hallur and Paiyampalli.
Question 79

Solution: d)

Samanta was a title and position used by the Indian nobility. The institution of Samanta finds mention for the first time in epigraphs of northern India dating to the 6th century. The institution is considered to belong properly to the Gupta Empire and is closely associated with the origin and growth of feudalism in India.

Question 80

Solution: a)

The strong gravitational pull exerted by the sun and the moon on the earth’s surface causes the tides. The water of the earth closer to the moon gets pulled under the influence of the moon’s gravitational force and causes high tide. During the full moon and new moon days, the sun, the moon and the earth are in the same line and the tides are highest. These tides are called spring tides. But when the moon is in its first and last quarter, the ocean waters get drawn in diagonally opposite directions by the gravitational pull of sun and earth resulting in low tides. These tides are called neap tides. High tides help in navigation. They raise the water level close to the shores. This helps the ships to arrive at the harbour more easily. The high tides also help in fishing. Many more fish come closer to the shore during the high tide. This enables fishermen to get a plentiful catch. The rise and fall of water due to tides is being used to generate electricity in some places.

Question 81

Solution: b)

The inscriptions of the Cholas who ruled in Tamil Nadu refer to more than 400 terms for different kinds of taxes. The most frequently mentioned tax is vetti, taken not in cash but in the form of forced labour, and kadamai, or land revenue. There were also taxes on thatching the house, the use of a ladder to climb palm trees, a cess on succession to family property, etc.
Question 82

Solution: d)

The Civil Liability for Nuclear Damage Bill, 2010 seeks to create a mechanism for compensating victims of nuclear damage arising from a nuclear incident. There are currently 19 nuclear reactors in the country.

The Statement of Objects and Reasons of the Bill states that it is being enacted to provide for liability arising out of a nuclear incident, and also due to the “necessity of joining an international liability regime.”

There are three major international agreements which form the international framework of nuclear liability: (a) The Paris Convention of 1960, (b) The Vienna Convention of 1963, and (c) The Convention on Supplementary Compensation for Nuclear Damage of 1997. India is not a party to any of these conventions presently.

India has also signed some agreements with other countries (including USA, UK, Russia, France, and Canada) for co-operation in use of nuclear energy for civilian purposes. The India-France agreement explicitly states that India has to create a civil nuclear liability regime for compensating damage caused by incidents involving nuclear material and nuclear facilities.

Question 83

Solution: c)

- Offences under the Bill shall be cognizable and non-bailable, and may be tried summarily.

References


Question 84

Solution: c)

NCERT science class VII chapter 7
Red-eyed tree frogs inhabit areas near rivers and ponds in rainforests from southern Mexico, through Central America, to northern Colombia.

Red-eyed tree frogs are not poisonous and rely on camouflage to protect themselves.

**Question 85**

Solution: d)

NCERT Science class VII chapter 2

**Question 86**

Solution: a)

The weather of a place changes day after day and week after week.

NCERT class VII chapter 5

**Question 87**

Solution: d)

Harvest Festivals

After three or four months of hard work there comes the day of the harvest. The sight of golden fields of standing crop, laden with grain, fills the hearts of farmers with joy and a sense of well-being. The efforts of the past season have borne fruit and it is time to relax and enjoy a little. The period of harvest is, thus, of great joy and happiness in all parts of India. Men and women celebrate it with great enthusiasm. Special festivals associated with the harvest season are Pongal, Baisakhi, Holi, Diwali, Nabanya and Bihu.

**Question 88**

Solution: d)

All are fundamental rights
Question 89

Solution: d]

Reference: NCERT VI - Science chapter 2

Vitamins help in protecting our body against diseases. Vitamins also help in keeping our eyes, bones, teeth and gums healthy. Vitamins are of different kinds known by different names. Some of these are Vitamin A, Vitamin C, Vitamin D, Vitamin E and K. There is also a group of vitamins called Vitamin B-complex. Our body needs all types of vitamins in small quantities. Vitamin A keeps our skin and eyes healthy. Vitamin C helps body to fight against many diseases. Vitamin D helps our body to use calcium for bones and teeth.

Question 90

Solution: a)

It can not make its own food, so it lives symbiotically with legumes.


Question 91

Solution: a)
Reference: NCERT VI - Science chapter 1

Honey bees transform nectar into honey by a process of regurgitation and evaporation. They store it as a primary food source in wax honeycombs inside the beehive.

Honey gets its sweetness from the monosaccharides fructose and glucose, and has approximately the same relative sweetness as granulated sugar. It has attractive chemical properties for baking and a distinctive flavor that leads some people to prefer it over sugar and other sweeteners.[i] Most microorganisms do not grow in honey because of its low water activity of 0.6. However, honey sometimes contains dormant endospores of the bacterium Clostridium botulinum, which can be dangerous to infants, as the endospores can transform into toxin-producing bacteria in infants' immature intestinal tracts, leading to illness and even death.

Water activity is defined as the partial vapor pressure of water in a substance divided by the standard state partial vapor pressure of water. In the field of food science, the standard state is most often defined as the partial vapor pressure of pure water at the same temperature. Using this particular definition, pure distilled water has a water activity of exactly one.
As the temperature increases, $a_w$ typically increases, except in some products with crystalline salt or sugar.

**Question 92**

**Solution:** c)

All other statements are wrong

**Question 93**

**Solution:** b)

Types of land donated during Chola period:

Chola inscriptions mention several categories of land.

- **Vellanvagai** - land of non-Brahmana peasant proprietors
- **brahmadeya** - land gifted to Brahmanas
- **shalabhoga** - land for the maintenance of a school
- **devadana, tirunamattukkani** - land gifted to temples
- **pallichchhandam** - land donated to Jaina institutions

**Question 94**

**Solution (c )**

The Indian State recognises that wearing a turban is central to a Sikh’s religious practices and in order not to interfere with this allows an exception in the law. Article 25-28 specifies the Right to freedom of religion, wherein the religious communities can set up their own schools and colleges. Financial aid is provided on a non-preferential basis.

The State can interfere in religious affairs. This is called positive interference. For example, in order to prevent religion-based domination, the Indian Constitution bans untouchability. The State intervenes in religion in order to end social practice that discriminates and violates Fundamental Rights of lower castes.

Government Schools cannot promote any particular religion. But this rule does not apply to private schools.
Question 95

Solution: a)

THE VELDS
The temperate grasslands of South Africa are called the velds. Velds are rolling plateaus with varying heights ranging from 600 m to 1100 m. It is bound by the Drakensburg Mountains on the east. To its west lies the Kalahari desert. On the northeastern part, “high velds” are located that attain a height of more than 1600 m, in some places. Look at the map of Africa. Name the countries that are covered by the Velds. The tributaries of rivers Orange and Limpopo drain the region.

CLIMATE
The velds have a mild climate due to the influence of the Indian Ocean. Winters are cold and dry. Temperatures vary between 5°C and 10°C and July is the coldest month. Summers are short and warm. Johannesburg records about 20°C temperature in the summer. Let’s do Some type of grass grows on almost every surface of the earth. List names of places where you have observed grass growing, e.g., lawns, cricket field, between cracks of a side walk etc.

Question 96

Solution: c)

Question 97

Solution: c)

Reference: NCERT VI - Science chapter 1

Question 98

Solution: c)

Question 99

Solution (d)
Article 22 grants protection to persons who are arrested or detained. According to the article, every person has a Fundamental Right to be defended by a lawyer. 

Reference: Page 68, 70  (Social & Political Science –III )

**Question 100**

**Solution: c)**

Coverage of two thirds population to get highly susidized foodgrains

Upto 75% of the rural population and upto 50% of the urban population will have uniform entitlement of 5 kg foodgrains per month at highly subsidized prices of Rs. 3, Rs. 2, Rs. 1 per kg. for rice, wheat, coarse grains respectively .It will entitle about two thirds of our 1.2 billion population to subsidised foodgrains under the Targeted Public Distribution System (TPDS).

Poorest of the poor continue to get 35 kg per household

The poorest of poor households would continue to receive 35 Kg foodgrains per household per month under Antyodaya Anna Yajna at subsidized prices of Rs 3, Rs 2 and Rs 1. It is also proposed to protect the existing allocation of foodgrains to the States/Uts, subject to it being restricted to average annual offtake during last three years.

http://pib.nic.in/newsite/erelease.aspx?relid=97050