**Notes**

**Why Deforestation?**

Deforestation means the disappearance of forests and is not a recent problem. It began many centuries ago, but under colonial rule, it became more systematic and extensive.

* The disappearance of forests is referred to as deforestation.
* Causes of deforestation in India

**Land to be Improved**

Over the centuries, as the population grew and the demand for food went up, peasants started clearing forests and breaking new land. British encouraged the production of commercial crops like jute, sugar, wheat and cotton. In the 19th century, the demand for these crops increased. The colonial state thought that forests were unproductive in the early 19th century. So between 1880 and 1920, cultivated areas and the expansion of cultivation showed a sign of progress.

* Forests were unproductive, therefore British brought them under cultivation so that they could increase the income of the state.

**Building Ships**

* By the 1830s, In India, trees were cut down and exported to England for building royal ships.

**Railway Tracks**

* Wood was needed for Railways as:
* Fuel for Trains
* Railway lines sleepers which were essential to hold the tracks together.

**Sleepers on the Tracks**

In England, by the early nineteenth century, oak forests were disappearing. Search parties were sent to India to explore the forest resources. Railways spread from the 1850s. Railways were essential for colonial trade and for the movement of imperial troops. From the 1860s, the railway network expanded rapidly. Trees started falling as the railway tracks spread through India. The government gave out contracts to individuals to supply the required quantities. Forests around the railway tracks started disappearing.

**Plantations**

Large areas of natural forests were cleared to make way for tea, coffee and rubber plantations to meet Europe’s growing need for these commodities. The forests were taken over by the colonial government, which gave vast areas to European planters at cheap rates to plant tea or coffee.

**The Rise of Commercial Forestry**

British were worried that the reckless use of trees by traders and the use of forests by local people would destroy forests. Dietrich Brandis, a German expert, became the first Inspector General of Forests in India. He realised that a proper system had to be introduced to manage the forests, and people needed to be trained in the science of conservation. But it needed legal sanction. In 1864, Indian Forest Service was set up in Dehradun in 1906. In scientific forestry, natural forests, which had lots of different types of trees, were cut down. In 1906, the Forest Act was enacted, which was amended twice, once in 1878 and then in 1927. The Act of 1878 divided forests into three categories: reserved, protected and village forests. The best forests were called ‘reserved forests’.

British made a German expert, Dietrich Brandis, the first Inspector General of Forests in India.

Brandis set up the Indian Forest Service in 1864 and helped formulate the Indian Forest Act of 1865.

The Imperial Forest Research Institute was set up in Dehradun in 1906.

* Scientific forestry was taught there.
* In the scientific forestry system, forests with different kinds of trees were replaced by plantations.
* Forest management plans were made by forest officials. They planned how much of the forest had to be cut and how much had to be replanted.

The Forest Acts divided forests into:

* Reserved Forests - these were the best forests. Villagers could not enter these forests
* Protected Forests - villagers can enter these forests but with permission
* Village Forests: The villagers were dissatisfied with the Forest Acts. They were now forced to steal wood from the forests. If they were caught, they were punished.

**How Were the Lives of People Affected?**

Villagers wanted forests with species of different types to satisfy their needs for fuel, fodder and leaves. On the other hand, the forest department wanted trees like teak and sal suitable for building ships or railways. Roots, leaves, fruits and tubers were used for many things. In the forest, almost everything was available such as herbs, yokes, ploughs, bamboo, etc. From the fruit of the mahua tree, oil was extracted for the purpose of cooking and lighting lamps. The Forest Act meant severe hardship for villagers across the country. People were forced to steal wood from the forests. Forest guards used to take bribes if they got caught. Police constables and forest guards harass people by demanding free food from them.

**What is Shifting Cultivation?**

* An area is cleared for cultivation for a period of time after that it left uncultivated so it could gain fertility.
* The colonial foresters did not favour this system as it made it difficult for the government to calculate taxes, there is a danger of fire and also that no trees could grow on this kind of land.
* Consequences of banning shifting cultivation
* Some people changed occupations
* Some people resisted through large and small rebellions.

**Who could Hunt?**

* The forest laws forbade the villagers from hunting in the forests but encouraged hunting as a big sport.
* They felt that the wild animals were savage, wild and primitive, just like the Indian society and that it was their duty to civilise them.

**How Did Forest Rules Affect Cultivation?**

The practice of shifting cultivation or swidden cultivation was introduced during European colonialism or swidden agriculture. It is a traditional agricultural practice in many parts of Asia, Africa and South America. In shifting cultivation, parts of the forest are cut and burnt in rotation. After the first monsoon rains, seeds are sown in the ashes, and the crop is harvested by October-November. For a couple of years, such plots are cultivated and then left for 12 to 18 years. On these plots, a mixture of crops is grown. According to European foresters, this practice is harmful to the forests. This type of cultivation also made it difficult for the government to calculate taxes. So, the government decided to ban shifting cultivation.

**Who Could Hunt?**

People who lived near forests survived by hunting deer, partridges and a variety of small animals. The practice was prohibited by the forest laws, and those who were caught hunting were punished for poaching. In India, hunting of tigers and other animals is a part of the culture of the court and nobility for centuries. The scale of hunting increased under colonial rule to such an extent that various species became almost extinct. Rewards were given for killing wild animals. Some areas of the forest were reserved for hunting.

**New Trades, New Employment and New Services**

New opportunities opened up in trade. In India, forest trade was not new. It existed from the medieval period when Adivasi communities used to trade elephants and other goods like hides, horns, silk cocoons, ivory, bamboo, spices, fibres, grasses, gums and resins through nomadic communities like the Banjaras. But, trade was completely regulated by the government, which gave many large European trading firms the sole right to trade in the forest products of particular areas. New opportunities for work did not improve the well-being of the people.

**Rebellion in the Forest**

Forest communities rebelled against the changes that were being imposed on them. Some of the leaders of these movements are the Siddhu and Kanu in the Santhal Parganas, Birsa Munda of Chhotanagpur or Alluri Sitarama Raju of Andhra Pradesh.

**The People of Bastar**

Bastar is located in the southernmost part of Chhattisgarh and borders Andhra Pradesh, Orissa and Maharashtra. The Bastar central part is on a plateau, and to the north is the Chhattisgarh Plain and to its south is the Godavari Plain. Different communities live in Bastar, such as Maria and Muria Gonds, Dhurwas, Bhatras and Halbas. The people of Bastar believed that each village was given its land by the Earth, and in return, they looked after the Earth by making some offerings at each agricultural festival. Local villagers look after all the natural resources within their boundaries, and people pay a small fee called devsari, dand or man in exchange if they want to take some wood from the forests of another village.

* Bastar is located in the southernmost part of Chhattisgarh.
* The initiative was taken by the Dhurwas of the Kanger forest where reservation first took place.
* The new law of Forest Act introduced by the Colonial government reserved two-thirds of the forest in 1905.
* The British sent troops to suppress the rebellion.
* It took them three months to regain control.
* A victory for the people of Bastar was that the work on reservation was suspended and the area was reduced to half of that planned before 1910.

**The Fears of the People**

In 1905, the colonial government proposed to reserve two-thirds of the forest and stop shifting cultivation, hunting and collection of forest produce. Some people used to stay in forests by working for free for the forest department, and these are called forest villagers. Villagers, in the long run, suffered from increased land rents and frequent demands for labour and goods. People started discussing these issues in their village councils, bazaars, and festivals. Dhurwas of the Kanger forest took the initiative where reservation first took place. Bazaars were looted, the houses of officials and traders, schools and police stations were burnt and robbed, and grain was redistributed. British troops were sent to suppress the rebellion. After Independence, the same practice of keeping people out of the forests and reserving them for industrial use continued.

**Forest Transformations in Java**

Java is famous as a rice-producing island in Indonesia. But, there was a time when it was covered mostly with forests. In Java, the Dutch started forest management. Villages existed in the fertile plains, and there were also many communities living in the mountains and practising shifting cultivation.

**The Woodcutters of Java**

The Kalangs of Java were skilled forest cutters and shifting cultivators. They are experts in harvesting teak and for the kings to build their palaces. When the Dutch began to gain control over the forests in the eighteenth century, they tried to make the Kalangs work under them. In 1770, the Kalangs resisted by attacking a Dutch fort at Joana, but the uprising was suppressed.

**Dutch Scientific Forestry**

In the nineteenth century, the Dutch enacted forest laws in Java, restricting villagers’ access to forests. Wood could only be cut for making riverboats or constructing houses. Villagers were punished for grazing cattle, transporting wood without a permit, or travelling on forest roads with horse carts or cattle. Firstly, the Dutch imposed rents on land being cultivated in the forest and then exempted some villages from these rents if they worked collectively to provide free labour and buffaloes for cutting and transporting timber. This was known as the blandongdiensten system.

**Scientific Forestry in Java**

* Forest laws were enacted in Java.
* The villagers resisted these laws.
* Forest timber was used for ships and railway sleepers.
* The Dutch government used the ‘balandongdiensten’ system for extracting free labour from the villagers.

**Samin’s Challenge**

Surontiko Samin of Randublatung village, a teak forest village, questioned the state ownership of the forest and argued that the state had not created the wind, water, earth and wood, so it could not own it. Soon a widespread movement developed. Some of the Saminists protested by lying down on their land when the Dutch came to survey it, while others refused to pay taxes or fines or perform labour.

**Samin’s Movement**

* Around 1890, Samin of Randublatung village (a teak forest village) questioned the state ownership of forests.
* A widespread movement spread.
* They protested by lying on the ground when the Dutch came to survey it and refusing to pay taxes and perform labour.

**War and Deforestation**

The First World War and the Second World War had a major impact on forests. In Java, the Dutch followed ‘a scorched Earth policy’, destroying sawmills and burning huge piles of giant teak logs. After the war, it was difficult for the Indonesian forest service to get this land back.

* The world wars had a major impact on forests.
* The forest department cut freely to meet the British demands.
* In Indonesia, the Dutch destroyed sawmills and burnt huge piles of teak logs.
* The Japanese after occupying Indonesia exploited the forests recklessly for their war needs.

**New Developments in Forestry**

Conservation of forests has become a more important goal. In many places, across India, from Mizoram to Kerala, dense forests have survived only because villages protected them in sacred groves known as sarnas, devarakudu, kan, rai, etc.

The government realised that if forests are to survive, the local community needs to be involved.

There are many such examples in India where communities are conserving forests in sacred groves. This looking after is done by each member of the village and everyone is involved.

### Very Short Answer Type Questions

**Question 1** Which new trade was created due to the introduction of new forest laws ?  
Answer: Collecting latex from wild rubber trees.

**Question** **2** Name the communities living in Bastar.

Answer: Maria and Muria Gonds, Dhurwas, Bhatras and Halbas.

**Question 3** Who was Dietrich Brandis ?

Answer: Dietrich Brandis was a German forest expert, whom the colonial government invited for advice and made him the first Inspector General of forests in India.

**Question 4** The forest management in Java was under the \_\_\_\_\_\_\_\_ .

Answer: Dutch

**Question 5** After the Forest Act was enacted in 1865, \_\_\_\_\_\_\_\_ .

Answer: It was amended twic

**Question 6**. Who were ‘Kalangs’ of Java ?

Answer: Skilled forest cutters and shifting cultivators

**Question 7**. What are wooden planks lay across railway tracks to hold these tracks in a position called ?

Answer: Sleepers

**Question 8**. Why did the government decide to ban shifting cultivation ?

Answer: Because when a forest was burnt, there was the danger of destroying valuable timber.

**Question 9**. Which type of trees were preferred by the forest department ?

Answer: The trees those are suitable for building ships and railways.

**Question 10** Indian Forest Service was set up in the year \_\_\_\_\_\_\_\_

Answer: 1864

**Question 11**. In shifting cultivation, seeds are sown \_\_\_\_\_\_\_\_ .

Answer: After cleaning and burning the forest land.

**Question 12**.Give any two local terms for swidden agriculture.

Answer: Dhya, Penda, Jhum, Kumri (any 2).

**Question 13**.Villagers were punished for \_\_\_\_\_\_\_\_ .

Answer: Grazing cattle in young stands and cutting wood without a permit or travelling on forest roads with horse carts or cattle.

**Question 14**.Which forest community is found in Central India ?

Answer: Boigas

**Question 15**.A British administrator killed 400 tigers. His name was \_\_\_\_\_\_\_\_ .

Answer: George Yule.

**Question 16**.The tribes recruited to work on tea plantation were \_\_\_\_\_\_\_\_ .

Answer: Santhals and Oraons from Jharkhand, and Gonds from Chhattisgarh.

**Question 17**.The Imperial Forest Research Institute was set up at \_\_\_\_\_\_\_\_ .

Answer: Dehradun.

**Question 18**.Why cure Mahua trees precious ?

Answer: Mahua trees are precious because they are an essential part of village livelihood.

**Question 19**.What were siadi creepers used for ?

Answer: They were used to make ropes.

**Question 20**.Name the three categories of forests as mentioned in the Act of 1878.

Answer: Three categories were : Reserved, Protected and Village Forests.

**Question 21**.Which species of trees were promoted for the building of ships or railways ?

Answer: Teak and Sal species were promoted for the building of ships or railways.

**Question 22**.What was the effect of Forest Act on the people living nearby ?

Answer: People were forced to steal wood from the forests, and if they were caught, they were at the mercy of the forest guards who would take bribes from them.

**Question 23**.What steps were taken under the new scheme of scientific forestry ?

Answer: Natural forests which had different types of trees, were cut down.

* In their place, one type of trees were planted.

**Question 24**.What was the main cause of worry for the people of Bastar ?

Answer: People of Bastar were most worried because the colonial government proposed to reserve 2/3rd of the forests in 1905 and stop shifting cultivation, hunting and collection of forest produce.

**Question 25**.What do you mean by the reserved forests ?

Answer: The 1878 Act divided forests into three categories : reserved, protected and village forests. The best forests were called ‘reserved forests’.  
Villagers could not take anything from these forests, even for their own use. For house building or fuel, they could take wood from protected or village forests.

**Short Answer Type Questions**

**Question 1.** What is deforestation ? Why is it considered harmful ?

Answer:  
(a) The disappearance of forests is referred to as deforestation. Forests are cleared for industrial uses, cultivation, pastures and fuelwood.

(b) Clearing of forests is harmful as forests give us many things like paper, wood that makes our desks, tables, doors and windows, dyes that colour our clothes, spices in our food, gum, honey, coffee, tea and rubber. Forests are the home of animals and birds. They preserve our ecological diversity and life support systems. That is why deforestation considered harmful.

**Question 2.** What are the new development in forestry ?

Answer: Since the 1980s, governments across Asia and Africa have begun to see that scientific forestry and the policy of keeping forest communities away from forests has resulted in many conflicts. Conservation of forests rather than collecting timber has become a more important goal.

In many cases, across India, from Mizoram to Kerala, dense forests have survived only because villages protected them in sacred groves known as sarnas, devarakudu, kan, rai, etc.

Some villages have been patrolling their own forests, with each household taking it in turns, instead of leaving it to the forest guards. Local forest communities and environmentalists today are thinking of different forms of forest management.

**Question 3.** Why did the people of Bastar rise in revolt against the British ?

Answer:

* They revolted because the British Government tried to reserve the forests which deprived the people of their rights to collect forest proc cts and to practise shifting cultivation.
* Moreover, people were suffering from increased land rents and frequent demands for free labour and goods by colonial officials.
* People of Bastar cannot collect forest products.
* The terrible famines of 1839-1900 and 1907-1908 forced them to revolt against British authorities.

**Question** 4. How did the spread of railways from the 1850s in India, create a new demand for timber ?

Answer: The spread of railways from the 1850s created a new demand. Railways were essential for colonial trade and for the movement of imperial troops. To run locomotives, wood was needed as fuel, and to lay railway lines sleepers were essential to hold the tracks together. Each mile of railway track required between 1,760 and 2,000 sleepers.

From the 1860s, the railway network expanded rapidly. The length of the railway tracks increased tremendously. As railway tracks increased, the need of timber also increased. More and more trees were felled. Contracts were given to individuals to supply timber. These contractors cut down trees indiscriminately. Railway tracks were soon devoid of forests.

**Question 5**  What was the Blandongdiensten system ?

Answer: The Dutch wanted timber from Java for ship-building and railways. In 1882, 280,000 sleepers were exported from Java alone. However, all this required labour to cut the trees, transport the logs and prepare the sleepers. The Dutch first imposed rents on land being cultivated in the forest and then exempted some villages from these rents if they worked collectively to provide free labour and buffaloes for cutting and transporting timber. This was known as the blandongdiensten system.

**Question 6.** Give any three reasons why cultivation expanded rapidly in the colonial period.

Answer: Cultivation expanded rapidly in the colonial period because :

* The British encouraged the cultivation of commercial crops like jute, sugar, wheat and cotton.
* They tried to increase the yield of agricultural products.
* They tried to increase their revenue and enhance the income of the state.

**Question 7** When was the Forest Act passed in India ? Why did it cause hardship for the villages across the country ?

Answer: The Forest Act was enacted in 1865 and was amended twice in 1878 and 1927.

* It divided the forests into three categories : reserved, protected and village forests. The best forests were known as the reserved forests. Villagers were not allowed to take anything from these forests, even for their own use.
* This caused great hardship for the villagers. All their daily practices such as cutting wood for their houses, grazing their cattle, collecting fruits and roots, hunting and fishing became illegal.
* People were now forced to steal wood from the forests. If they were caught by the forest guards, they were punished. Women could not collect fuelwood from the forests, forests guards and constables harassed them.

**Question 8**. Why the Dutch adopted the ‘scorched earth policy’ during the war ?

Answer: The Dutch adopted the ‘scorched earth policy’ during the war because :

* The First World War and Second World War had a major impact on forests. In India, working plans were abandoned and trees were cut freely to meet British demand for war needs.
* In Java, just before the Japanese occupied the region, the Dutch followed the ‘scorched earth policy’ destroying saw mills, burning huge piles of giant teak logs so that they could not fall into Japanese hands.

**Question 9** What did Dietrich Brandis suggest for the improvement of forests in India ?

Answer: Dietrich Brandis suggested that:

* A proper system had to be followed. People had to be trained in the science of conservation.
* Felling of trees and grazing land had to be protected.
* Rules about use of forests should be made. Anyone who broke rules needed to be punished.
* Brandis set up in 1864 the Indian Forest Service. He also helped to formulate the Indian Forest Act of 1865.

**Question 10** Explain the term-scientific forestry.

Answer: In scientific forestry, different types of natural forests were cut down. In their place one type of tree was planted in straight rows. This is called a plantation. Forest officials surveyed the forests, estimated the area under different types of trees and made working plans for forest management. They planned how much of the plantation area to be cut every year. The forest area was cut down then to be replanted.

**Question 11.** Discuss in brief the Saminist movement of Indonesia.

Answer: Around 1890, Surontiko Samin of Randublatung village, a teak forest village, began questioning state ownership of the forest. He argued that the state had not created the wind, water, earth and wood, so it could not own it. Soon a widespread movement developed. Amongst those who helped organise it was Samin’s sons-in-law. By 1907, 3,000 families were following his ideas. Some of the Saminists protested by lying down on their land when the Dutch came to survey it, while others refused to pay taxes or fines or perform labour.

**Question 12.** “The people of Bastar speak different languages but share common customs and beliefs” Discuss.

Answer: The people of Bastar believe that each village was given its land by the Earth, and in return, they look after the earth by making some offerings at each agricultural festival. In addition to the Earth, they show respect to the spirits of the river, the forest and the mountain. Since each village knows where its boundaries lie, the local people look after all the natural resources within that boundary. If people from a village want to take some wood from the forests of another village, they pay a small fee called devsari, dand or man in exchange.

Some villages also protect theiSPforests by engaging watchmen and each household contributes some grain to pay them. Every year there is one big hunt where the headmen of villages in a pargana (cluster of villages) meet and discuss issues of concern, including forests.

**Question 13.**  What were the different forest acts made by Britishers to control the forests ?

Answer: The different forest Acts made by Britishers to control the forests were :  
(a) In 1864 the Indian Forest Act Service was established.

(b) In 1865, the Indian Forest Act was passed.

(c) In 1878 and 1927 the India Forest Act was amended.

(d) The Act 1878 made three categories of forest that are Reserved Forests, Protected Forest and Village Forest.

**Question 14** How did the changes in forest management in the colonial period affect the life of plantation owners ?

Answer: The changes in forest management in the colonial period affect the life of plantation owners as :

* The colonial power introduced plantation agriculture in India.
* They flourished as large areas of natural forests were cleared to make way for tea, coffee and rubber plantation.
* It was done to meet the demand of Europe. These areas were given to European planters for plantation at cheap rates.

**Question 15.** Who were the Kalangs ? Why did they attack the Dutch forts at Joana ?

Answer:

* The Kalangs were a community of Java. They were skilled forests cutters and shifting cultivators. They were so valuable that teak could not be harvested without them, nor could kings build their palaces.
* When the Mataram Kingdom of Java split, the families of the Kalang community were divided equally between the two kingdoms. When the Dutch colonised Java they forced the Kalangs to work under them. The Kalangs resisted by attacking the Dutch fort at Joana, put the uprising was supressed.

**Question 16.** What were the consequences of the forest laws which the Dutch enacted in Java ?

Answer: In the 19th century, when it became important to central territory and not just people, the Dutch enacted forest law in Java. These laws restricted villagers’ access to forests. After these acts were imposed, wood could only be cut for specified purposes such as making river boats or constructing houses and that too only from specific forests and under close supervision. Those villagers who grazed cattle in young stands, transported wood without permit or travelled on forest lands with horse carts or cattle were punished.

**Long Answer Type Questions**

**Question 1**  Why did commercial forestry become important during the British rule ?

Answer: The commercial forestry become important during the British rule because :

* By the early nineteenth century, oak forests in England were disappearing. This created a problem of timber supply for the Royal Navy.
* English ships could not be built without a regular supply of strong and durable timber neither could imperial power be protected and maintained without ships.
* For above both factors, before 1850, the commercial forestry was considered important in India. By the 1820s, search parties were sent to explore the forest . resources of India. These parties gave a green signal for commercial forestry in India. Within a decade, trees were being felled on a massive scale and large quantities of timber were being exported from India.
* The spread of railway from the 1850s created a new demand for wood. In India the colonial government felt that railways were essential for effective colonial internal administration, colonial trade and for the quick movement of imperial troops. To run locomotives, wood was needed as fuel and to lay railway lines, sleepers were also essential to hold the track together.

**Question 2** How are forests useful for the villagers ?

Answer: The forests useful for the villagers as :

* In forest areas, people use forest products—roots, leaves, fruits and timbers—for many things. Fruits and roots are nutritious and good for health, especially during the monsoons before the harvest has come in.
* Herbs are used for medicine, wood for agricultural implements like yokes and ploughs, bamboo makes excellent fences and is also used to make baskets and umbrellas.
* A dried scooped-out gourd can be used as a portable water bottle. Almost everything is available in the forest-leaves can be stitched together to make disposable plates and cups, the siadi (Baubinia uablii) creeper can be used to make ropes, and the thorny bark of the semur (silk-cotton) tree is used to grate vegetables.
* Oil for cooking and lighting lamps can be taken by pressing the fruit of the mahua tree.

**Question 3**  Where is Bastar located ? How did the people by Bastan react against the British forest policies ?

Answer: Bastar is situated in the southern part of Chhattisgarh and borders Odisha, Andhra Pradesh and Maharashtra. The river Indrawati flows from east to west across Bastar. The central part of Bastar is a plateau. To the north of this plateau is the Chhattisgarh plain and to its south is the Godavari plain.

The people of Bastar were very worried when the colonial government proposed to reserve two-thirds of the forest in 1905, and stop shifting cultivation, hunting and collection of forest produce.

* People began to gather and-‘discuss these issues in their village councils, in bazaars and at festivals or wherever the headmen and priests of several villages were assembled.
* In 1910, mango boughs, a lump of earth, chillies and arrows, began circulating between villages. These were messages inviting villagers to rebel against the British.
* Every village contributed something to the rebellion expenses. Bazaars were looted, the houses of officials and traders, schools and police stations were burnt and robbed, and grain redistributed.
* Most of those who were attacked were in some way associated with the colonial state and its oppressive laws.

**Question 4.**  Mention the causes of deforestation in India under the colonial rule.

Answer: During the colonial rule deforestation was more systematic and extensive. In the colonial period, cultivation expanded rapidly for various reasons.

* The British encouraged the production of commercial crops like jute, sugar, wheat and cotton. The demand for these crops increased in the 19th century and forests were cleared to meet the foodgrains and raw materials needed for industrial growth in Europe where foodgrains were needed to feed the growing urban population and raw materials were required for industrial production.
* The spread of railways from 1850 created a new demand. To run locomotives, wood was needed as fuel and to lay railway lines sleepers were necessary to hold the tracks together. From the 1860s, the railway network expanded rapidly. By 1890, about 25,500 km of track had been laid.
* The government gave out contracts to individuals and the contractors began cutting the trees rapidly. Forests around the tracks disappeared.
* Large areas of natural forests were cleared for tea, coffee and rubber plantations to meet Europe’s growing need for these commodities.

**Question 5**. Mention a few products that are got from forest.

Answer: Forests provide us with innumerable products. Forest trees provide wood or timber as it is called. We make furniture, like tables and chairs from wood. Wood is also used to make doors and windows. Paper is made from wood pulp. Forests are a store –house for many herbs which are used as medicine. We get gum and rubber from forest trees. Rubber is a very important industrial raw material. So it is our duty to protect forests.

**Question 6** What is Deforestation?

Answer: The cutting down and clearing of the forests is referred to as deforestation. Deforestation is an age old practice. It started many centuries ago.

During the period of industrialization, forests were cleared for industries to flourish. Deforestation took place to expand cultivation. Deforestation brought a lot of ecological changes in our planet. During the colonial rule it became more systematic and extensive.

**Question 7** What are ‘ railway sleepers’? How many sleepers are required for 1 mile of railway track?

Answer: Railway Sleepers are wooden planks laid across railway tracks; they hold the tracks in position . Between 1,760 and 2,000 sleepers are needed to lay 1 mile of railway track . A single sleeper is approximately 10 feet by 10 inches by 5 inches that is 3.5 cubic feet. Wood for these sleepers came mainly from the Sind Forests. As the railway was fast expanding, there was need for more and more trees to be cut. In the Madras Presidency alone, 35,000 trees were cut annually for making sleepers.

**Question 8** Mention a few commercial crops. Why are they called so?

Answer: Jute, sugar, wheat and cotton are called commercial crops. These crops are used in industries as raw material, so they are called commercial crops. Cotton is used in the manufacture of textiles. Sugar is used to make chocolates and various other confectionery products. Wheat, like sugar is used in the confectionery industry, with biscuits and bread being the major product.

**Question 9** Why did Britain turn to India for timber supply for its Royal Navy?

Answer: The disappearance of the oak forests in England, created problems in timber supply for the Royal Navy. The Royal Navy could not survive without a regular supply of timber. So, the British started their search in all the colonial countries for a regular supply of timber. Their search resulted in the cutting down forests in India. Within a decade, a large amount of timber was exported from India.

**Question 10**. Write a note on Dietrich Brandis.

Answer: Dietrich Brandis was a German National and an expert in forest development. The British invited him to India , to seek his advise and he was made the first Inspector General of Forests in India, as the indiscriminate felling of trees worried the British .

* Mr. Brandis thought that there should be some proper system to manage forests and the people have to be trained in scientific conservation. They restricted cutting of forest trees and grazing. Anybody who cut trees without permission was punished.
* Mr. Brandis set up the Indian Forest Service in 1864. He also formulated the Indian Forest Act in 1865. The Imperial Forest Research Institute was set up at Dehradun in 1906. Mr. Brandis introduced the method of Scientific forestry. In this method, instead of different types of trees, only one type of tree is planted. Every year specific areas of the forest are cut and it is replanted. The trees are cut again after they grow.
* The amendment to the Indian Forests Act , implemented by Mr. Brandis was enforced in 1878 . According to this amendment the forests were divided into three categories – reserved, protected and village forests.
* Villagers were not happy with the Forest act that promoted only particular species like teak and sal which were needed for hard wood, as they were tall and straight. Villagers who use forest products like roots, leaves and fruits wanted forests with a mixture of species to satisfy different needs like fuel, fodder and food.

**Question 11** Write a brief note about the geographical location of Bastar.

Answer: Bastar is located in the southernmost part of Chhattisgarh. It is surrounded by Andhra Pradesh, Orissa and Maharashtra. The central part of Bastar is situated on a plateau. Chhattisgarh plain and the Godavari Plains are to the north and south of the plateau, respectively. The river Indrawati passes through Bastar from east to west.

**Question 12**. Give a brief account of the people of Bastar.

Answer: The people of Bastar belonged to different communities such as Maria and Muria Gonds, Dhurwas, Bhatras and Halbas. Though they spoke different languages they shared common customs and beliefs. The people of Bastar believed that the Earth was sacred and made offerings during agricultural festivals. In addition to the Earth, they respected the spirits of the river, the forest and the mountain.

The boundaries of each village was well marked and the people looked after all the natural resources within that boundary. If people from one village wanted to take some wood from the forests of another village, they paid a small fee called devsari, dand or man in exchange. Some villages protected their forests by engaging watchmen and each household had to contribute some grain to pay them.  
Every year a big meeting is organised, where the headmen of villages meet and discuss issues of concern, including forests.

**Question 13**. What was Samin’s Challenge?

Answer: Surontiko Samin belonged to the Randublatung village in Java. The Randublatung village was a teak forest village. Samin challenged the Dutch saying that the state had not created the wind, water, earth and wood, so it could not own it.

Samin’s Challenge developed into a widespread movement. Samin was supported by his family members. Soon 3000 families followed his ideology and protested against the forest laws of the Dutch, by lying down on their land when the Dutch came to survey it. Many other villagers refused to pay taxes or fines . Some of them even refused to work for the Dutch in cutting trees.

**Question 14** What are the New Developments in Forestry ?

Answer: Environmentalists have realised the need for ecological balance . Conservation of forests is now seen as an important requirement than growing trees for timber. In order to conserve forests the people living near the forests have to be involved. In India dense forests have survived only because villages protected them in sacred groves known as sarnas, devarakudu, kan and rai. Villages patrol their own forests, with each household taking turns to do it. They do not leave it to the forest guards.

Local forest communities and environmentalists today are thinking of different forms of forest management and conservation