

CONCEPTS:

DEFORESTATION:-

Deforestation is cutting down of trees indiscriminately in a forest area. Under the colonial rule it became very systematic and extensive.

Why Deforestation

- As population increased over the centuries and the demand for food went up, peasants extended the boundaries of cultivation by clearing forests.
- The British encouraged the production of commercial crops like jute, sugar, wheat and cotton for their industries as raw material.
- The British thought that forests were unproductive land as they yielded neither revenue nor agricultural produce. Cultivation was viewed as a sign of progress. Oak forests in England were disappearing. There was no timber supply for the shipbuilder industry. Forest resources of India were used to make ships for the Royal Navy.
- Spread of railways required two things :
 - land to be cleared to lay railway tracks
 - wood as fuel for locomotives and for railway line sleepers.
- Large areas of natural forests were cleared for tea, coffee and rubber plantations. Thus land was given to planters at cheap rates.

COMMERCIAL FORESTRY:-

The British were worried that the use of forests by local people and the reckless felling of trees by traders would destroy forests and hence invited German expert Dietrich Brandis as 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 intoThe villagers were dissatisfied with the Forest Acts. They were now forced to steal wood from the forests. If they were caught, they were punished.

Forest Rules and Cultivation

Shifting cultivation or Sweden agriculture was the agricultural practice in many parts of Asia, Africa and South America. The colonial foresters did not favour this system as it made it difficult for the government to calculate taxes. In addition, the forest officials saw in it the danger of fire and also that no trees could grow on this kind of land.

Hunting and Forest Laws: 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.

New Trade and New Employment: New opportunities opened in trade as the forest department took control of the forests, e.g., the Mundurucu peoples of the Brazilian Amazon. With the colonial influence trade was completely regulated by the government. Many large European trading firms were given the sole right to trade in forest products of a particulate area. Many pastoral communities lost their means of livelihood. New opportunities of work did not always mean improved well-being for the people.

FOREST REBELLIONS

Forest communities rebelled against the changes imposed upon them. The people of Bastar were one such group. The initiative was taken by the Dhurwas of the Kanger forest where reservation first took place. 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.

CHANGES IN JAVA:

The Kalangs: They rose in rebellion against the Dutch in 1770 but their uprising was suppressed.

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 Movement: 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.

World Wars and Deforestation: The world wars had a major impact on forests. The forest department cut freely to meet the British demands. The Dutch followed the scorched earth policy of destroying saw mills, burning logs of teak so that the Japanese could not benefit from it. The Japanese forced the villagers to cut down forests, when they occupied the area.

New Developments: Conservation and preservation of forests has now become the focus rather than timber. It has also been 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.

Tea/Coffee plantations — The colonial state thought that forest land was unproductive. It did not yield agricultural produce nor revenue. Large areas of natural forests were hence cleared to make way for tea, coffee and rubber plantations to meet Europe's growing need for these commodities. The colonial government took over the forests and gave vast areas to European planters at cheap rates. The areas were enclosed and cleared of forests and planted with tea or coffee.

Adivasis and other peasant users — Adivasis and other peasant users do not cut down forests except to practice shifting cultivation or gather timber for fuel. They also gather forest products and graze their cattle. This does not destroy the forests except sometimes in shifting agriculture. In fact, now the new trends that promote forest conservation tend to involve local villagers in conservation and preservation. The adivasis and other peasant communities regard the forests as their own and even engage watchmen to keep a vigil over their forests.

MULTIPLE CHOICE QUESTIONS

Q.1. Who were the colonial power in Indonesia?

- (a) British (b) Dutch (c) French (d) Portuguese

Q.2. Which place is now famous as a rice-producing island in Indonesia?

- (a) Java (b) Sumatra (c) Borneo (d) Kalimantan

Q.3. Where did the Dutch start forest management in Indonesia?

- (a) Java (b) Sumatra (c) Bali (d) None of the above

Q.4. Who were 'Kalangs' of Java?

- (a) Dynasty of rulers (b) Skilled forest cutters and shifting cultivators
(c) A community of moneylenders (d) none of the above

Q.5 The Kalangs resisted the Dutch in

- (a) 1700 (b) 1750 (c) 1770 (d) 1800

Q.6. According to the forest laws enacted by the Dutch in Java,

- (a) Villagers' access to forest was restricted
(b) Wood could be cut only for specified purposes like making river boats or constructing houses
(c) Villagers were punished for grazing cattle
(d) All the above

Q.7. What was the system of 'blandongdiensten'?

- (a) A system of education (b) Industrialisation
(c) First imposition of rent on land and then exemption (d) None of the above

Q.8. What did Surontiko Samin of Randublatung village, a teak forest village, begin questioning?

- (a) The foreign policy of the Dutch (b) State ownership of the forest
(c) The export policy of the Dutch (d) none of the above

Q.9. What was the policy followed by the British in India towards forests during the First and the Second World Wars?

- (a) The forest department cut trees freely to meet British war needs

(b) Cutting of trees was strictly prohibited for everyone, including the British

(c) More and more trees were planted to give employment to Indians

(d) None of the above

Q.10. What is the goal of governments across Asia and Africa since the 1980s?

(a) Conservation of forests

(b) Collection of timber

(c) Settling people in forest areas

(d) Destroying old forests and growing

new ones

Q.11. Who wrote the book 'The Forests of India' in the year 1923?

(a) David Spurr

(b) E.P. Stebbing

(c) Verrier Elvin

(d) John Middleton

12. Which of the following is not associated with Sweden agriculture?

(a) Karacha

(b) Jhum

(c) Bewar

(d) Penda

13. Indian Forest Service was set up in the year:

(a) 1865

(b) 1864

(c) 1854

(d) 1884

14. Which of the following was not a tribal community?

(a) Karacha

(b) Jhum

(c) Korava

(d) Yerukula

15. The system of scientific forestry stands for:

(a) System whereby the local farmers were allowed to cultivate temporarily within a plantation

(b) System of cutting old trees and plant new ones

(c) Division of forest into three categories

(d) Disappearance of forests

16. In which year the Baster rebellion took place?

(a) 1910

(b) 1909

(c) 1911

(d) 1912

17. In South-East Asia shifting agriculture is known as:

(A) Chitemene

(b) Tavy

(c) Lading

(d) Milpa

18. The Gond forest community belongs to which of the following

(a) Chhattisgarh (b) Jharkhand (c) Jammu and Kashmir (d) Gujarat

19. Forests consisting of which type of trees were preferred by the Forest Department?

- (a) Forests having trees which provided fuel, fodder and leaves
- (b) Forests having soft wood
- (c) Forests having trees suitable for building ships and railways

20. Which of the following term is not associated with shifting agriculture in India?

- (a) Penda (b) Bewar (c) Khandad (d) Lading

21. Which of the following is a community of skilled forest cutters?

- (a) Maasais of Africa (b) Mundas of Chotanagpur (c) Gonds of Orissa (d) Kalangs of Java

22. Why did the government decide to ban shifting cultivation? (a) To grow trees for railway timber

- (b) When a forest was burnt, there was the danger of destroying valuable timber
- (c) Difficulties for the government to calculate taxes
- (d) All the above reasons

23. Wooden planks lay across railway tracks to hold these tracks in a position are called:

- (a) Beams (b) Sleepers (c) Rail fasteners (d) none of these

24. Which of the following was the most essential for the colonial trade and movement of goods?

- (a) Roadways (b) Railways (c) Airways (d) River ways

25. Which of the following is a commercial crop?

- (a) Rice (b) Wheat (c) Cotton (d) Maize

SHORT ANSWER QUESTIONS

Q.1 what is deforestation? Why is it considered harmful?

Ans.1 The disappearance of forests is referred to as deforestation. Forests are cleared for industrial uses, cultivation, pastures and fuel wood.

2. 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. They are the home of animals and birds.

3. Forests check soil erosion and denudation, sand dunes. They preserve our ecological diversity and life support systems.

Q.2. Describe scientific forestry.

Ans.1. In scientific forestry, natural forests which had lots of different types of trees were cut down. In their place one type of tree was planted in straight rows. This is called a plantation.

2. 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 cut every year.

3. The area cut was then to be replanted so that it was ready to be cut again in some years.

Q.3. Mention the various uses of forests

Ans. 1. Forests give us a mixture of things to satisfy our different needs — fuel, fodder, leaves, trees suitable for building ships or railways, trees that can provide hard wood.

2. Forest products like roots, fruits, tubers, herbs are used for medicinal purposes, wood for agricultural implements like yokes, ploughs etc. Forests provide shelter to animals and birds. They also add moisture to atmosphere. Rainfall is trapped in forest lands.

Q.4. What is shifting agriculture? Why was it regarded as harmful by the British?

Ans. 1. Shifting agriculture or Sweden agriculture is a traditional agricultural practice in many parts of Asia, Africa and South America. It has many local names such as 'lading' in South-East Asia, 'milpa' in central America, 'chitemene' or 'tavy' in Africa, 'chena' in Sri Lanka, *dhya*, *Penda*, *bewar*, *nevad*, *jhum*, *podu*, *khandad* and *kumri* in India.

2. In shifting cultivation, parts of a forest are cut and burnt in rotation, seeds are sown in ashes after the first monsoon rains and the crop is harvested by October-November. Such plots are cultivated for a couple of years and then left fallow for 12 to 18 years for the forest to grow back.

It was regarded as harmful by the British for the forests. They felt that land which was used for cultivation every few years could not grow trees for railway timber. When the forest was burnt there was the danger of the flames spreading and burning valuable timber.

Q.5. Explain why did the Dutch adopt the 'scorched earth policy' during the war.

Ans.1. The First World War and Second World War had a major impact on forests. In India, working places were abandoned and trees were cut freely to meet British demand for war needs.

2. 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.

Q.6. How did the forest rules affect cultivation?

Ans. 1. One of the major impacts of European colonialism was on the practice of shifting cultivation or Jhoom cultivation. In shifting cultivation, a clearing is made in the forest, usually on the slopes of the hills. After the trees are cut, they are burnt to provide ashes. The seeds are then scattered in the area, and left to be irrigated by the rain.

2. Shifting cultivation was harmful for forests and the land both.

3. It also made it harder for the Government to calculate taxes. Therefore, the government decided to ban shifting cultivation.

Q.7. Why did land under cultivation increase during colonial rule?

Ans.1. during the British domination of India, the British encouraged the cultivation of cash crops such as jute, indigo, cotton, etc. Food crops were also required to be grown for food. Both things were important. 2. Secondly, the forests were considered unproductive by the British government and hence large areas of forests were cleared for agriculture. Now this forest land could be cultivated to enhance the income of this state.

Q.8. What did Dietrich Brandis suggest for the improvement of forests in India?

Ans. 1. Dietrich Brandis suggested that a proper system had to be followed. 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.

Q.9. What was taught at the Imperial Forest Research Institute? How was this system carried out?

Ans. 1. Scientific forestry was taught at the Imperial Forest Research Institute. In this system, natural forests which had a variety of trees were cut down and, instead, one type of tree was planted.

2. Appointed forest officials managed these forests. They planned and assessed how much of the planted area had to be cut down and how much had to be replanted.

Q.10. Differentiate between the customary practice of hunting and hunting as a sport in India, after the Forest Acts were passed.

Ans. Before the laws were passed, people who depended on forests hunted birds and small animals for food. After the laws were passed, hunting of big game became a sport. Under colonial rule the scale of hunting increased so much that many species became extinct. Rewards were given for killing tigers, wolves, etc., on the pretext that they were a threat to human life. Certain areas of the forests were reserved for hunting.

LONG ANSWER TYPE QUESTIONS [5 MARKS]

Q.1. Discuss the rise of commercial forestry under the colonial governments.

Ans.1. Commercial forestry became important during the British rule. By the early nineteenth century oak forests in England were disappearing. This created a problem of shortage of timber supply for the Navy.

2. How could English ships be built without a regular supply of strong and durable timber? How could imperial power be protected and maintained without ships?

3. Because of the factors given above, before 1856 the commercial forestry was considered important in India. By the 1820s, search parties were sent to explore the forest resources of India.

4. These parties gave them 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.

5.The spread of railway from the 1850s created a new demand. In India, the colonial government felt that railways were essential for effective internal administration, for colonial trade, for the quick movement of imperial troops.

Q.3. "The introduction of extremely exploitatives and oppressive policies proved to be a disaster." With reference to Bastar —

(a) What were these policies?

(b) What were the consequences of these

policies?

Ans. (a) The colonial government proposed to reserve two-thirds of the forest in 1905 and stop shifting cultivation, hunting and collection of forest produce. The people of Baster were very worried. Some villages were allowed to remain on in the reserved forests on the condition that they worked free for the forest department in cutting and transporting trees and protecting the forests from fires. Subsequently these came to be known as forest villages. People of other villages were displaced without any notice or compensation. For long the villagers had been suffering from increased land rents and frequent demands for free labour and goods by colonial officials. Then came the terrible famines in 1899-1900 and again in 1907-1908. Reservations proved to be the last straw.

(b) People began to gather and discuss these issues in their village councils, in bazars and at festivals or wherever the headmen and priests of several villages were assembled. The initiative was taken by the Dhruvas of the Kanger forest, where reservation first took place. Although there was no single leader, many people speak of Gunda Dhur from village Nethanar as an important figure in the movement in 1910 mango boughs, a limp of earth, chillies and arrows, began circulating between villages. These were actually messages inviting villagers to rebel against the British. Every village contributed something to the rebellion expenses. Bazars were looted, the houses of officials and traders, schools and police stations were burnt and robbed and grain redistributed.

The British sent troops to suppress the rebellion. The adivasi leaders tried to negotiate, but the British surrounded their camps and fired upon them. After that they marched through the villages, flogging and punishing those who had taken part in the rebellion. It took three months for the British to regain control. However, they never managed to capture Gunda Dhur. In a major victory for the rebels, work on reservation was temporarily suspended and the area to be reserved was reduced to roughly that planned before 1910. Were forcibly displaced from their homes in the forests. Some had to change occupations, while some resisted through large and small rebellions.

Q.5. How did the following contribute towards the decline of forest cover in India between 1880-1920

(a) Railways and shipbuilding

(b) Commercial farming

Ans. (a) (1) Railways: The spread of railways from 1850s created a new demand. Railways were essential for successful colonial control, administration, trade and movement of troops. Thus to run locomotives, (a) wood was needed as fuel (b) and to lay railway lines as sleepers were essential to hold tracks together. As the railway tracks spread throughout India, larger and larger number of trees were felled. Forests around the railway tracks started disappearing fast.

(2) Shipbuilding: UK had the largest colonial empire in the world. Shortage of oak forests created a great timber problem for the shipbuilding of England. For the Royal Navy, large wooden boats, ships, courtyards for shipping etc., trees from Indian forests were being felled on massive scale from the 1820s or 1830s to export large quantities of timber from India. Thus the forest cover of the subcontinent declined rapidly.

(b) Commercial Farming: Large areas of natural forest were also cleared to make space for the plantations or commercial farming. Jute, rubber, indigo, tobacco etc. were the commercial crops that were planted to meet Britain's growing need for these commodities. The British colonial government took over the forests and gave of a vast area and exported it to Europe. Large areas of forests were cleared on the hilly slopes to plant tea or coffee.

This also contributed to the decline of the forest cover in India.

Q.6. How was colonial management of forests in Bastar similar to that of Java?

Ans. The colonial government imposed new forest laws according to which two-thirds of the forests were reserved. Shifting cultivation, hunting and collection of forest produce was banned. Most people in forest villages were displaced without notice or compensation. In the same way, when the Dutch gained control over the forests in Java, they enacted forest laws, restricting villagers' access to forests. Now wood could only be cut for specific purposes and from specific forests under close supervision. Villagers were punished for grazing cattle, transporting wood without a permit or travelling on forest road with horse-carts or cattle. This was the similarity between the British (in Bastar) and Dutch (in Java) management of forests.

Q.7. What new trends and developments have affected the forestry of today?

Ans. 1. 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.

2. The government has realised/recognised that in order to meet this goal, the people who live near the forests must be involved.

3. In many cases, across India, from Mizoram to Kerala, dense forests have survived only because villagers protected them in sacred groves known as sarnas, Devarakudu, kau, 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.

Q.8. Where is Bastar located? Discuss its history and its people

Ans. 1. Bastar is situated in the southern part of Chhattisgarh and borders Orissa, 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.

2.The people of Bastar believe that each village was bestowed land by the earth and hence they offer something in return during agricultural celebrations. Apart from the earth the people of Bastar show reverence to the spirits of rivers, forests and the mountains.

3.Different communities such as Maria and Muria Gonds, Dhurwas, Bhatras and Halbas practise common customs and beliefs but speak different dialects. Each village is well aware of its boundaries. They look after and preserve their natural resources.

4.There exists a give and take relationship among the communities. If a village wants some forest produce from another village a small price is paid before taking it. This price is called 'dhand' or 'man' or 'devsari'. Villagers engage watchmen to look after their forests for a price.

5.This price is collected from all the families. There is a large annual gathering — a big hunt where the headmen of all the villages in a 'pargana' (a group of villages) meet and discuss matters that concern them.

Q.9. Discuss the new developments in forestry after the 1980s.

Ans: 1. Since the 1980s the governments of Asia and Africa have begun to see that scientific forestry and the policy of keeping forest communities away from the forests has resulted in many conflicts. Conservation and preservation of forests have become the major goal.

2. Collection of timber is a secondary objective. The governments emphasise that in order to conserve and preserve forests the involvement of people is important.

3.These are perfect examples to quote here — across India, from Mizoram to Kerala, dense forests have survived only because villagers protected them in sacred groves known as 'sarnas', 'devarakudu', 'kan', 'rai', etc. Some villagers have been patrolling their own forests, with each household taking it in turns, today are thinking of different forms of forest management.

Q.10. Why did the people of Bastar rise in revolt against the British? Explain.

Ans. (i) In 1905, the colonial government imposed laws to reserve two-thirds of the forests, stop shifting cultivation, hunting and collection of forest produce. People of many villages were displaced without any notice or compensation.

(ii) For long, villagers had been suffering from increased land rents and frequent demands for free labour and goods by colonial officials.

(iii) The terrible famines in 1899–1900 and again in 1907–1908 made the life of people miserable. They blamed the colonial rule for their sorry plight.

(iv) The initiative of rebellion was taken by the Dhurwas of the Kanger forest, where reservation first took place. Gunda Dhur was an important leader of the rebellion.

HOTS

Q.18. How did the local people look after and protect the forests in Bastar region?

Ans. 1. The people of Bastar showed respect to the spirits of the river, the forest and the mountain. Since each village knew its boundary the local people looked after all the natural resources within their boundary.

2. If the people from a village wanted to take some wood from forests of another village, they paid a small fee called 'devsari,' 'dand' or 'man' in exchange.

3. Some villagers also protected their forests by engaging watchmen and each household contributed some grain to pay them.

4. Every year there was one big hunt where the headman of villages in a 'pargana' met and discussed issues of concern, including forests

Q.2. How did the new forest laws affect the forest dwellers?

Ans.1. Foresters and villagers had very different ideas of what a good forest should look like. Villagers wanted forests with a mixture of species to satisfy different needs — fuel, fodder, leaves. The forest department wanted trees which were suitable for building ships or railways.

2. They needed trees that could provide hard wood and were tall and straight. So particular species like *teak* and *sal* were promoted and others were cut. The new forest laws meant severe hardship for villagers across the country.

3. After the Act (Forest Act), all their everyday practices, 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, and if they were caught they were at the mercy of the forest guards who would take bribes from them.

Q.4. How did the transformation in the forest management during the colonial period affect the following?

(a) Pastoral communities (b) Shifting cultivators

Ans.1. The British required Indian forests in order to build ships and for railways. The British were worried that the use of forest by local people and the reckless felling of trees by traders would destroy forest.

2. Therefore the colonial government decided to invite a German expert Dietrich Brandis for advice and made him the first Inspector General of Forests in India. Dietrich Brandis realised that a proper system had to be introduced to manage the forests and people had to be trained in the science of conservation. Rules about the use of forest resources had to be framed.

3. Felling of trees and grazing had to be restricted so that forests in India could be preserved for timber production. The changes in forest management in the colonial period affected the following groups of people.

(a) Pastoral communities: Pastoral communities were affected by the new forest laws.

Before these laws came into force, the people of pastoral as well as nomadic community had survived by hunting deer, partridges and a variety of small animals. This customary practice was prohibited by the forest laws. Those who were caught hunting were now punished for poaching. Some of them began to be called criminal tribes and were forced to work in factories, mines and plantations under government supervision.

(b) Shifting cultivators: One of the major impacts of European colonialism was on the practice of shifting cultivation or Jhum agriculture. This is a traditional agricultural practice in several parts of Asia, Africa and South America.

2. European foresters regarded the practice of shifting cultivation as harmful for the forests.

They felt that land which was used for cultivation every few years could not grow trees for railway timber. When a forest was burnt, there was the added danger of the flames spreading and burning valuable timber. Shifting cultivation also made it harder for the British government to calculate taxes. So the colonial government decided to ban shifting cultivation. As a result, shifting cultivators were forcibly displaced from their homes in the forests. Some had to change occupations, while some resisted through large and small rebellions.

Q.5 Describe four provisions of the Forest Act of 1878.

Ans. (i) The Forest Act of 1878 divided forests into three categories: reserved, protected and village forests.

(ii) The best forests were called 'reserved forests'.

(iii) Villagers could not take anything from reserved forests, even for their own use.

(iv) For house building or fuel, they could take wood from protected or village forests.

VALUE BASED QUESTIONS

Q.7. Why did land under cultivation increase during colonial rule?

Q.4. what is shifting agriculture? Why was it regarded as harmful by the British?

Q.9. Where is Baster located? Discuss its history and its people.

KEY TO MCQ

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| Q.1(b) | Q.2 (a) | Q.3(a) | Q.4(b) | Q5(c) | Q(d) | Q.7(c) |
| Q.8(b) | Q.9(b) | Q.10(a) | Q.11(b) | Q.12(a) | Q.13(b) | Q.14(b) |
| Q.15(b) | Q.16(a) | Q17(c) | Q18(a) | Q.19(c) | Q.20(d) | Q21(d) |
| Q.22(b) | Q.23(b) | Q.24(b) | Q.25(c) | | | |