**Q. Examine the impact of human activity on a biome that you have studied.**

The ***Tropical Rainforest***and the activities of **1)** **Farming**and **2)Mining.**

**1) Farming:**
**i) Commercial Farming:**
The clearance of the Rainforest is widespread across all Equatorial areas from Amazonia, to the Congo basin and on to Indonesia. The rate of clearance is increasing as more and more trees fall to make way for farms. Amazonia is now the world’s no.1 exporter of beef, no.2 exporter of soya. The trees are *clear felled*. i.e. nothing remained as chainsaws and specially designed tree-harvesters fell, trim and log in one mechanised motion.
**ii) Intensive Agriculture:**
The farms are often over 100,000 hectares and are owned by powerful investors. These are both native and foreign and in many cases own the processing plants as well. The largest soya-processing unit is in the Amazon. The first effect of this plantation-type agriculture is the removal of all native vegetation in the selected areas. By 2027, 40% of the Rainforest Biome will be gone. In the first years of planting, the red soil - *Latasol*- is fertile but this quickly deteriorates unless fertilisers are used. The soil’s fertility was directly related to the vegetation. i.e. the leaf fall all year maintained the rich humus and an ecosystem which was self-sustaining existed. Without the natural vegetation the soils loses all fertility quickly and its structure breaks down.
Subsistence farming has long been practised by the native tribes such as the *Boro*and *Yanumami*.They too cleared the forest using fire. They then planted crops year by year until yields dropped. They then moved to a new site. This also resulted in loss of trees and soil degradation but on a very small scale.

**2) Mining:**
The rich resources of oil, gas and gold in the rainforest have resulted in massive deforestation. Roads are built to improve access with wide swathes cleared through the jungle. Air strips are developed to allow quick access to owners and workers alike. The are huge open-cast pits excavated leaving a waste land behind, bare of trees, soil and life of any kind. Giant hoses wash the alluvial banks into giant sieves where alluvial gold nuggets are extracted. Cyanide is added to separate out the gold specks and mud. This poison washes into the river. Huge rigs drill test bores deep into the bed rock searching for the vast reserves of natural gas and oil. The international market thirsts for new sources of vital fossil fuels as reserves dip. Trees fall to the exploitation, soil is destroyed or washed away.
These two human activities have the obvious twin impacts of forest clearance and soil degradation. Further examination reveals how fatal the impact is to the biome.

The native peoples have been reduced to 10% of the numbers 50years ago. The are rapidly dying out due to the following combination of factors, all of which stem from forest clearance directly or indirectly:
The native people depend solely on the forest in a type of symbiotic relationship with the biome. Without the trees they have no homes, no implements, no food and the waters are useless for either drinking or fish due to being muddied or poisoned by cyanide. In many cases they are shot by the miners when they attempt to protect their way of life. Those who try to stop this reckless exploitation are offered ‘*the bullet or the bribe’*. 20% of the world’s oxygen comes from the rainforest. The impact on this biome is local, national and international.
The flora and fauna - the most diverse ecosystem on Earth where one tree is home 2,000 species of insect - are lost and in many cases become extinct as the rainforest is there only location. Birds and animals, insects and fish unique to the region are being lost forever. Soil and water suffer from pollution by cyanide and nitrate run-off leaving both resources useless. The soil itself is left unprotected. Without tree-cover and the humus enrichment it becomes dusty and loose. It is washed away by the heavy convectional rains and the area is incapable of ever growing anything. Where the soil erosion does not occur the original hardwoods and the typical three layers never return. A very poor scrub growth replaces the majestic rainforest.
The simple impact of such uncontrolled human activity which seeks to exploit rapidly than use in a suitable fashion is the death of a biome.

[80marks]