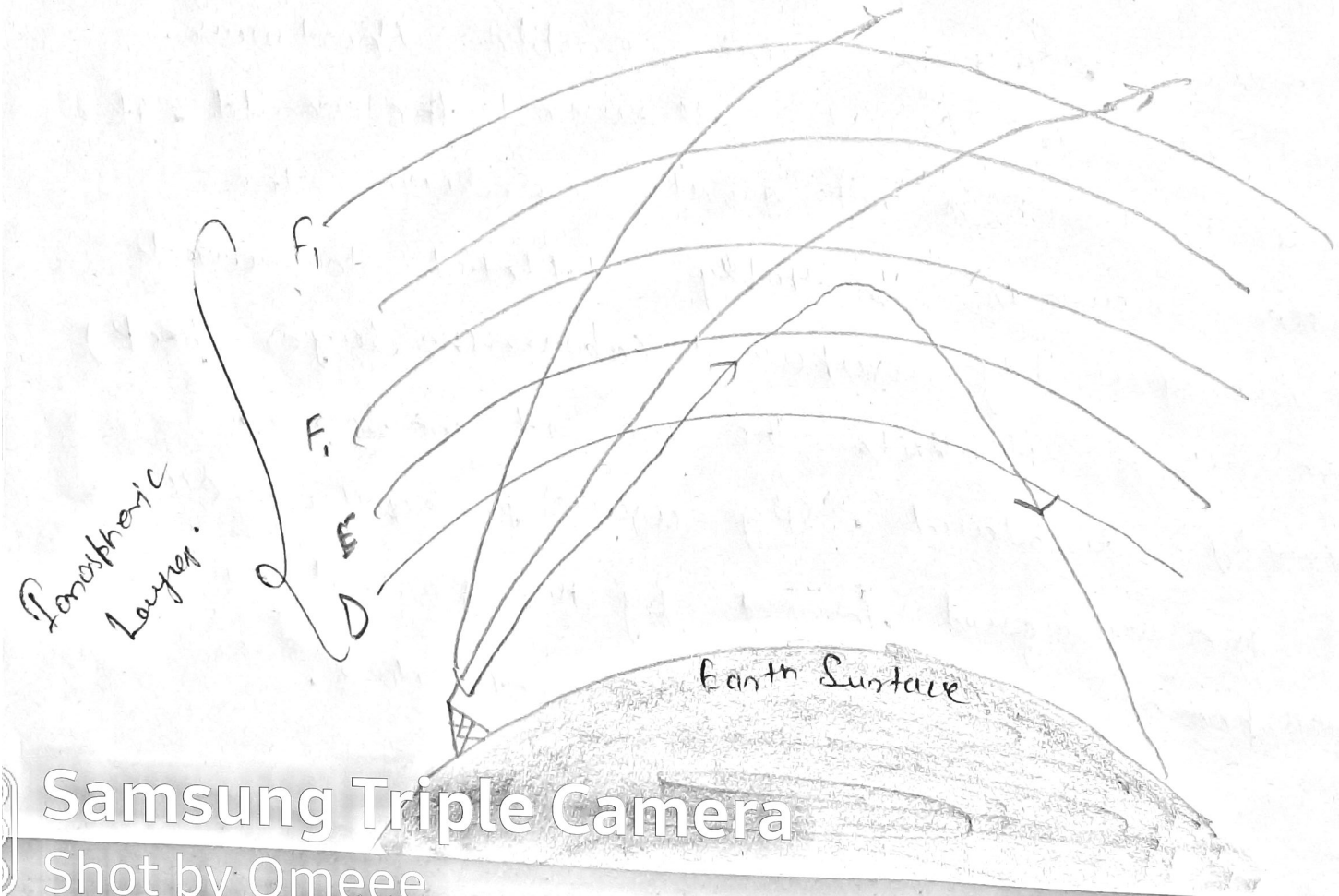
Section - 4

Question-2 Discuss in details about the mechanism of retraction in the skywave propagation:-

Answer:- Skywave propagation refers to the propagation of radio waves reflected or refracted back toward Earth from the ionosphere an electrically charged layer of the upper atmosphere, science it is not limited by the curvature of the earth, skywave propagation can be used to communicat beyond the horizon at intercontinental distances. It is mostly used in the shortwave frequency bands. The Ionosphere is a region of the upper atmosphere. from about 80 Km to 1000 Km in altitude, where



neutral air is ionized by solar photons and cosmic rays. when high frequency signals enter the ionosphere obliquely, they are back scattered from the ionized layer as scatter waves. If the mid layer ionization is strong enough compared to the signal frequency. A scatter wave can exit the bottom of the layer earthwards as if reflected from a mirror. Earth's surface (ground or water) then diffusely or reflects the incoming wave back towards the ionosphere. Consequently the signal may effectively bounce between the earth and ionosphere two or more times. Science at shallow incidence losses remains can sometime be recieved many thousands of miles away as a results. This is what enable shortwave broadcasts to travel all over the world. If the ionization is not great enough the scatter wave is initially deflected downwards and subsequently upward (above the layer peak) such that it exits the top of the layer. Slightly displaced. Sky wave propagation occurs in the wave guid formed by the ground and ionosphere, each serving as reflectors.