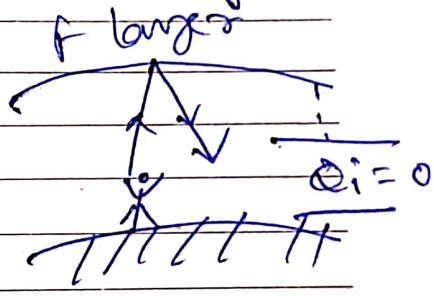
Appointment

Critical frequency of (f_c) :-

→ For any given time, each ionospheric layer has a max freq. at which radio wave can be transmitted vertically and refracted back to earth. This frequency is known as critical frequency.



→ For ionosphere.

$$n = \sqrt{1 - \frac{81N}{f^2}}$$

Where n is refractive index of ionosphere layer.

N is no of density of electron.

From snell law

$$n = \frac{\sin i}{\sin \theta} = \sqrt{1 - \frac{81N}{f^2}}$$

for $f = f_c$ (critical frequency)

$i = 0$

$$\therefore 0 = \sqrt{1 - \frac{81N}{f_c^2}}$$

$$\therefore \frac{81N}{f_c^2} = 1$$

$$\therefore \boxed{f_c = 9\sqrt{N}}$$

Birthday / Anniversary

→ Layer critial frequency

D → 100 KHz

E → 3-5 MHz

f_1 → 5-7 MHz

f_2 → 10 MHz.