Fundamental of Electromagnetic wave Lecture-14

TDC PART -1

PAPER 1(GROUP B)

Chapter -6

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Defination

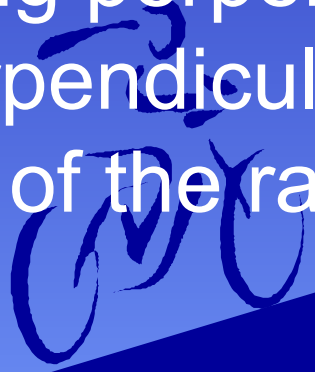
- An electromagnetic wave is a type of wave (a wave carries energy through a medium- though electromagnetic waves seemingly need no medium as the propagate through vacuums) that moves at speed c, or the speed of light (the speed of light ≈ 300,000 km/s in free space).

The fundamental unit of electromagnetic radiation

- The unit of frequency is the hertz (Hz), one cycle per second, named after Heinrich Hertz.

The main points of electromagnetic wave theory

- The energy is emitted from any source continuously in the form of radiations and is called the radiant energy.
- The radiations consist of electric and magnetic fields oscillating perpendicular to each other and both perpendicular to the direction of propagation of the radiation.



How do electromagnetic waves travel?

- electromagnetic waves can travel not only through air and solid materials, but also through the vacuum of space.

Examples of electromagnetic energy

- Radio Waves.
- TV waves.
- Radar waves.
- Heat (infrared radiation)
- Light.
- Ultraviolet Light (This is what causes Sunburns)
- X-rays