ASSIGNMENT 1

CATEGORIES OF MICROWAVE TRANSMISSIONS AS USED IN NETWORKING.

Microwave transmission is the transmission of information by electromagnetic waves with wavelengths in the microwave frequency range. Types of microwave transmission, which are terrestrial, and satellite include;

1. Satellite Microwave

- *Definition: This category involves communication with satellites orbiting the Earth.*
- *Usage: Used for television broadcasts, internet services, and global communications, especially in areas without terrestrial infrastructure.*
- *Characteristics: Utilizes higher frequencies (typically 1 GHz to 30 GHz) and can cover vast distances, but suffers from latency due to the distance to satellites.*

2. Terrestrial Microwave

- *Characteristics: Frequencies typically range from 1 GHz to 100 GHz, with common bands including the 6 GHz, 11 GHz, 18 GHz, and 23 GHz bands.*
- *Definition: This involves point-to-point communication between two fixed locations using line-of-sight microwave signals.*
- *Usage: Commonly used for long-distance telephone and data communications, often in rural or remote areas where traditional wired infrastructure is impractical.*

3. Microwave Backhaul

- *Definition: This category involves using microwave links to connect cellular towers and other network nodes to the core network.*
- *Characteristics: Typically operates in higher frequency ranges (e.g., 6 GHz, 11 GHz, and up to 80 GHz) and requires line-of-sight.*
- *Usage: Essential for mobile network operators to transmit data from base stations to switching centers.*

4. Microwave Links for Broadcasting

- *Definition: These are used for transmitting radio and television signals.*
- *Usage: Common in radio broadcasting, television networks, and media organizations to relay signals between studios and transmitters.*
- *Characteristics: May operate in various frequency bands, including both licensed and unlicensed bands.*