MAHAMAYA POLYTECHNIC OF INFORMATION TECHNOLOGY SALEMPUR HATHRAS

BOARD OF TECHNICAL EDUCATION , UTTAR PRADESH

MODERN COMMUNICATION SYSTEM

UNIT – 5

BY

Mr. SHALU SAINI
(LECTURER ELECTRONICS ENGINEERING)

DATA COMMUNICATION

- Data Transmission Basics
- ISO-OSI Model and TCP/IP Model
- Data Link Layer Design Issues
- IEEE 802 Standards for computer network
- Internet and ISDN services
- 3G Technology, WiMax Technology, LTE, LAN ,WAN

Data Transmission Basics

- Refers to the exchange of data between a source and a receiver.
- **A communication system has following components :**
- **Message**: It is the information or data to be communicated: It can consist of text, numbers, pictures, sound or video or any combination of these.
- **Sender:** It is the-device/computer that generates and sends that message.
- **Receiver:** It is the device or computer that receives the message. The location of receiver computer is generally different from the sender computer. The distance between sender and receiver depends upon the types of network used in between.As the source and the device that receives the transmitted data g known as a receiver.

DATA RATE --The **speed** at which **data** is transferred within the computer or between a peripheral device and the computer, measured in bytes per second.

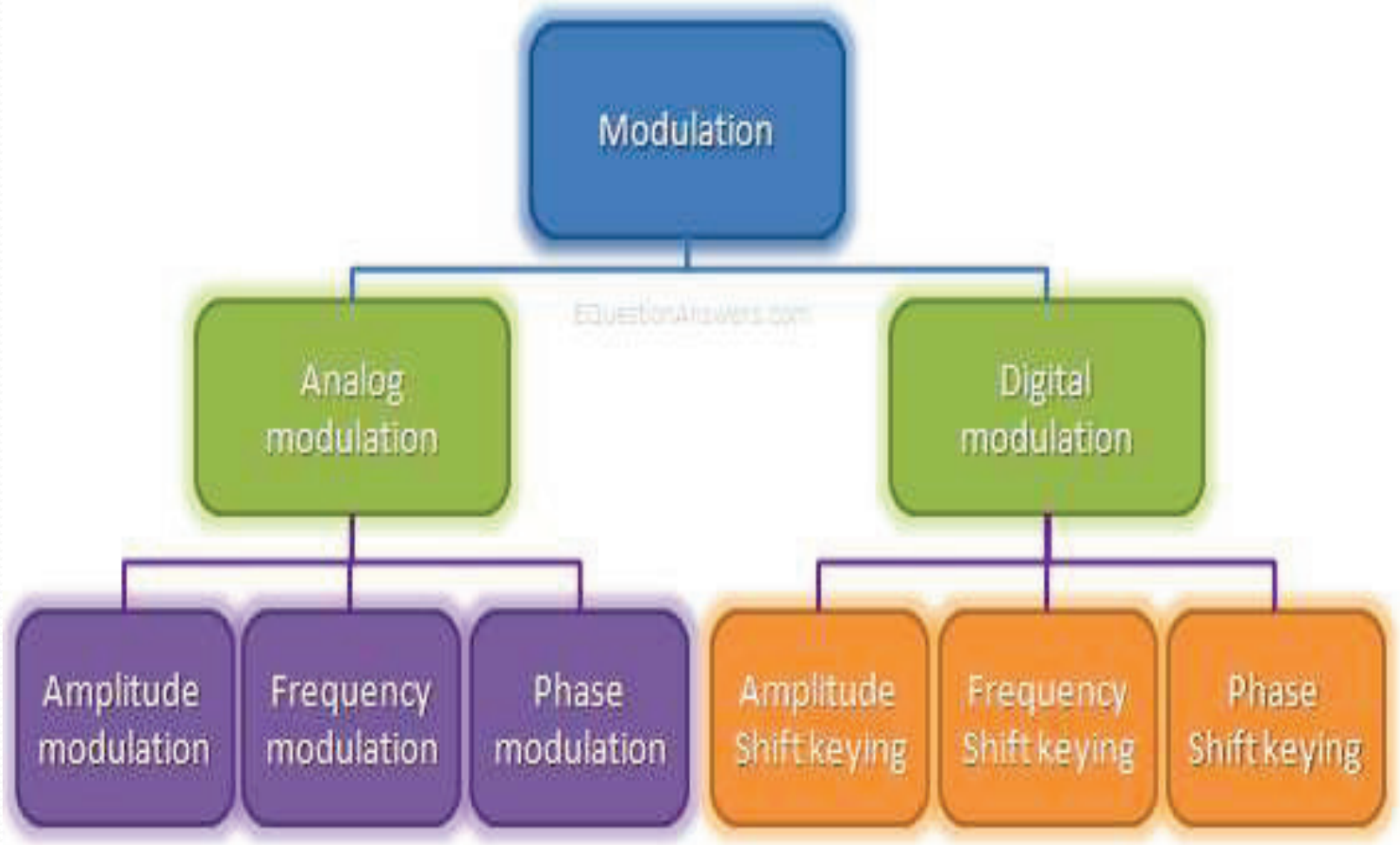
BAUD RATE--The **baud rate** is the **rate** at which information is transferred in a communication channel,measured in bits per second.

CHANNEL CAPACITY --**Channel capacity** is a maximum information rate that a channel can transmit. It is measured in bits per second (bps).

MODULATION

- **Modulation** techniques are roughly divided into four **types**:
- **Analog modulation**
- **Digital modulation**
- **Pulse modulation**
- **Spread spectrum method**

ANLOG AND DIGITAL MODULATION

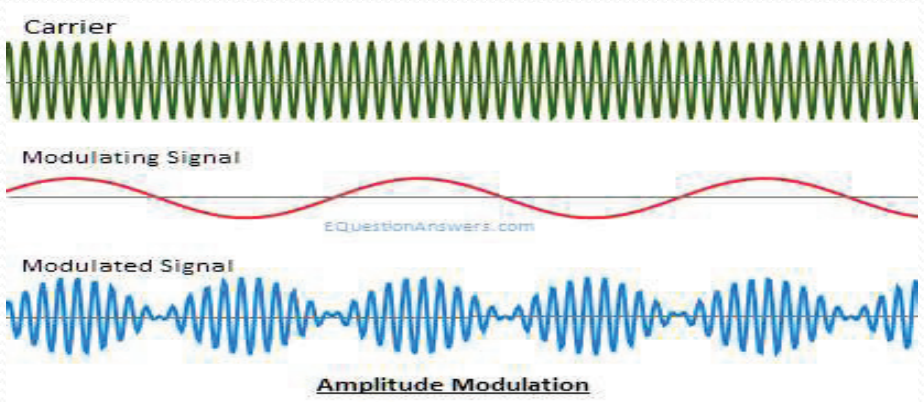


Analog Modulation

Refers to the process of transferring analog low frequency baseband signal, like an audio or TV signal over a higher frequency carrier signal such as a radio frequency band.

Amplitute Modulation:

Amplitude modulation or AM is the process of varying the instantaneous amplitude of carrier signal accordingly with instantaneous amplitude of message signal.



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