**ST. AUGUSTINE GIRLS’ HIGH SCHOOL**

**FORM 4 (MS. S. ALI)**

**INTERNET & COMMUNICATIONS TECHNOLOGY**

**LESSON #2 NOTES**

**What is bandwidth?**

Bandwidth refers to the amount of data that can be transmitted via a given communication channel per second. Bandwidth is measured in bits per second (bps).

The wider the bandwidth, the more data can be transmitted.

**What are the different types of communication channels?**

There are three different communication channels – ***narrowband***, ***voiceband*** and ***broadband***.

**How are the communication channels different from each other?**

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| **Communication Channel** | **Description** | **Transfer Speed** |
| Narrowband | Very slow transmission of data from one device to another.  E.g. Telegraph system | < 30 kbps |
| Voiceband | Transmission of speech (voice)  E.g. telephone system | < 64 kbps |
| Broadband | Transmission of large amounts of data and signals simultaneously.  E.g. data, video, audio | Approx. 256 kbps |

**What are the transmission modes?**

The different transmission modes are ***simplex***, ***half-duplex*** and ***full-duplex***.

**How are the transmission modes different?**

|  |  |  |
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| **Transmission Mode** | **Description** | **Analogy** |
| Simplex | Data can travel in one direction only. | A one-way street |
| Half-duplex | Data can travel in both directions but not at the same time | A narrow street |
| Full-duplex | Data can travel in both directions simultaneously. | A highway |

**What are some devices that use the different types of transmission modes?**

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| **Simplex** | **Half-Duplex** | **Full-Duplex** |
| Television  Radio  Microphone  Speaker  Headphones  Doorbell  Printer  Typewriter  Traffic light  Mouse  Keyboard  Microwave  Webcam  Projector | Walkie-talkie  Answer response system (Siri, Cortana)  Fax machine  Digital camera  Pager/beeper  Text messages  Sensor | Smartphone (Instant messaging)  Videoconferencing (Skype, Facetime)  WiFi  Telephone  Modem |