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National Telecommunication Institute

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PASSIVE OPTICAL NETWORKS (PON)

Course Overview:

Passive Optical Network, known as PON, rely on fiber optic cables to deliver video, data and voice signals. Gigabit PON (GPON) networks are currently the leading form of Passive Optical Networks (PONs).

Compared to the standard copper wire in most distribution networks, GPON networks are 95% more energy efficient – they use economical light signalization over fiber optic cable, as opposed to electrical signals over copper and coaxial cable. In addition to efficiency, Gigabyte Passive Optical Networks provide a low cost solution to adding new users by using optical splitters, which makes it easy to add and manage new customers, making GPON networks very desirable in populated areas.

So for those who aspire to start career in telecom companies, it is quite rewarding to invest in the PON technology, for those already working in telecom companies providing broadband service.

Course Objectives:

Participants will become familiar with:

- Evolution of optical access network PON
- Different types of FTTx and their applications
- Gigabit Passive Optical Network (GPON) architecture and its components
- Link power budget calculation
- OSP, ISP safety and testing precautions
- Good knowledge of PON test equipment
    - Visual Fault Locators (VFL) and their applications in PON networks
    - Live Fiber Identifiers (LFI) and their role in identifying live fibers
    - Power Meters and their significance in measuring optical power
    - PON-ID and PON Power Meter functionalities
    - Optical Multimeters and their use in optical network testing
    - Optical Time Domain Reflectometers (OTDRs) and their applications in PON testing
    - Service Testers and their role in evaluating PON network performance

Target Audience:

- PM's, Directors, Telecommunication Engineers.
- Those involved in the planning and deployment of FTTx networks.