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## COURSE DESCRIPTION

### COURSE TITLE

Fiber Optic Basic Fundamental

### COURSE NUMBER

PTFS 020

### TARGET AUDIENCE

People who has an access to daily cellular telecommunication maintenance and operation activity

### PREREQUISITES

Students attending this class must have fundamental electrical and telecommunication knowledge and one year on the-job cellular telecommunication experience.

### COURSE DURATION

2 Days

### COURSE OUTLINE

#### *Fiber Optic Basic Fundamental*

First of all this training will presents structure and charateristics of Fiber Optics. Furthermore it will explain type of fiber optic cable, type of components and accessories in Fiber Communication Systems. This training also explain about safety procedures when working with fiber optics. In practical session, participants will be able doing optical fiber splicing, measure optical fiber connection with OPM and OTDR and knowing types and problems in fiber connection.

**PROGRAM AGENDA**  
 Fiber Optic Basic Fundamental

Day	Training Module	Syllabus	Objectives
Day 1 Fiber Optic Training	<p><b>Session 1 :</b> Introduction to Fiber Optics</p> <p><b>Session 2 :</b> Components and Accessories Optical in Fiber Communication Systems</p> <p><b>Session 3 :</b> Type of Fiber Optic Cable</p> <p><b>Session 4 :</b> Implementation of Safety Procedures with Fiber Optics</p>	<p>08.00-09.00 :</p> <ul style="list-style-type: none"> <li>• <i>Opening</i></li> <li>• <i>Pre-Test</i></li> <li>• <i>Participant Introduction</i></li> </ul> <p>09.00-10.00 :</p> <ul style="list-style-type: none"> <li>• <i>Structure of Optical Fiber</i></li> <li>• <i>Light Propagation in Optical Fibers</i></li> <li>• <i>Characteristics of Fiber Optics</i></li> </ul> <p>10.00-10.15 (Coffee Break)</p> <p>10.15-12.00 :</p> <ul style="list-style-type: none"> <li>• <i>Light Source</i></li> <li>• <i>Photodetector</i></li> <li>• <i>Optical Accessories</i></li> </ul> <p>12.00-13.00 (Lunch)</p> <p>13.00-14.30 :</p> <ul style="list-style-type: none"> <li>• <i>Types of cables based structure</i></li> <li>• <i>The cable type is based on its use</i></li> <li>• <i>Optical Cable Specifications</i></li> </ul> <p>15.00-15.30 (Coffee Break)</p> <p>15.30 -17.00 :</p> <ul style="list-style-type: none"> <li>• <i>Cause of the Accident Working with Fiber Optics</i></li> <li>• <i>Safety Procedure on optical fiber splicing</i></li> <li>• <i>Safety Procedure in measurements activity</i></li> <li>• <i>Safety at work at the top of the pile</i></li> </ul>	<p>1. Participants understand structure and characteristics of Fiber Optics.</p> <p>2. Participants understand type of components and accessories in Fiber Communication Systems.</p> <p>3. Participants able to define type of fiber optic cable.</p> <p>4. Participants able to implement safety procedures when working with fiber optics.</p>

Day	Training Module	Syllabus	Objectives
Day 2 Fiber Optic Training & Practice	<p><b>Session 5 :</b> Optical Fiber Splicing</p> <p><b>Session 6 :</b> Measurement of Optical Fiber Communication Systems</p> <p><b>Practice Session 7 :</b> Optical Fiber Splicing Practice</p> <p><b>Practice Session 8 :</b> Optical Fiber Measurement Practice</p>	<p>09.00-10.00 :</p> <ul style="list-style-type: none"> <li>• <i>Various connection</i></li> <li>• <i>Problems in the optical fiber connection</i></li> <li>• <i>The optical fiber splicing procedure</i></li> </ul> <p>10.00-10.15 (Coffee Break)  10.15-12.00 :</p> <ul style="list-style-type: none"> <li>• <i>Calculating the link budget in optical fiber communication systems</i></li> <li>• <i>Optical Power Meter</i></li> <li>• <i>OTDR</i></li> </ul> <p>12.00-13.00 (Lunch)  13.00-14.00 :</p> <ul style="list-style-type: none"> <li>• <i>Fussion splice</i></li> <li>• <i>Use of Fussion Splice</i></li> </ul> <p>15.00-15.30 (Coffee Break)  15.30 -16.30 :</p> <ul style="list-style-type: none"> <li>• <i>The use of OPM</i></li> <li>• <i>The use of OTDR</i></li> </ul>	<ol style="list-style-type: none"> <li>1. Participants understand types and problems in fiber connection.</li> <li>2. Participants able doing optical fiber splicing.</li> <li>3. Participants able to measure optical fiber connection with OPM and OTDR.</li> </ol>

#### NOTES

This Course Description is subject to change due to product design changes and individual attendee needs and experience.