



# Project Report

## *Mobilization, Skill Development Training & Certification of Women in Optical Fiber Splicer Course through CSCs*

*Phase-I*

## **About CSC SPV:-**

CSC e-Governance Services India Limited is a Special Purpose Vehicle (SPV) incorporated as a Company under the Companies Act 1956 with an object to provide a range of services to support the Common Service Centre, which is a network comprising rural and urban Information Technology enabled delivery outlets which are established under CSC Scheme and Monitored by CSC SPV and are integrated service delivery channel for transmission of public and private services, information and knowledge to citizen and are ICT enabled delivery points for offering various e-services; and to do all incidental acts and things necessary for the attainment of the foregoing objects forming part of Digital India programme . These CSCs are owned and operated by Local Village level entrepreneurs (VLE)

CSC SPV is delivering services through an online portal named digital Seva portal, “digitalseva.csc.gov.in”. There are presently more than 4 lakhs common service centers across India. The digital Sewa platform enables CSC SPV a Special Purpose Vehicle (SPV), to Monitor and Implement a CSC Scheme that facilitates the progressive migration of services to an e-Governance platform and that enables the delivery of services through the CSC network which is the front end service delivery points of Services.

Common Services Centers (CSCs) are a strategic cornerstone of the Digital India programme. CSCs are envisaged as assisted front-end ICT (Information and Communication Technology) enabled centers for delivery of various G2C (Government to Citizen) and other B2C (Business to Citizen) services to the citizens. These are managed and operated by a local skilled entrepreneur. The service portfolio including G2C services enables a sustainable rural enterprise providing employment opportunities to the local population.

## **About Commonwealth Educational Media Centre for Asia (CEMCA)**

Commonwealth Educational Media Centre for Asia (CEMCA) a Regional Centre of Commonwealth of Learning (COL), Vancouver, Canada is engaged in Skill Development for a better livelihood for youth through Vocational Skill Development. CEMCA is into this segment to assist governments and institutions to expand the scale, efficiency and quality of learning by using multiple media in open, distance and technology-enhanced learning. CEMCA also works to develop sustainable models for Community Radio Stations, and also develop new models of delivery of Open Schooling

## **CSC's COMPREHENSIVE SKILLING MODEL**

CSC SPV gives stress on the skilling ability of youth as better training and learning opportunities with the approach to holistic development (soft + technical) can help India become a truly skilled nation. CSC SPV addresses the pressing needs of Skilling India's

youth for employment, entrepreneurship, and community enterprise. It reaches into communities, develops skills of people from financially challenged backgrounds and acclimatizes them to the changing work environment. The core philosophy is to train candidates on courses that would help create and supply trained manpower to the industrial spectrum and develop entrepreneurial talent.

CSC SPV has initiated Skill Development Courses with the following vision:

- Providing the skill training in rural areas, locally accessed by rural youth
- Getting them certified
- Making them eligible for suitable employment opportunities or to start livelihood in their locality itself

The CSC SPV supports:

- Reaching out to potential candidates through their presence across the country
- Registration of Candidates followed by Scheme information dissemination
- Consume skill course: e-Skilling and Hybrid Model of Skilling
- Job opportunities, Self-employment, Placement Linkages

### **About Optical Fiber Splicing**

Optic Fiber splicing is the process of joining two or more fibers together. Whether you're deploying a new Fiber optic network or expanding an existing network, you must ensure your fibers are properly spliced to avoid network disruptions. This process helps the Telecom companies properly manage the optical Fiber network. In the last five years, 1.5 lakh village panchayats have related to an Optical Fiber network. And, in the next 1,000 days, all villages in the country will relate to an optical Fiber network (According to TOI 15 Aug 2020).

Optical Fiber splicer is responsible for ensuring efficient splicing of the Optical Fiber cables and supports in optical Fiber installation and in carrying out Fiber testing using OTDR and power meter.

### **The objective of the course:**

As CSC VLEs and their operators have been given responsibility for maintaining and keeping Bharat Net infrastructure in the villages. We propose for their training on the aspects like Wi-Fi access points, optical Fiber splicing and maintenance through online mode across the country by the SSC certified trainers from the relevant industry. CSC VLEs and the operators shall be facilitated with Digital training content provided by SSC in a self-paced mode and through live classes. Following the training, skill competency certificates shall also be provided by SSC after a successful online assessment

### **Need of the course:**

National Optical Fiber Network (NOFN) will connect to Gram Panchayats wherever

necessary. The Dark Fiber network thus created will be lit by appropriate technology thus creating sufficient bandwidth at the Gram Panchayats. Thus, the connectivity gap is filled. Non-discriminatory access to the NOFN will be provided to all the Service Providers. These service providers like Telecom Service Providers (TSPs), ISPs, Cable TV operators, and Content providers can launch various services in rural areas. It will ensure adequate availability of skilled manpower to boost growth and productivity in the Telecom sector shortly

### **Course Outline:**

1. Introduction:
  - 1.1 Explaining various types of Optical fiber and their applications
  - 1.2 Imparting knowledge of working principles of Optical fiber and Fiber-optic communication system
  - 1.3 Making the candidate understand the main characteristics of Optical Fiber like attenuation and bending
  - 1.4 Acquiring the basic information on Splicing, types of splicing and splicing operation
  - 1.5 Understanding the importance of documenting the steps for splicing
  - 1.6 Learning to carry out route inspection, cable laying procedure, detailed checks
  
2. Key Learning:
  - 2.1 Acquiring the basic information on Splicing, types of splicing and splicing operation
  - 2.2 Understanding the importance of documenting the steps for splicing
  - 2.3 Learning to carry out route inspection, cable laying procedure, detailed checks
  
3. Employability and Entrepreneurship skills/ Soft Skills
  - 3.1 Understand the concept, importance and characteristics of entrepreneurship
  - 3.2 Benefits of effective leadership
  - 3.3 List down different parts of the computer
  - 3.4 Understand the main applications of MS office.
  - 3.5 Understand about Internet and Network
  - 3.6 Practice how to type effectively
  - 3.7 List down the importance of listening skill
  - 3.8 Practice effective listening skills
  - 3.9 Use effective speaking skills in your role
  - 3.10 Demonstrate reading and keep yourself updated on the latest news
  - 3.11 Practice effective writing skills
  - 3.12 Digital Literacy
  - 3.13 Learning the benefits of saving money
  
4. Undertake splicing of optical fiber
  - 4.1 Acquiring the basic information on Splicing, types of splicing and splicing operation
  - 4.2 Understanding the importance of documenting the steps for splicing

- 4.3 Learning to carry out route inspection, cable laying procedure, detailed checks
  - 4.4 Educating the importance of safety guidelines and their compliance
  - 4.5 Acquiring knowledge about personal protective equipment like safety Harness, helmet, gloves, goggles, earplugs, nose masks etc., and their application under different working conditions.
  - 4.6 Understanding the testing effectiveness of the splice through OTDR and power meter tests
  - 4.7 Learning about various testing tools and equipment, field tests
  - 4.8 Understanding the importance of documenting the testing procedure
  - 4.9 Educating the importance of safety guidelines and their compliance
  - 4.10 Acquiring knowledge about personal protective equipment like safety Harness, helmets, gloves, goggles, earplugs, nose masks etc. and their application under different working conditions.
5. Installation & Commissioning of Optical fiber cables (OFC)-
- 5.1 Coordinating trenching cable laying, jointing, and cable blowing activities.
  - 5.2 Perform preventive and corrective maintenance tasks on Fiber link.
  - 5.3 Find Fiber breakdowns, and loss on joints, cable, and connectors.
  - 5.4 Checking the duct joints
  - 5.5 Appropriate disposal of the cut fibers, sleeves and cable pieces.
  - 5.6 Measuring the distance, fiber attenuation (dB/km), event loss, link loss, and reflectance using OTDR.
6. Program Wrap-up
- 6.1 Understand what an interview is
  - 6.2 Develop the skills to participate in an interview effectively
  - 6.3 Know commonly asked questions in an interview
  - 6.4 Revise and integrate the learning of the training program

### **OFS Training Program – Delivery**

The OFS Training Program was launched on Oct 21, 2021. In this training program, Women candidates were registered from 45 CSC Centres in 14 states across the country.

The OFS Training Program consisted of the following:

- The OFS Training held for 28 hours
- 24 hours of Self-Study through Digital content
- 4 hours of Virtual Classroom sessions by trained faculty
- Practice Assessments after every module and two complete Practice Assessments at the end of the Training Program

## Education Background:

Sr. No.	Highest Education	Total Numbers of Women Candidates
1	11th – 12th	2238
2	Diploma	2
3	Graduate	139
4	ITI	1
5	Postgraduate	34
6	Undergraduate	86
<b>Total</b>		<b>2500</b>

## Assessment & Certification Process

- Candidates log in with their respective credentials on <https://essci.skillstrainer.in>

The screenshot displays the login interface for the ESSCI Skill Trainer. At the top, the ESSCI logo and CSC logo (E-Governance Services India Limited) are visible. Below the logos, there are two input fields: 'Username' and 'Password'. To the right of the 'Username' field, there is a link for 'Forgotten your username or password?'. Below the 'Password' field, there is a message: 'Cookies must be enabled in your browser' with a help icon. Below this message, there is a checkbox for 'Remember username' and a note: 'Some courses may allow guest access'. There are two buttons: a blue 'Log in' button and a grey 'Log in as a guest' button. The browser's address bar shows the URL 'essci.skillstrainer.in/login/index.php'. The Windows taskbar at the bottom shows the system tray with the date '1/31/2022' and time '3:05 PM'.

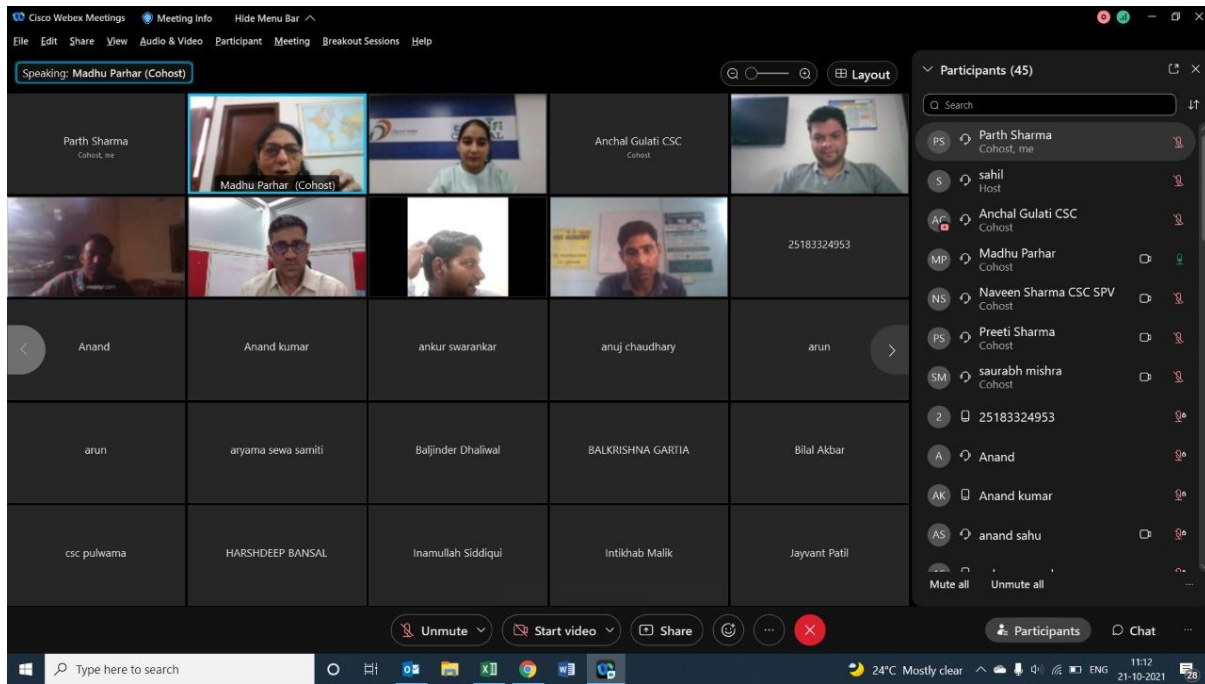
- Click on Final assessment
- Attempt all 30 questions and click on Submit
- Certificate generated (candidate can download the certificate)

## Outcome/Benefit:

1. Maximize system performance and reliability by learning today's Splicing techniques.
2. Be aware of current industry standards and become a trusted resource for your customer.
3. Gain customer confidence by ensuring the integrity of their fiber splicing abilities and support.

4. SSC Certificate remains on electronic record and can be confirmed and reissued at any time.
5. This Certification is Nationally Recognized.

**A glimpse of the launch of the Optical Fiber Splicer Program for PwDs & Women in support of the Commonwealth Educational Media Centre for Asia (CEMCA)**



# A glimpse of the virtual OFS training:

The screenshot shows a Google Meet interface with a presentation slide titled "Comparison between LED and LASER". The slide contains a table with the following data:

PARAMETERS	LED	LASER
Working Principle	Electro-luminescence	Stimulated Emission
Full Form	Light Emitting Diode	Light Amplification by Stimulated Emission of Radiation
Response	Slow Response	Fast response in comparison to LED
Driving Current	It ranges from 50 to 100 mA.	It ranges from 5 to 40 mA.
Nature of Emitted Light	Incoherent and consists of various colors	Coherent and Monochromatic.
Junction Area during Manufacturing	Large Junction Area	Narrow and small Junction
Bandwidth Range	It lies in the range of 10 to 50 THz.	It lies in the narrow range i.e. from 1 MHz to 2 MHz.
Power to light Conversion Efficiency	Approx 20 %	Approx 70 %
Numerical Aperture of the obtained Light Beam	Higher in LEDs	Extremely low as compared to LEDs.
Cost	Low cost and thus economical.	High cost and thus used in the specific application.

The meeting interface shows participants: Saima Haider, Savita Rajbhar, Arpita Mishra, Bablu Kharwar, Pooja Kumari, and Mayank Singh. The time is 10:19 AM on 08-12-2021.

The screenshot shows a Google Meet interface with a presentation slide titled "Important Terminologies". The slide contains a table with the following data:

Terminology	Definition
Signal	It is an electromagnetic representation of data.
Signaling	It is the act of propagating a signal over a suitable medium.
Frequency	The number of times in a second an electric signal or electromagnetic wave, completes a cycle.
Network	Connection of two or more computers that enables them to communicate. The phone network is the total infrastructure for transmitting phone messages.
Fiber ID	Fibers are identified by their core and cladding diameters expressed in microns (one millionth of a meter), e.g. 50/125 micron multimode fiber. Most multimode and single mode fibers have an outside diameter of 125 microns - about 0.005 - 5 thousandths of an inch - just slightly larger than a human hair. International standards also have names for fibers that call out detailed specifications that include bandwidth capability or other special characteristics.

The meeting interface shows participants: Saima Haider, Sapna Rai, Savita Rajbhar, Arpita Mishra, Bablu Kharwar, and 35 others. The time is 10:25 AM on 08-12-2021.





Anantnag, NEAR CAR PLAZA, ANG

Lat 33.738743°  
Long 75.142643°

GPS Map Camera



*A glimpse of OFS Assessment:*





**Sample Certificates**





## Certificate

This is to certify that

**Priyanka Ahire**

has successfully completed the Training for the Job Role of  
**Optical Fiber Splicer (ELE/TEL/Q6400) - Level 3**

Issued by: Electronics Sector Skills Council of India

Date of Issue: 22 March 2022

Institution Name: CSC e Governance Services India Limited

Enrollment No.: CSC/ESSCI/CEMCAWOM/OFS0011/MH/00461



**Mr. Piyush Chakraborty**  
Officiating Head  
Electronics Sector Skills Council of India



## Certificate

This is to certify that

**Pranjali Ahire**

has successfully completed the Training for the Job Role of  
**Optical Fiber Splicer (ELE/TEL/Q6400) - Level 3**

Issued by: Electronics Sector Skills Council of India

Date of Issue: 22 March 2022

Institution Name: CSC e Governance Services India Limited

Enrollment No.: CSC/ESSCI/CEMCAWOM/OFS0011/MH/00441

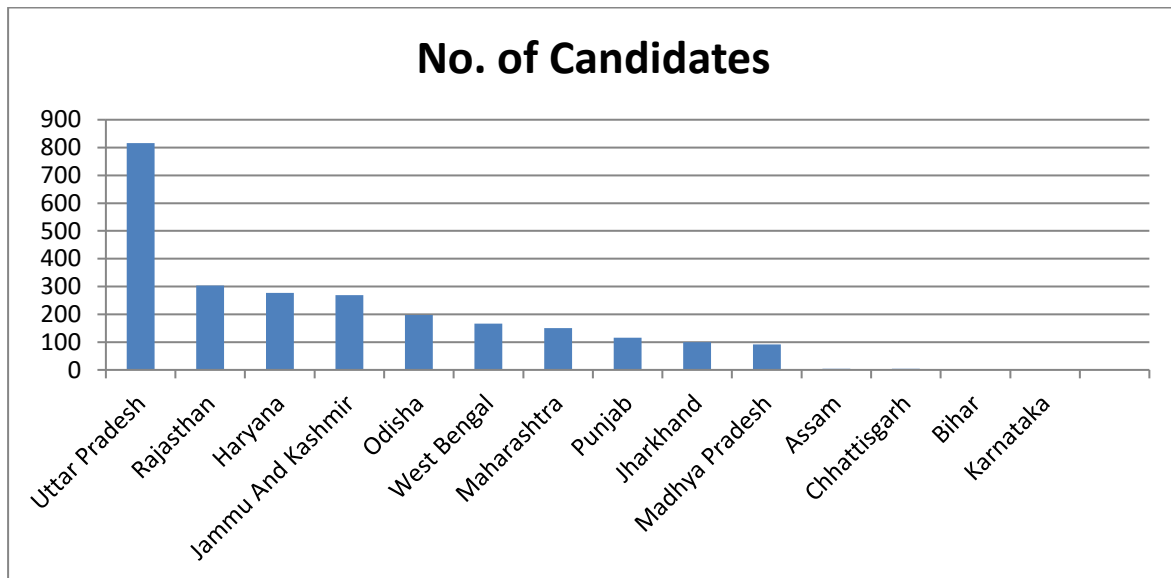


**Mr. Piyush Chakraborty**  
Officiating Head  
Electronics Sector Skills Council of India

## Total Female Candidates enrolled - 2500

### Total Candidates Enrolled State wise-

State	No. of Candidates
Uttar Pradesh	816
Rajasthan	304
Haryana	277
Jammu And Kashmir	269
Odisha	198
West Bengal	167
Maharashtra	150
Punjab	116
Jharkhand	100
Madhya Pradesh	92
Assam	4
Chhattisgarh	4
Bihar	2
Karnataka	1

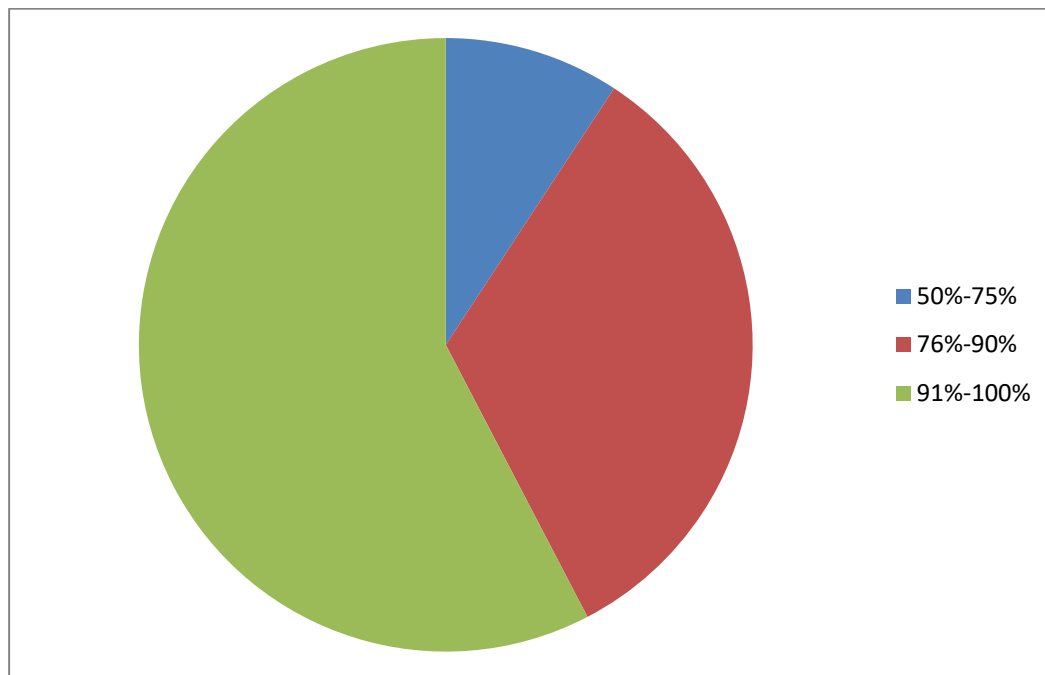


### **Result:**

Result	Count
Pass	2500

### Percentage-wise result:

Marks (%)	No. of Candidates
50-75%	231
76-90%	828
91-100%	1441



### Success Story:

#### Sujata

The happiness can be felt on Sujata's face who is coming from a small village. She is overwhelmed while elaborating her feelings about the course. She said, "This is the course that changes my life and has positively impacted my life." She and her family are thankful to CEMCA & CSC Skill Center for providing this course.

#### Pooja Rani

Girls are no less than boys these days and it is proven by Pooja Rani who has completed the OFS course from CSC Skill Center Hisar. She stated, "For a shy and introvert girl like me, it was difficult to cope with the outside world, but the training boosted the confidence and I noticed a great change in me." These words are enough to express the importance of these kinds of training in society. Pooja is thankful to CEMCA and CSC Skill Center.