

## Annexure -I

### Technical Specifications of the proposed Optical Spectrum Analyzer

Supported Optical Fiber	Single Mode fiber and/or Multi Mode fiber
Optical Connector	User replaceable: FC, SC, ST, DIN (All connectors should be PC polished.) Adapter for FC/APC
<b>Measurement Wavelength</b>	
Measurement Range	600 to 1600nm or above
Accuracy	+/-30pm or better
<b>Measurement Level</b>	
Measurement Range	-80 dBm to +10dBm or better over the specified optical range
Accuracy	+/-0.4dB or better
Flatness	+/-0.1dB or better
Linearity	+/-0.05dB or better
<b>Function</b>	
Measurement functions	Auto Measure, Optical pulse measurement (External trigger), Power monitor
Display functions	Normal, Normalize, Max hold, Min hold, Value in Air/Vacuum, Effective resolution, Multimode fiber, Single mode fiber, Overlap and others
Analysis functions	Waveform difference function, Marker function, Waveform analysis (Threshold, n dB-Loss, Envelope, RMS, SMSR, Spectrum Power, Spectral width, Power Spectral Density, Optical Filter), Noise analysis and others
Calibration functions	Auto Align, Built-in Wavelength calibration also possibility for calibration using external reference, Level offset, Wavelength offset
Memory function	Display measurement data to memory
Interfaces	Ethernet or USB or GPIB or RS-232
Data save	Save and read files to USB memory
Input	External trigger terminal, maximum input power 10 dBm or more
Output	Measurement data text file, measurement screen file, VGA output terminal, keyboard, mouse

<b>Others</b>	
Sweep	$\leq 0.2$ to $0.3$ s
Optical Return Loss	$\geq 35$ dB
Sampling Point	50 and above
Calibration	In-built calibration system and possibility for external calibration (calibration certificate should be provided)
Keyboard and mouse	Wireless keyboard and mouse for operation
Display	10 inch or above high resolution LCD or LED
Operating Temperature	Room temperature with $\pm 20$ degree variation
Operating System (if any)	Windows 7 or other open source
Accessories	Required connectors, power cords, software, manual etc.
Input electrical power	As per Indian standard
Installation & training	On site