Specimen of lesson Plan

Name of the Faculty : Mr. Sumit Rohilla

Discipline:

Semester: 6th

Subject: Optical Fiber communication

Lesson plan duration: 15 weeks

Work load: Lectures-04, Practical -00

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| **Week** | **Theory** | | **Practical** | | |
| Lecture day | Topics | Practical  days | Topics | |
| 1st | **1st** | Introduction of OFC, historical prospective |  |  | |
| **2nd** | **Basic** communication systems |  |  | |
| **3rd** | Optical frequency range, advantage of optical fibre communication |
| **4th** | Application of FOC |
| 2nd | **5th** | Introduction light wave fundamentals, nature of light |  |  | |
| **6th** | Acceptance angle and numerical aperture EM waves |
| **7th** | Dielectric wave guide modes in planner guide, Dispersion and destortation in wave guide |  |  | |
| **8th** | Class-test of chapter 1 |  | | |
| 3rd | **9th** | Introduction OFW, fibre structure, step index fibre |  | |  |
| **10th** | Graded index fibre intention mode in step |
| **11th** | Index and graded index fiber, pulse dispersion and information rate in optical fiber |  | |  |
| **12th** | Construction of optical fibers, optical fiber cables |
| 4th | **13th** | Assignment |  | |  |
| **14th** | Class test |
| **15th** | Introduction of light source, operating characteristic of leds |  | |  |
| **16th** | Laser principle, different types of lasers, lasers diodes, Operating characteristic of laser diodes |
| 5th | **17th** | Distributed feedback laser diode |  | |  |
| **18th** | Optical amplifers fiber laser |
| **19th** | Class-test |
| **20th** | Introduction to light detectors, Principle of photo detection |
| 6th | **21st** | Principle of photo detection |  | | |
| **22nd** | Photo multipliers, semi conductors of photo diodes |
| **23rd** | PIN diode and APD |
| **24th** | Comparison between PIN and APD |
| 7th | **25th** | Introduction of optical fiber joints |
| **26th** | Fiber alignment joints losses |
| **27th** | Fiber and preparation, Splices, connectors, source coupling |
| **28th** | Class-test |
| 8th | **29th** | Distribution network and fibre components |
| **30th** | Distribution network, directional couplers, star couplers and switches |
| **31th** | Fibre optics isolaters |
| **32th** | Attenuators WLDM |