

## **DWDM TECHNOLOGY FOR OPTIMUM USE OF OPTICAL NETWORK**

**GEV MANEKSHAW<sup>1</sup>, VISMAY PANDIT<sup>2</sup>, ASHAY MHATRE<sup>3</sup> & JINESH DOSHI<sup>4</sup>**

<sup>1</sup>B.E (Electronics), D. J Sanghvi College of Engineering, Mumbai, Maharashtra, India

<sup>2,3,4</sup>B.E (EXTC.), D. J Sanghvi College of Engineering, Mumbai, Maharashtra, India

### **ABSTRACT**

Initial stages of the Public Switched Telephone Networks (PSTN) used copper cables for propagation of electric signals. With the invention of optical fiber), an efficient, lossless and high capacity waveguide was introduced. However the factors of cost - in terms of laying, maintaining and construction - and fragility put a strain on the use of fibers in commercial applications. The traditional Time Division Multiplexing has proved to restrict the use of fibers from its full capacity. A new technology in the field of multiplexing called Dense Wave Division Multiplexing (DWDM) has created a breakthrough by eliminating the strain on the wave carrying capacity of a fiber and multiplied the bandwidth provided by optical channels. DWDM has also eliminated a number of drawbacks of conventional switching networks. It has hence proved to be the future technology in optical fiber networks.

**KEYWORDS:** Cross Connectors, DWDM, Grating, OADM, OEO Regeneration, Optical Fibers, PSTN