

Roll Number:

Thapar University – Patiala

Department of Electronics and Communication Engineering

B.E. – ECE; (Eighth Semester)

EC – 032: Optical Communication Systems

March 2009; (MST)

TIME: 02 Hours; MM: 25

Name of Faculty: Dr. Amit Kumar Kohli

Note:

1. Attempt all questions sequentially
2. All questions carry equal marks

Question No. 1: Describe elliptical polarization of light used in the optical fiber communication.

Question No. 2: Compare WDM with DWDM.

Question No. 3: Derive the condition under which optical wave propagates in the waveguide slab.

Question No. 4: If the electric field follows Gaussian distribution $E(r) = E_0 \exp(-r^2/2W_0^2)$, then calculate the mode field diameter using the *Petermann II* equation.

Question No. 5: Describe propagation modes in the single mode fibers.