LIST OF TABLES

Table 1.1	Scope of work and comparative study as well as key design issues in OCDMA network.
Table 2.1	Different codes and wavelengths used in multiple outbound and inbound links.
Table 3.1	Code block with $M = 5$ and $n = 6$.
Table 3.2	Block code, C with hamming distance, $d_{min} = 2$.
Table 3.3	Transmission data rates with the corresponding bit durations, T_{bit} .
Table 3.4	Examples of basic system configurations
Table 3.5	Effects considered in a universal fiber.
Table 4.1	Maximum allowable MAN error free transmission using different OC models at $P_{r(max)}$ and $P_{r(min)}$.
Table 4.2	Comparative study on maximum allowable MAN error free transmission using Complementary method and AND method
Table 4.3	BER measured at $P_{r(max)}$ and $P_{r(min)}$ in a four-user system using different OC models before optimization.
Table 4.4	The maximum and minimum received power in a four-user system using OC_{25} from 5 km to 100 km of MAN.
Table 4.5	Development of a two-user system using 7 and 16 chips (variable code weights) for optimal DCF dimensions in MAN.
Table 4.6	Configurations of different OC models in a two- and four-user system.
Table 5.1	MAN optimization using integrated formulation in a four-user system.
Table 5.2	Required SNR for error free transmission using different modulation techniques and encoding schemes in a four-user system.
Table 5.3	Error free transmission at 10 Gbps in a four-user system based on Complementary and AND method.
Table 5.4	Required SNR for BER $\leq 10^{-9}$ at 10 Gbps in a four-user system using NRZ-MZM-OC ₂₅ in comparison with a multi-wavelength system.

Table 6.1	Investigation on maximum allowable transmissions (BER $\leq 10^{-9}$) of integrated formulation under higher aggregated traffic and user numbers in MAN optimization.
Table 6.2	Error free transmission at 10 Gbps in a four-user system based on Complementary and AND method.
Table 6.3	Minimum required SNR for error free transmission under higher aggregated traffic and user numbers in different systems.
Table 6.4	Optimal transmissions for MAN optimization under higher aggregated traffic and user numbers for $BER \le 10^{-9}$.
Table 7.1	Summary of key contributions of integrated formulation for MAN optimization
Table 7.2	Summary of enhancements achieved and comparative study of integrated formulation for MAN optimization.
Table 7.3	Summary on the contributions of the work, enhancements achieved and comparative studies in MAN optimization.