LIST OF FIGURES

Sr. No.	TITLE	PAGE No.
1.1(a)	Ray path in a layered structure	14
(b)	Ray path in a continuously varying refractive index distribution	14
1.2(a)	Parabolic variation of refractive index	15
(b)	Ray paths in a parabolic index slab wave guide	15
2.1	An x-polarised plane electro magnetic wave propagating along the z direction	43
2.2(a)	Planar optical waveguide	43
(b)	The refractive index distribution for a symmetric planar waveguide	43
2.3	The variation of $\zeta \tan \zeta$ and $-\zeta \cot \zeta$ as a function of ζ	44
2.4	Guided mode in a step index waveguide	45
2.5	The modal fields for the symmetric step index planar waveguides	45
2.6	The variation of normalized propagation constant b as a function of V	46
3.1	Parabolic variation of refractive index	71
3.2	Parabolic refractive index profile with flat continuation	72
3.3	H_x as a function of x for N = 0 mode [2ρ=100μm, λ = 0.85 μm)	73
3.4	H_x as a function of x for N = 1 mode [2ρ=100μm, λ = 0.85 μm)	74
3.5	H_x as a function of x for N = 2 mode [2ρ=100μm, λ = 0.85 μm)	75

Sr. No.	TITLE	PAGE No.
3.6	H_x as a function of x for N = 0 mode [λ = 0.85 μm, a_1 = 0.2]	**76**
3.7	H_x as a function of x for N = 1 mode [λ = 0.85 μm, a_1 = 0.2]	**77**
3.8	H_x as a function of x for N = 2 mode [λ = 0.85 μm, a_1 = 0.2]	**78**
3.9	H_x as a function of x for N = 0 mode [2ρ = 100 μm, a_1 = 0.2]	**79**
3.10	H_x as a function of x for N = 1 mode [2ρ = 100 μm, a_1 = 0.2]	**80**
3.11	H_x as a function of x for N = 2 mode [2ρ = 100 μm, a_1 = 0.2]	**81**
3.12	H_x as a function of x for N = 0 mode [2ρ = 100 μm, λ = 0.85 μm, a_1 = 0.2]	**82**
4.1	A thin layer of linear medium between two nonlinear media	**101**
4.2	Variation of $\epsilon_2^{1/2}$ |E(z)| as a function of z/ λ	**102**
4.3	Critical power of the surface wave for the linear and a positive nonlinear medium as a function of d/ λ	**103**