PREFACE

Explosive development and exciting progress has occurred in the field of Electronics in the last three decades. Many type of electronic circuits have been designed which are useful in various fields of life. I have focused my thinking basically on BJT Amplifiers, Regulator Circuits and Wave Shaping Circuits.

The thesis is divided into seven chapters. The first two are introductory chapters, the next four chapters are based on the problem chosen and the last one is the conclusion and discussions that will be useful for future investigations.

Push – Pull amplifier is taken as the base of the third chapter.
Three circuits are introduced in this chapter. Modification of the basic push – pull amplifier is done by using diodes, resistors capacitors and Darlington
amplifier. This led to the success of getting distortion less output signal.

Fourth chapter includes two circuits, first operates for small signals of nanovolt range and the second gives output for the input signals of fundamental frequency 10 THz. This is used as wide band amplifier. Regulator circuit is included in the fifth chapter. This is operational amplifier based regulator circuit. The Special feature of this regulator is that it regulates as well as amplifies the input (unregulated) signal. This feature is achieved using Darlington pair and a zener diode.

The sixth chapter contains some wave shaping circuits. The first circuit is designed to generate square wave using operational amplifier. In the next step two circuits of this type are connected in cascade and the output obtained is PWM wave. And the last circuit provides Cosine wave when the sinusoidal signal is input to it.

I hope that this thesis will have its some technical contribution in the field of electronics and it will be my
pleasure if I impart some good ideas through this thesis to the other scholars who may invent some more better circuits and devices.

(Jyotsna Mishra)