# CONTENTS

## CHAPTER 1: INTRODUCTION TO PIC MICROCONTROLLERS

1.1 Review on Evolution of microprocessors  
1.1.1 Introduction to microcontrollers  
1.1.2 Different microcontroller architectures and vendors  
1.2 Choosing of PIC microcontroller  
1.2.1 Introduction to PIC microcontrollers  
1.2.2 Reasons for popularity of PIC microcontrollers  
1.2.3 Different families of PIC microcontroller  
1.3 Conclusion  

References  

## CHAPTER 2: BRIEF DESCRIPTION OF THE MICROCONTROLLER USED IN THE PRESENT WORK

2.1 Introduction  
2.1.1 Key features of Amicus 18  
2.2 Salient features of PIC 18F25K20  
2.3 Architecture of PIC 18F25K20  
2.4 Memory organization  

(Contd....)
CHAPTER 3: HARDWARE AND SOFTWARE DETAILS OF SYSTEM

MICROCONTROLLER BASED HUMIDITY AND TEMPERATURE MEASUREMENT AND MONITORING SYSTEM

3.1 Introduction 44

3.1.1 Description about HSM-20G sensor 44

3.1.2 Humidity sensor connections 48

3.2 On- chip Analog- to– Digital converter 49

3.3 Problem statement 49

3.4 Scope of project 50

3.5 Flowchart of the present work 55

3.6 Software details of present work 56

(contd...)

3.7 Amicus IDE 33

3.7.1 Procedure to use Amicus IDE 34

References 42
3.7 Photograph of humidity and temperature measurement system

3.8 Calibration curves for present work

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Results and Discussions

4.2 Scope for future work

References

Appendix A: HSM-20G Sensor Data sheet

Appendix B: Pin diagram descriptions of PIC 18F25K20

Appendix C: Commands and Directives of BASIC PRO

Appendix D: Analog-to-Digital Converter (ADC) Module

Appendix E: Electrical characteristics of PIC 18F25k20