

Reg. No. :

Question Paper Code : 80363

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Seventh Semester

Electrical and Electronics Engineering

EE 6008 — MICROCONTROLLER BASED SYSTEM DESIGN

(Common to Electronics and Instrumentation Engineering and Instrumentation and Control Engineering)

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write about the Status Register of PIC Microcontroller.
2. List out all the addressing Modes in PIC Microcontroller.
3. What is the minimum and maximum clock frequency for PIC 16CXX?
4. What is the role of TRISx register in I/O Port Management?
5. What is the value to be loaded into SPBRG register if we want 19200 baud rate with 10MHz clock source.
6. List the registers associated with UART.
7. What is the purpose of Program Counter?
8. List out some of ARM Development Tools.
9. What is five stage pipeline in ARM PROCESSOR?
10. List few embedded Application for ARM processor.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw and explain the architecture of PIC 16 Microcontroller. (10)
(ii) Explain about the instruction set of PIC Microcontroller. (6)

Or

- (b) Explain about the Various Memory organization of PIC Microcontroller. (16)

12. (a) Explain the functionality of TIMER for PIC Microcontroller with a suitable program. (16)

Or

- (b) What is Interrupt? Explain the Interrupt structure of PIC Microcontroller with neat diagram. (16)

13. (a) What is meant by I²C module? Explain how I²C is interfaced with PIC Microcontroller. (16)

Or

- (b) Using Suitable circuits, construct and explain how ADC is interfaced with PIC microcontroller. (16)

14. (a) With Neat sketch explain the functional block diagram ARM architecture. (16)

Or

- (b) Explain the various Operating modes Programmers model in Arm Processor. (16)

15. (a) Using Suitable example, explain the various instruction set of ARM processor. (16)

Or

- (b) Explain how does the coprocessor interface of the ARM work. (16)