Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 51205

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Fifth/Sixth Semester

Electronics and Communication Engineering

EC 1301 — MICROPROCESSOR AND MICROCONTROLLER

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

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Which register is called scratchpad register?

2. Which single instruction is used to clear accumulator in 8085?

3. Define key debounce in keyboard and display controller.

4. What is equivalent analog voltage and current value when binary input is FF (H) and 7F (H) in DAC interfacing?

5. Define overflow flag in 8086.

6. Define minimum mode and maximum mode in 8086?

7. Which register have no internal address in 8051?

8. Write address space of internal and external RAM of 8051.

9. Mention the major applications of interrupts in Microprocessors and Microcontrollers.

10. How to enable blank display in LCD interfacing?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss in detail about the 8085 Instruction set, explaining about the various types of operations. (16)

Or

(b) (i) Write an ALP program for square root of given numbers using 8085. (8)

(ii) Draw timing diagram for POP instruction. (8)

12. (a) Explain the architecture and features of 8279 keyboard/display controller with neat diagram. (16)

Or

(b) (i) Explain the I^2C bus standard. (8)

(ii) Explain the ADC interfacing with 8085. (8)

13. (a) Draw and explain the architecture of 8086 (16)

Or

(b) (i) Discuss the addressing modes of 8086 microcontroller with suitable examples. (8)

(ii) Explain the different logical and branch line instructions of 8086. (8)

14. (a) Discuss about the Counters and Timers in 8051 with suitable examples. (16)

Or

(b) (i) Discuss about the various external and internal interrupts of 8051. (8)

(ii) Explain the external memory and 8255 interfacing with 8051. (8)

15. (a) Write an 8051 ALP program. (16)

(i) To receive "HELLO" word in mode 2 at baudrate of 4800.

(ii) To transmit "HAI" word in mode 1 at baudrate of 9600.

Or

(b) (i) Explain the stepper motor working and its interfacing with 8051. (8)

(ii) Describe the configuration of I/O Ports in 8051. (8)
