G 1049　　　　　　　(Pages : 2)　　　　　Reg. No..............................

　　　　　　　　　　　　　　　　　　　　　　Name...............................

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

Branch : Applied Electronics and Instrumentation Engineering

MICROPROCESSORS AND MICROCONTROLLERS (A)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours　　　　　　　　　　　　　　　　Maximum : 100 Marks

Part A

Answer all questions.
Each question carries 4 marks.

1. What is Microprocessor ?

2. Why EPROM is mapped at the beginning of memory space in 8085 system ?

3. What are machine language and assembly language programs ?

4. Why address bus is unidirectional ?

5. Define machine cycle.

6. Give some examples of port devices used in 8085 microprocessor based system.

7. List the Software interrupts of 8085.

8. Why interfacing is needed for 1/0 devices ?

9. Define opcode and operand.

10. What is interrupt acknowledge cycle ?
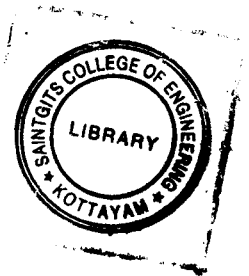
(10 × 4 = 40 marks)

Part B

Answer all questions.
Each question carries 12 marks.

11. Draw and explain the architecture of 8085 microprocessor.

Or

12. Draw the timing diagram to execute MVIA, data in 8085. Define instruction cycle, machine cycle, and T-state and show these in the timing diagram drawn and explain.

Turn over

13. Draw and explain the architecture of AT89C51 microcontroller system.

Or

14. Draw and explain pin diagram of 89C51 microcontroller system.

15. Describe the concepts of memory interfacing.

Or

16. Explain the types of addressing modes in 8951 microcontroller with examples.

17. Explain in detail about the 8085 Interrupts?

Or

18. Write the program to count from 0 to 9 with a one second delay between each count. At the count of 9, the counter should reset itself to 0 and repeat the sequence continuously. Use register pair HL to set up the delay, and display each count at one of the output ports. Assume clock frequency of the 8085 microprocessor as 1MHz.

19. Write a program to sort the numbers in ascending and descending order.

Or

20. It is required to generate baud rate of 2.4 K is mode 3 of the 8051 serial port. Calculate the required count for timer 1, settings in various SFRs and write an initialization program to transmit and receive the same data byte again and again.

(5 × 12 = 60 marks)