

Hall Ticket Number:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Code No.: 22115 AS

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (C.S.E.) II Year II-Semester Advanced Supplementary Examinations, June/July-2017

Microprocessors and Interfacing

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1. What is the basic difference between microprocessor and microcontroller?
2. Perform the logical operations RRC and RAR when accumulator contents are 11110000 and CF = 0.
3. How many address lines are necessary to address two megabytes of memory?
4. Differentiate software and hardware interrupt. Give examples of Hardware interrupts of 8085 Microprocessor.
5. Give the status register of 8251 and explain each bit.
6. Write instructions to load the hexadecimal number 65H in register C, and 92H in the Accumulator A. Display the number 65H at PORT0 and 92H at PORT1.
7. Explain the function of SCON register.
8. Draw the PSW register of 8051 microcontroller and explain function of each pin.
9. List the different applications of microcontrollers.
10. Distinguish between synchronous and asynchronous serial communication.

Part-B (5 × 10 = 50 Marks)

(All bits carry equal marks)

11. a) Draw and explain 8085 microprocessor architecture with neat diagram.
b) Write a program using the ADI instruction to add the two hexadecimal numbers 3AH and 48H and to display the answer at an output port.
12. a) Draw the 8257DMA architecture and explain its operation along with register of DMA.
b) Write an assembly language program for multibyte addition in 8085 microprocessor.
13. a) Discuss parallel bus data transmission standards and their specification.
b) Write an assembly language program to display character 'S' using 8279 keyboard interfacing.
14. a) Explain addressing modes of 8051 microcontroller.
b) How does the 8051 Microcontroller differentiate among a positive number, a negative number, and a bit pattern?
15. a) Discuss about RS 232 serial communication.
b) Explain interfacing of 8051 microcontroller with stepper motor by writing a program.
16. a) Draw and explain the timing diagram for MOV A, B instruction.
b) If the clock frequency is 5 MHz, how much time is required to execute an instruction of 18 T-states.
17. Write short notes on any *two* of the following:
 - a) Programmable interval timer.
 - b) Special registers in 8051 microcontroller.
 - c) USB.

