

Hall Ticket Number:

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Code No. : 16435 AS

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD*Accredited by NAAC with A++ Grade***B.E. (E.C.E.) VI-Semester Advance Supplementary Examinations, August-2022****Microprocessors and Microcontrollers**

Time: 3 hours

Max. Marks: 60

*Note: Answer all questions from Part-A and any FIVE from Part-B***Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Calculate the physical address for 8086 μ p if the Data segment address is 5000h and offset is 4A55h?	2	3	1	1
2.	Write the function of the pins 8086 μ p? (i) DT/R (ii) MN/MX	2	2	1	1
3.	List the various operating modes of 8253 programmable timer?	2	1	2	1
4.	Configure 8255 to interface with 8086 μ p to program PortA as input port, PortB as Output port and PortC as input port, Group A in mode0 and Group B in mode1?	2	3	2	1
5.	Differentiate between microcontroller and microprocessor?	2	2	3	1
6.	If the current Stack pointer (SP) address of 8051 μ c is 3040h, Update the Stack pointer (SP) address upon Executing 2 PUSH operations and 1 POP operation?	2	4	3	2
7.	Write the register configuration of IE register of 8051 μ c?	2	2	4	1
8.	Configure TMOD register of 8051 μ c to program Timer0 in mode1?	2	3	4	2
9.	Define key debounce? Suggest suitable methods to overcome Key debounce?	2	2	5	2
10.	List any four Industrial applications of 8051 μ c?	2	2	5	1
Part-B (5 × 8 = 40 Marks)					
11. a)	Explain the Architecture of 8086 μ p with a neat diagram?	5	1	1	1
b)	List out different flags in 8086 flag register and explain with an example?	3	2	1	1
12. a)	Interface two 4KX8 EPROMS and two 4KX8 RAM chips with 8086 μ p. Select suitable address map?	4	2	2	2
b)	Explain the interfacing of 8257 DMA Controller with 8086 μ p with a suitable diagram?	4	1	2	1
13. a)	Write a Program to find the average of 10 elements in a given array, where the index of memory address starts at 40h?	4	3	3	2
b)	Discuss in brief addressing modes of 8051 with suitable example?	4	2	3	1

Contd... 2

14. a)	Write a program to transfer the character "V" over serial port of 8051 μ c at a baud rate of 9600? (Assume Xtal freq as 11.0592Mhz)	4	3	4	2
b)	Write a program to generate a square wave of 10ms using timer 1 and mode 1? (Assume Xtal freq as 11.0592Mhz)	4	3	4	2
15. a)	Write a program to interface stepper motor with 8051 μ c to rotate in Clockwise and anticlockwise directions?	4	3	5	1
b)	Write a program to interface 2*16 LCD with 8051 μ c to display the message "MPMC EXAM"?	4	3	5	2
16. a)	Explain the interrupt vector table of 8086 μ p with a suitable diagram?	4	1	1	1
b)	Explain the architecture of 8253 Programmable timer?	4	2	2	1
17.	Answer any <i>two</i> of the following:				
a)	Discuss internal RAM organization of 8051 μ c?	4	2	3	1
b)	Explain the process of converting Level triggered interrupts to Edge triggered interrupts in 8051 μ c?	4	2	4	2
c)	Write a program to interface 4x3 matrix keypad with 8051 μ c?	4	3	5	2

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level - 1	20%
ii)	Blooms Taxonomy Level - 2	40%
iii)	Blooms Taxonomy Level - 3 & 4	40%
