Reg. No. | | | | | | |

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.
(For those admitted in June 2021 and later)

PROGRAMME AND BRANCH: B.Sc., ELECTRONICS

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
V	PART-III	CORE	U21EL506	MICROPROCESSOR AND MICROCONTROLLER

Date & Session: 05.11.2024 / FN   **Time: 3 hours**   **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	In 8085 microprocessor, how many opcodes are present? a) 246 b) 278 c) 250 d) 256
CO1	K2	2.	Identify which of the following is the correct sequence of operations in a microprocessor? Identify which of the following is the correct sequence of operations in a microprocessor? a) Opcode fetch, memory read, memory write, I/O read, I/O write b) Opcode fetch, memory write, memory read, I/O read, I/O write c) I/O read, opcode fetch, memory read, memory write, I/O write d) I/O read, opcode fetch, memory write, memory read, I/O write
CO2	K1	3.	The Port C of 8255 can function independently as_____ a) input port b) output port c) either input or output ports d) both input and output ports
CO2	K2	4.	Show the number of hardware interrupts in the processor 8085. a) 1 b)3 c) 5 d)7
CO3	K1	5.	How many bytes of bit addressable memory is present in 8051 based microcontrollers? a) 8 bytes b) 32 bytes c) 16 bytes d)128 bytes
CO3	K2	6.	Interpret the microcontroller executes some arithmetic operations, then the flag bits of which register are affected? a) PSW b) SP c) DPTR d) PC
CO4	K1	7.	The operations performed by data transfer instructions are on. a) bit data b) byte data c) 16- bit data d) All of the mentioned
CO4	K2	8.	The logical instruction that affects the carry flag during its execution is_____. a) XRA A b) ANL A c) ORLA d) RLC A

CO5	K1	9.	Identify the status of the carry, auxiliary carry and parity flag affected when the following program executed in 8051.
			 MOV A,#9C
			 ADD A,#64H
			 a) CY=0,AC=0,P=0 b)CY=1,AC=1,P=0
			 c) CY=0,AC=1,P=0 d) CY=1,AC=1,P=1

CO5	K2	10.	How many rows and columns are present in a 16*2 alphanumeric LCD? a) rows=2, columns=32 b) rows=16, columns=2 c) rows=16, columns=16 d) rows=2, columns=16

Course Outcome	Bloom's K-level	Q. No.	**SECTION – B (5 X 5 = 25 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	11a.	Illustrate various types of addressing modes of 8085.
			(OR)
CO1	K3	11b.	Sketch the machine cycle diagram for the instruction MVI A, 32H.
CO2	K3	12a.	Identify the Serial communication interface in 8051.
			(OR)
CO2	K3	12b.	Inspect the ability of 8051 to interface stepper motor.
CO3	K4	13a.	Sketch the block diagram of microcontroller 8051 and explain each block.
CO3	K4	13b.	**(OR)** Describe about flags and program status word of 8051.
CO4	K4	14a.	Illustrate the rotate and swap operations of 8051 instruction.
			(OR)
CO4	K4	14b.	Discuss the interrupt and return instruction of 8051.
CO5	K5	15a.	Build an assembly language program for 8- bit addition with flowchart.
			(OR)
CO5	K5	15b.	Evaluate how effectively 8051 Microcontroller can interface Analog to Digital Converter.

Course Outcome	Bloom's K-level	Q. No.	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K3	16a.	Sketch the architecture of 8085 microprocessor and explain in detail.
			(OR)
CO1	K3	16b.	Enumerate the different types of instructions of 8085 with an example.
CO2	K4	17a.	Sketch and analyze the block diagram of 8255 programmable peripheral interface and explain in detail.
			(OR)
CO2	K4	17b.	Discuss programmable DMA controller 8257.
CO3	K4	18a.	Enumerate the special function register of 8051 and explain its operation.
			(OR)
CO3	K4	18b.	Explain the different types of addressing modes of 8051 with an example.
CO4	K5	19a.	Illustrate the bit level and byte level operations of 8051 microcontroller.
			(OR)
CO4	K5	19b.	Explain the jump and CALL instruction of 8051microcontroller.
CO5	K5	20a.	Build an ALP for arrange the array of data in ascending order using 8051 instruction with neat flow chart.
			(OR)
CO5	K5	20b.	Design a circuit to interface LCD with 8051 and explain your design.