Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

END TERM EXAMINATION – AUGUST 2024

Semester : IV DCET	**Date : 12th August 2024**
Course Code : EEE2005	**Time : 09:30 A.M. – 12:30 P.M.**
Course Name :Microprocessor & Microcontrollers	**Max Marks :100**
Program :B. Tech. (EEE)	**Weightage :50%**

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A			
	ANSWER ANY 3 QUESTIONS	**3Q X 5M = 15 M**	
1	Write an assembly language program to find the largest element from given array of data.	(CO 1)	[Knowledge]
2	Explain the bit pattern of Program status word (PSW).	(CO 1)	[Knowledge]
3	Explain with examples the operation performed by the following instructions? a). SWAP A b). MOV c, bit c). DA A d). XCHD A,@R0	(CO 3)	[Knowledge]
4	Explain the function of the following pins in 8051 AD0 to AD7, RST, ALE, XTAL,	(CO 1)	[Knowledge]
5	What is stack? Explain the push and pop instruction in stack with example	(CO 1)	[Knowledge]

PART B			
	ANSWER ANY 2 QUESTIONS	**2Q X 20M = 40M**	
6	With a neat block diagram explain the architecture of 8051 microcontroller.	(CO 1)	[Comprehension]
7	What are addressing mode? Explain with example all the addressing modes present in 8051.	(CO 2)	[Comprehension]
8	What are interrupts? Explain in detail the two registers related to interrupts	(CO **5**)	[Comprehension]

PART C

	ANSWER ANY 3 QUESTIONS	3Q X 15M=45M	
9	Write a C program to interface DAC to 8051 microcontroller and generate a square and triangular wave	(CO **5**)	[Application]
10	Generate a square wave with ON time of 3ms and OFF time of 10ms on all pins of Port 0. Assume XTAL = 22MHz, Timer 0 & Mode 1. Write the program for the same	(CO 4)	[Application]
11	Program the 8051 to receive bytes of data serially, and put them in P1. Set the baud rate at 4800, 8-bit data, and 1 stop bit. Show the baud rate calculations.	(CO 4)	[Application]
12	Design a µController system using 8051, 8k bytes of program ROM & 8k bytes of data RAM. Interface the memory such that starting address for ROM is 0000H & RAM is E000H	(CO 1)	[Application]