

**Vivekananda College of Engineering & Technology, Puttur**  
 [A Unit of Vivekananda Vidyavardhaka Sangha Puttur @]  
 Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

CRM08

Rev 1.10

<EC>

<24/8/22>

**CONTINUOUS INTERNAL EVALUATION - 3**

Dept:EC	Sem / Div:4 <sup>th</sup>	Sub:Microcontroller	S Code:18EC46
Date:2/9/22	Time: 1:00-2:30 pm	Max Marks: 50	Elective:N

Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
<b>PART A</b>				
1 a	Explain the bit contents of SCON and PCON registers.	10	L2	CO4
b	Write a note on Asynchronous serial communication and data framing. Write the steps involved to transfer data serially	9	L2	CO4
c	Write an assembly language program to generate a square wave on port pin P1.2 of frequency 5k Hz using interrupts. Assume oscillator frequency of 11.0592MHz	6	L3	CO4
<b>OR</b>				
2 a	Explain the importance of MAX232 IC with its pin details. Explain RS232 standard and 9 pin DB connector.	10	L2	CO4
b	Explain how 8051 is interfaced with stepper motor. Write assembly level program to rotate stepper motor continuously in clockwise direction	9	L3	CO5
c	Write a C program for the 8051 to transfer "YES" serially at 9600 baud, 8-bit data, 1 stop bit, do this continuously	6	L3	CO4

**PART B**

3	a	With the bit pattern explain IE register. Explain how interrupt priority can be changed using IP register. Also explain the default priorities assigned to interrupts in 8051 microcontroller.	10	L2	CO5
	b	With neat diagram explain the interfacing of 8051 with ADC. write an assembly language program to interface ADC0804 to 8051 microcontroller	9	L3	CO5
	c	Write a C program using interrupts to generate a square wave on port pin P1.2 of 1kHz using timer-0 in mode 2.	6	L3	CO5

**OR**

4	a	Explain the Interrupt Vector Table of 8051 microcontroller. Explain how multiple interrupts are handled in 8051 microcontroller .List the steps involved in executing interrupts in 8051 microcontroller.	10	L2	CO5
	b	Explain how programming of external hardware interrupts is done in 8051 microcontrollers with a code snippet.	9	L3	CO5
	c	With neat diagram write an assembly language program to interface DAC to 8051 microcontroller. Write a program to generate a triangular wave	6	L3	CO5

*Rajani Rai B*

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*S. Kat*  
HOD