

**Vivekananda College of Engineering & Technology, Puttur**  
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CRM08

Rev 1.10

<EC>

<27/8/22>


**CONTINUOUS INTERNAL EVALUATION - 2**

Dept:EC	Sem / Div:4 <sup>th</sup>	Sub:Microcontroller	S Code:18EC46
Date:5/9/22	Time: 3:00-4:30 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	What is a subroutine. Explain the advantages of subroutine and usage. What are the sequence of operations that takes place when call and return instructions are executed. Write a program to add 3 numbers stored in location 30H,31H and 32H using subroutine	10	L3	CO3
b	With a neat diagram explain the structure of stack. How to access the stack. What is the function of SP? Write assembly level program to store the contents of 20H and 21H in the stack address 30H and 31H respectively.	8	L3	CO3
c	Write assembly level program to check the position of the switch connected to P0.0 .If the switch is ON turn ON LED connected to P0.1	7	L3	CO3
<b>OR</b>				
2 a	What are the sequence of operations that takes place when call and return instructions are executed. Write a program to multiply 3 numbers stored in location 30H,31H and 32H using subroutine	10	L3	CO3
b	Draw the structure of stack showing the default value of stack pointer. Write assembly level program to exchange	8	L3	CO3

	the contents of R1 and R0 register using stack operations			
	Write assembly level program to generate a delay of 50ms using a oscillator frequency of 20MHZ	7	L3	CO3
<b>PART B</b>				
3	a With the bit pattern explain TMOD register. With the circuit explain how gate is used to control turn and turn off the timer	10	L2	CO4
	b Explain autoreload mode of timer1. How to make timer1 work as counter1. Explain the steps to program timer0 in mode2	8	L2	CO4
	c Write assembly level program using autoreload mode of timer0 to generate a frequency of 10 KHZ on P1.2	7	L3	CO4
<b>OR</b>				
4	a Explain the function of timers and counters. With the bit pattern explain TCON register	10	L2	CO4
	b Explain mode1 operation. Explain the steps to program timer0 in mode2	8	L2	CO4
	c Write assembly level program to program to generate a square wave of frequency 20 KHz using timer0 in mode 2. Assume oscillator frequency of 11.0592Mhz	7	L3	CO4

Prepared by:  Rajani Rai B

  
HOD