VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF ELECTRONICS ENGINEERING (SENSE)

Continuous Assessment Test – II

Winter Semester -2023-24

Programme Name & Branch : B.Tech ECE

Course Name & Code : BECE204L- Microprocessors and Microcontrollers

Slot: B2 Answer all the questions Exam Duration:**50 Minutes**

S.No	Question	Marks
1	Write an 8051 assembly language program to generate wave of frequency 2 KHz and 40% duty cycle in P1.0 using Timer 1 for the delay creation. Assume XTAL = 20MHz.	10
2	The car parking area can accommodate a maximum of 300 cars. Assume that a sensor is connected to P3.4 of the 8051 microcontroller to sense the incoming car entering a parking area. If the count reaches 300(decimal), the microcontroller should send message "FULL" through serial port at a baud rate of 19200. Assume the message is stored in ROM location 400H onwards. Write a suitable 8051 assembly code to implement for the above scenario.	10
3	Write an assembly program using interrupt of 8051 microcontroller to simultaneously create 5 KHz and 700 Hz square waves on port pin P1.5 and P1.4.	10
4.	Write an 8051 assembly code with suitable diagram to interface common anode seven segment display, which should display alphabet A to C with an interval of 0.7 seconds between each alphabet. Assume the alphabet A to C codes are stored in ROM location 200H onwards. Use timer1 to generate time delay.	10
5.	8051 microcontroller is connected to linear temprature sensor through ADC0808 which gives 5V when the temperature of the water in boiler at industry is 100°C. Develop an assembly program with suitable interfacing diagram to interface ADC0808 with 8051 to compare the temperature stored in Accumulator(A) with threshold value T=50 °C. If A> 50 °C turn ON buzzer connected to port P0.7, to alarm for 70 ms using timer 0.	10