KLE Technological University

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Earlier known as
B. V. B. College of Engineering & Technology

School of Computer Science and Engineering

MINOR EXAM I

Course : Microcontroller: Programming & Interfacing	USN :
Course Code : 18ECSC206	Semester : IV
Date of Exam : 25/02/2020	Duration : 75 minutes

Note: 1) Answer any 2 full Questions. Each full question carries 20 marks
2) Write suitable comments for all ALP programs.

1 a	Explain with a neat diagram how you connect 8051 to external ROM of size 32K and external RAM of 16 K.	6
b	Write an ALP to count the number of zeros and ones in a 16 bit number in DPTR. Store the count of ones in register R5 and count of zeros in register R6.	6
c	Assume internal RAM memory locations 40H to 46H contain daily temperatures for a week. Store the highest recorded temperature of the week in memory location 50H.	8

2 a	With neat diagrams explain the internal working of Port 0.	6
b	Divide the data in RAM location 15H by the data in RAM location 16H. Put the quotient in RAM location 19H and reminder in 20H and check whether the quotient is even or odd. If even store FFH in Port 0 else store 00H in Port 0.	6
c	Write an ALP to add 2 sixteen bit numbers stored at locations 51H – 52H and 55H – 56H. Assume that LSByte and MSByte of data is stored in low address and high address respectively. Store the result in locations 40H (LSByte), 41H and 42H (MSByte).	8
3 a	Write a sequence of assembly instructions to copy the value into RAM locations 40H to 45H using i. Direct addressing mode ii. Indirect addressing mode with loop	6
b	Write an ALP to generate first ten Fibonacci numbers.	6
c	Consider an array of 5 numbers stored in memory location starting from 30H. Store the square of each of these numbers in external memory locations starting from 30H.	8