Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program/s: BTECH EEE
Year: 2nd **Semester:** 4 th
Examination: EndSEM Examination
Examination year: May 2023

Course Code:	EE 231 **Microcontroller**		
Date:	18/05/2023	**Total Marks:**	40
Time:	10:00 am to 12:00 pm	**Total Pages:**	1

Instructions:

- *Write each answer on a new page.*
- *Use of a calculator is permitted*
- ** COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q. No.	Details	Marks	COs*	BTL#
Q.1	What are the different types of Status flags for Microcontroller 8051, give their location in the Microcontroller Architecture and explain each flag. What will be the Status Flags after execution of the following program segment for Microcontroller 8051 **1) MOV A, #98H;** 2) **ADD A, #88H;**	8	CO4	BT1, BT2
Q.2	What is an Interrupt for a Microcontroller 8051? Explain in detail the types of Interrupts for 8051	8	CO2, CO3	BT1, BT3, BT6
Q.3	1) Calculate the Machine Cycle if the Crystal Frequency is (i) 16 MHz (ii)12 MHz 2) How many address lines are required to access the data if memory capacity is (i) 512 bytes RAMz (ii)8 K EEPROM	8	CO4	BT3, BT4
Q.4	Explain in detail the internal RAM for Microcontroller 8051 with suitable diagrams.	8	CO2, CO3	BT1, BT3, BT6
Q.5	Write short note on: 1) Difference between Microprocessor and Microcontroller 2) Relative absolute range, Short absolute range and Long absolute range	8	CO1, CO3	BT1, BT3, BT6
Q.6	What is a Timer in Microcontroller 8051? Explain in detail the functionality giving suitable diagram for the Timer Registers 1) TMOD Register 2) TCON Register	8	CO2,	BT1, BT3, BT6

**********End of Question Paper**********