



TED (21) -4041
(Revision- 2021)

A23-2103230127A

<https://mail.gptcthirurangadi.in>

Reg.No.....
Signature.

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL - 2023
MICROCONTROLLER AND APPLICATIONS**

(Maximum Marks : 75)

[Time : 3 hours]

PART-A

I. Answer all the following questions in one word or sentence. Each question carries 1 mark.

(9x1=9 marks)

		Module Outcome	Cognitive level
1	Each instruction has an opcode part and anpart.	M2.01	U
2	8051 has Bytes of Internal RAM.	M1.02	R
3	Flag register of 8051 is called	M1.03	U
4	Jump instruction related to carry generation is	M2.03	U
5	Unit of Baud rate is	M3.04	U
6	Upon Resetting the content of PC becomes	M3.01	U
7	The process of connecting devices together so that they can exchange the information is called	M4.01	U
8	List the control pins of LCD.	M4.03	R
9	Name an Interfacing Standard to allow compatibility among data communication equipments.	M3.04	R

PART B

II. Answer any Eight questions from the following. Each question carries 3 marks.

(8x3=24)

		Module Outcome	Cognitive level
1	Distinguish Microprocessors and Microcontrollers.	M1.01	U
2	Distinguish Address Bus and Data Bus of 8051 Microcontroller.	M1.03	U
3	Discuss Register Banks of 8051.	M1.03	U
4	Discuss any three types of Instructions.	M2.02	U
5	Summarize any three bit level instructions.	M2.03	U
6	Distinguish MOV, MOVX instructions.	M2.02	U
7	Discuss Vectored interrupts of 8051.	M3.01	U
8	Explain Serial Data Transmission modes.	M3.04	U
9	Discuss DAC interfacing with 8051 with a block diagram.	M4.04	U
10	Explain 4x4 Matrix keyboard interfacing with 8051 Microcon (Diagram only).	M4.03	U



PART C

Answer **all** questions from the following. Each question carries 7 marks.

(6x7=42marks)

		Module Outcome	Cognitive level
III	List any seven salient features of 8051.	M 1.02	R
	OR		
IV	Discuss Architecture of 8051.	M1.03	U
V	Write an ALP to multiply two eight bit numbers using 8051.	M2.04	A
	OR		
VI	Write an ALP to add two eight bit numbers using 8051.	M2.04	A
VII	Discuss SCON Register.	M3.04	U
	OR		
VIII	Discuss steps in executing an Interrupt.	M3.01	U
IX	Discuss the structure of IE register.	M3.01	U
	OR		
X	Explain TMOD Register.	M3.02	U
XI	Describe Interfacing of Stepper Motor with 8051.	M4.01	U
	OR		
XII	Discuss the interfacing of DC motor with 8051.	M4.02	U
XIII	Explain interfacing of ADC with 8051.	M4.04	U
	OR		
XIV	Discuss interfacing of 16x2 LCD system with 8051 (Diagram only)	M4.03	U
