

Reg No: _____

Name: _____

APJ ADDUL KALAM TECHNOLOGICAL UNIVERSITY
Fourth Semester B.Tech Degree Examination July 2021 (2019 Scheme)

Course Code: BMT202

Course Name: MICROCONTROLLERS AND INTERFACING

Max. Marks: 100

Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks)

		Marks
1	Explain the data transfer instructions of 8051.	(3)
2	How are microcontrollers classified?	(3)
3	How relays can be interfaced with 8051?	(3)
4	Demonstrate the instructions XCHD, DAA with examples	(3)
5	Explain the role of Interrupts in PIC Microcontrollers.	(3)
6	Describe the memory organization of PIC Microcontrollers.	(3)
7	Write the Instruction format of PIC Microcontroller.	(3)
8	Describe the role of RS232.	(3)
9	Mention the applications of LM Sensors.	(3)
10	List the features of Arduino UNO board.	(3)

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

11	a) Elaborate the organization of ports in 8051 in detail.	(10)
	b) Describe the logical instruction set of 8051.	(4)
12	a) With suitable examples, describe the instruction sets of 8051.	(9)
	b) Explain the architecture of 8051 microcontroller.	(5)

Module -2

13	a) Demonstrate the logical instructions using an example for 8051 microcontroller.	(10)
	b) Explain the ADC interfacing with 8051.	(4)
14	a) Illustrate the performance of Relays and opto-isolators with suitable figures.	(8)
	b) Explain the interfacing of stepper motor with 8051.	(6)

Module -3

- 15 a) Elaborate the core and peripheral features of PIC microcontroller. (8)
b) Explain the architectural features of PIC. (6)
- 16 a) Write short notes on features and importance of PIC timer and watch dog timer. (10)
b) Mention a few interrupts defined for PIC microcontroller. (4)

Module -4

- 17 a) Describe the branch and call instructions used in PIC assembly programming. (10)
b) Describe SPI for PIC. (4)
- 18 a) Explain the arithmetic and logic instructions for PIC controller. (10)
b) List out the addressing modes of PIC. (4)

Module -5

- 19 a) Illustrate the interfacing of PIR sensor with Arduino board. (10)
b) Explain the concept of interfacing in terms of Arduino board. (4)
- 20 a) Summarise the features of Arduino boards. (8)
b) Explain the interfacing of LM35 with Arduino. (6)

