INTERNATIONAL CENTRE FOR APPLIED SCIENCES MAHE, MANIPAL B.Sc. (Applied Sciences) in Engg. End – Semester Theory Examinations – May 2021 IV SEMESTER - MICROCONTROLLERS AND APPLICATION [IMET 241] (Branch: Mechatronics Engineering)

	Time: 3 Hours	Date: 12 May 2021	Max. Marks: 50
	 ✓ Answer ALL the questio ✓ Missing data, if any, may 	ons. y be suitably assumed	
1A.	Explain the programing explain the function of explain the function	g model of 8051. Write the PSW each bit.	v register format and (5)
1B.	With the help of data memory and code memory organization diagrams of 8051, explain the use of MOV, MOVX and MOVC instructions of 8051. (
2A.	With suitable examples, is different from mode (, explain in what way timer/counte 0 and mode 1.	er mode 2 programing (5)
2B.	Explain SCON register during serial communic	with an example showing the effectation.	ect of all the flags (5)
3A.	With proper illustration addressing mode/s supp i) SWAP ii) DP	a, explain the following instruction ported by of each of these instruction V iii) DAA iv) MUL	ns of 8051. Write the tions. (5)
3B.	Write steps for programming the counter of 8051 in mode-1 (e-1 (5)
4A.	Find the value to be load Assume crystal frequen using 8051 serial port.	ded into the timer register to get a cy of 16 MHz. Write the steps to	a baud rate of 9600. transmit data serially (4)
4B .	Write an assembly lang internal timer-0 of 8051	guage program to generate a del	ay of 20 µsec using (6)
5A.	Write an assembly lang value to port-1, with a d generate the delay (assu	uage program to send two digit he delay of 0.02 seconds. Use timer-(ume crystal frequency= 12 MHz).	exadecimal up count) in mode-1 to (7)
5B.	With proper syntax and	illustration, explain the addressin	ng modes of 8051. (3)
