Seat No.: _		Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		M. E SEMESTER – II • EXAMINATION – SUMMER • 2014	
Subject code: 2725202 Date: 18		code: 2725202 Date: 18-06-2014	
	-	Name: Protocols and Interfaces	
Time: 02:30 pm - 05:00 pm Total Marks: 70			
Inst	tructio		
		Attempt all questions.	
		Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
	3.	rigures to the right indicate full marks.	
Q.1	(a)	Describe the elements of a computer system.	07
	(b)	Explain 8051 architectural features. What are the devices internally present in	07
		the classic 8051?	
Q.2	(a)	Describe serial interfaces, timer/counters and interrupts in 8051.	07
	(b)	Explain the following and their advantages.	07
		i) STOP instruction ii) WAIT instruction iii)Processor idle mode	
		operation	
	(b)	OR List serial Bus communication protocols. Briefly explain USB protocol.	07
	(D)	List serial bus communication protocols. Briefly explain OSB protocol.	U /
0.2	(-)	Evalois interment drives date transfer with the help of a next discuss. Discuss	07
Q.3	(a)	Explain interrupt driven data transfer with the help of a neat diagram. Discuss Pros and Cons of the same with respect to other methods of data transfer.	07
	(b)	What are the essential units in a Microprocessor, Microcontroller, Embedded	07
	(~)	processor, DSP? List each of these.	0.
		OR	
Q.3	(a)	Draw Block level diagram of PC architecture with details of various bus	07
		protocols (used for communication between blocks) and I/O devices. Explain	
	(b)	the necessity of using various bus protocols for communication. What is the reason for the bounces in a key? Write a sample code along with a	07
	(b)	flowchart for a software debouncing routine.	U /
0.4	()	-	0.5
Q.4	(a)	Define context. Discuss any two context switching architectures. Explain the protocols PCI and PCIexpress in detail.	07 07
	(b)	OR	U /
Q.4	(a)	List Disk storage protocols. Compare any two Disk storage protocols.	07
	(b)	List various LAN network protocols. Discuss 802.3(MAC sub layer) protocol	07
		in detail.	
Q.5	(a)	Describe briefly the functionality of Special memories CAM, SDRAM, Video	07
	()	RAM. Discuss their applications	
	(b)	What do you mean by portable, reliable and readable code? Demonstrate the	07
		same with code examples.	
0.5	(2)	OR Discuss various types of Mamory architectures their advantages and	07
Q.5	(a)	Discuss various types of Memory architectures, their advantages and disadvantages and applications.	07
	(b)	Explain UART protocol. Write a program to receive the data which has been	07
	(~)	sent in serial form and send it out to port0 in parallel form. Also save the data	
		at RAM location 60H.	
