SC

No. of Printed Pages : 2

SEAT No. _____

SARDAR PATEL UNIVERSITY

[41]

B.Sc. Semester VI (Electronics and Communication)
Subject : Microprocessor Interrupts & Interfacing
Subject Code: US06CELC02
Date & Day: 28-03-2018 Wednesday
Time: 10.00 Am to 01.00 PM

Total Marks: 70

Note: Figures to the right indicate maximum marks.
Assume data wherever necessary.

Q-1 **Choose the correct Answer.** **[10]**

1. For mode-0 in 8255, outputs are _____.
   a) handshake b) latched c) not latched d) interrupted

2. The _____ stores the masking bits of the interrupt lines to be masked in 8259.
   a) IRR b) IMR c) ISR d) PR

3. If transmission rate is 1200 bits / 1 sec, then the time for 1 bit is _____.
   a) 0.43 ms b) 0.83 ms c) 1.4 ms d) 1.8 ms

4. The rate of data transmission in RS-232 is limited to a maximum of _____.
   a) 50 baud b) 20 kbaud c) 50 kbaud d) 10 Mbaud

5. The data transmission begins with a _____ bit.
   a) character b) start c) stop d) None of above

6. EI instruction is a _____ byte instruction.
   a) 1 b) 2 c) 3 d) 4

7. The interrupt vector address for RST 6.5 is _____.
   a) 0034H b) 003CH c) 0024H d) 002CH

8. _____ is a non-maskable interrupt in 8085.
   a) TRAP b) RST 7.5 c) RST 6.5 d) RST 5.5

9. The peripheral used with keyboard and display is _____.
   a) 8279 b) 8259 c) 8255 d) 8155

10. The I/O section of 8155 includes two _____ I/O ports
    a) 8-bit parallel b) 8-bit serial c) 16-bit parallel d) 16-bit serial

P.T.O.

Q-2		**Answer in short.(Any ten)**	[20]
	1.	Define: Fully nested mode.	
	2.	What is the role of ISR in 8259?	
	3.	What do you mean by framing?	
	4.	Discuss, various methods to check error in data communication.	
	5.	Give the difference between simplex & half duplex transmission.	
	6.	Explain 8255 control word format for BSR mode.	
	7.	Differentiate between maskable & non-maskable interrupt.	
	8.	Explain SI instruction.	
	9.	How long can the INTR pulse stay high?	
	10.	List the elements required for a programmable interfacing device.	
	11.	Discuss about Key debouncing techniques.	
	12.	Explain the function of STB signal.	
Q-3		Describe, with necessary diagram, the vectored interrupt in 8085 microprocessor, in detail	[10]
		OR	
Q-3		Explain, in detail, the SIM & RIM instructions of 8085 processor.	[10]
Q-4		Draw the functional block diagram of 8279 peripheral. Explain the working in detail.	[10]
		OR	
Q-4	(a)	Explain handshake input mode of 8155 with necessary timing waveforms.	[06]
	(b)	Design a square wave generator with a pulse width of 100 μs by using the 8155 timer. Set up the timer in mode-1 if the input clock frequency is 3 MHz.	[04]
Q-5		Discuss, in detail, the DMA controller.	[10]
		OR	
Q-5	(a)	Discuss the priority modes in 8259. Also list its additional features.	[03]
	(b)	Write a program to read DIP switches and display the reading from Port B at Port A & from Port CL at Port CU of 8255.	[07]
Q-6		Discuss in detail about SID & SOD lines.	[10]
		OR	
Q-6		Explain serial input & output interfacing.	[10]