

[61]

**SARDAR PATEL UNIVERSITY****B.Sc. Semester VI (Electronics and Communication)****Subject: Microprocessor Interrupts & Interfacing****Subject Code: US06CELC02****Date & Day: 27<sup>th</sup> March 2019, 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. All the functions of the ports of 8255 are achieved by programming the bits of an internal register called
    - a) control word register
    - b) data bus control
    - c) read logic control
    - d) none of above
  2. The number of hardware interrupts that the processor 8085 consists of is
    - a) 5
    - b) 7
    - c) 3
    - d) 1
  3. The register that stores the bits required to mask the interrupt inputs is
    - a) Priority resolver
    - b) In-service register
    - c) Interrupt Mask register
    - d) All of above register
  4. In a cascaded mode, the number of vectored interrupts provided by 8259A is
    - a) 64
    - b) 32
    - c) 16
    - d) 8
  5. EI instruction is a \_\_\_\_\_ byte instruction.
    - a) 1
    - b) 2
    - c) 3
    - d) 4
  6. Which instruction is used to set the interrupt by maintaining the serial output bit in set mode of operation?
    - a) SIM
    - b) RIM
    - c) both (a) & (b)
    - d) None of above
  7. Which interrupt has the highest priority?
    - a) RST 6.5
    - b) RST 5.5
    - c) INTR
    - d) None of above
  8. Which stack is used in 8085?
    - a) LIFO
    - b) FIFO
    - c) FILO
    - d) None of above
  9. Which instruction set performs the dual operation of reading the status of interrupts as well as serial input data bit?
    - a) SIM
    - b) RZ
    - c) RNZ
    - d) RIM
  10. In 8085 name of the 16-bit register?
    - a) Program Counter
    - b) Stack Pointer
    - c) both (a) & (b)
    - d) None of above

(P.T.O.)

- Q-2 Answer in short.(Any ten) [20]**
1. Define: framing.
  2. Explain the function of STB & OBF signal.
  3. What is Stack Pointer?
  4. Discuss various methods to check error in data communication.
  5. List out the Hardware Interrupts?
  6. Explain the term fully nested mode.
  7. Classify Interrupts on the Basis of Signals. State their Differences.?
  8. Explain DI instruction.
  9. Explain all addressing modes of the 8085 With the help of examples.?
  10. Explain briefly the Trap input for the 8085.?
  11. Differentiate between simplex & half duplex transmission.
  12. List the elements required for a programmable interfacing device.

**Q-3 Discuss in detail about RIM instructions. [10]**

**OR**

**Q-3 Draw the functional block diagram of 8279 & Explain it in detail. [10]**

**Q-4 Explain the handshake mode of 8279 with appropriate example. [10]**

**OR**

**Q-4 (a) Write a Program that will Store the contents of an accumulator and flag register at locations 2000H And 2001H. [05]**

**(b) Explain the vectored interrupt in detail with necessary diagram [05]**

**Q-5 Write a note on DMA controller. [10]**

**OR**

**Q-5 (a) Write a program for calculating the sum of first n natural numbers using 8085 microprocessor. [05]**

**(b) Write a program to add two 16 bit numbers by using: 8 bit operation [05]**

**Q-6 Discuss in detail about SID & SOD lines. [10]**

**OR**

**Q-6 Write a program to add 2-BCD numbers where starting address is 2000 and the numbers is stored at 2500 and 2501 memory addresses and store sum into 2502 and carry into 2503 memory address. [10]**