

Code No: R05311901

**R05****Set No. 2****III B.Tech I Semester Examinations, November 2010****MICROPROCESSORS AND INTERFACING****Common to Instrumentation And Control Engineering, Electronics And  
Computer Engineering****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks**

\*\*\*\*\*

1. Draw and discuss the formats and bit definitions of the following SFR's in 8051 microcontroller.

- (a) PCON
- (b) PSW
- (c) IP
- (d) TMOD.

[8+8]

Briefly explain the interfacing and programming of 8279.

[16]

2. (a) Draw the block diagram of 8086 and explain BIU and EU?  
(b) Explain about memory segmentation and Instruction Queue. [8+8]
4. (a) Show the circuit required to generate the upper and lower I/O strobes in minimum and maximum modes of 8086?  
(b) What is the minimum no. of bus cycles that can occur between the time an interrupt request is recognized and the first instruction in the interrupt service routine is fetched. Show the interrupt acknowledge cycle with a flow chart? [8+8]

5. (a) Explain the following Instructions.

- i. MOV
- ii. POP
- iii. XCHG
- iv. SAHF.

- (b) Write a program to convert a 2-digit HEX Number to BCD Number. [8+8]

6. (a) Describe the response that an 8259 will make if it receives an interrupt signal on its IR1 and IR7 inputs at the same time. Assume rotating priority for the IR inputs. What response will the 8259 make if it is servicing an IR7 interrupt, and an IR1 interrupt signal occur.  
(b) Show the sequence of command words and instructions that you would use to initialize an 8259 with a base address of F000H as follows: Level triggered; Only one 8259; 8086 system; Interrupt Type-32 corresponds to IR0 input; Automatic EOI; Non-buffered mode; Special fully nested mode; IR3 and IR6 masked. [8+8]

Code No: R05311901

**R05****Set No. 2**

7. (a) Consider a string of characters stored in STRING through STRING+99. Suppose that bit 5 of register DL is to be set to 1 if the string contains a digit; otherwise this bit to be set to zero. In any case only bit 5 is to be affected. Draw a flow chart of the problem and implement it in assembler language.
- (b) Write a program sequence for interchanging the contents of two locations. [8+8]
8. (a) Explain the features of 8251 clearly.
- (b) Draw the block diagram of 8251 and explain the operation of the transmitter section in detail. [8+8]

\*\*\*\*\*

FIRSTRANKER

Code No: R05311901

**R05****Set No. 4****III B.Tech I Semester Examinations, November 2010****MICROPROCESSORS AND INTERFACING****Common to Instrumentation And Control Engineering, Electronics And  
Computer Engineering****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks**

\*\*\*\*\*

1. Draw and discuss the formats and bit definitions of the following SFR's in 8051 microcontroller.
  - (a) PCON
  - (b) PSW
  - (c) IP
  - (d) TMOD. [8+8]
2. (a) Explain the features of 8251 clearly.  
 (b) Draw the block diagram of 8251 and explain the operation of the transmitter section in detail. [8+8]
3. (a) Describe the response that an 8259 will make if it receives an interrupt signal on its IR1 and IR7 inputs at the same time. Assume rotating priority for the IR inputs. What response will the 8259 make if it is servicing an IR7 interrupt, and an IR1 interrupt signal occur.  
 (b) Show the sequence of command words and instructions that you would use to initialize an 8259 with a base address of F000H as follows: Level triggered; Only one 8259; 8086 system; Interrupt Type-32 corresponds to IR0 input; Automatic EOI; Non-buffered mode; Special fully nested mode; IR3 and IR6 masked. [8+8]
4. (a) Draw the block diagram of 8086 and explain BIU and EU?  
 (b) Explain about memory segmentation and Instruction Queue. [8+8]
5. (a) Explain the following Instructions.
  - i. MOV
  - ii. POP
  - iii. XCHG
  - iv. SAHF.
 (b) Write a program to convert a 2-digit HEX Number to BCD Number. [8+8]
6. (a) Show the circuit required to generate the upper and lower I/O strobes in minimum and maximum modes of 8086?

Code No: R05311901

**R05****Set No. 4**

- (b) What is the minimum no. of bus cycles that can occur between the time an interrupt request is recognized and the first instruction in the interrupt service routine is fetched. Show the interrupt acknowledge cycle with a flow chart?

[8+8]

7. Briefly explain the interfacing and programming of 8279.

[16]

8. (a) Consider a string of characters stored in STRING through STRING+99. Suppose that bit 5 of register DL is to be set to 1 if the string contains a digit; otherwise this bit to be set to zero. In any case only bit 5 is to be affected. Draw a flow chart of the problem and implement it in assembler language.

- (b) Write a program sequence for interchanging the contents of two locations.

[8+8]

\*\*\*\*\*

Code No: R05311901

**R05****Set No. 1****III B.Tech I Semester Examinations, November 2010****MICROPROCESSORS AND INTERFACING****Common to Instrumentation And Control Engineering, Electronics And  
Computer Engineering****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks**

\*\*\*\*\*

1. (a) Describe the response that an 8259 will make if it receives an interrupt signal on its IR1 and IR7 inputs at the same time. Assume rotating priority for the IR inputs. What response will the 8259 make if it is servicing an IR7 interrupt, and an IR1 interrupt signal occur.
- (b) Show the sequence of command words and instructions that you would use to initialize an 8259 with a base address of F000H as follows: Level triggered; Only one 8259; 8086 system; Interrupt Type-32 corresponds to IR0 input; Automatic EOI; Non-buffered mode; Special fully nested mode; IR3 and IR6 masked. [8+8]
2. Draw and discuss the formats and bit definitions of the following SFR's in 8051 microcontroller.
  - (a) PCON
  - (b) PSW
  - (c) IP
  - (d) TMOD. [8+8]
3. (a) Draw the block diagram of 8086 and explain BIU and EU?
- (b) Explain about memory segmentation and Instruction Queue. [8+8]
- Briefly explain the interfacing and programming of 8279. [16]
4. (a) Consider a string of characters stored in STRING through STRING+99. Suppose that bit 5 of register DL is to be set to 1 if the string contains a digit; otherwise this bit to be set to zero. In any case only bit 5 is to be affected. Draw a flow chart of the problem and implement it in assembler language.
- (b) Write a program sequence for interchanging the contents of two locations. [8+8]
6. (a) Explain the following Instructions.
  - i. MOV
  - ii. POP
  - iii. XCHG
  - iv. SAHF.

Code No: R05311901

**R05****Set No. 1**

- (b) Write a program to convert a 2-digit HEX Number to BCD Number. [8+8]
7. (a) Show the circuit required to generate the upper and lower I/O strobes in minimum and maximum modes of 8086?
- (b) What is the minimum no. of bus cycles that can occur between the time an interrupt request is recognized and the first instruction in the interrupt service routine is fetched. Show the interrupt acknowledge cycle with a flow chart? [8+8]
8. (a) Explain the features of 8251 clearly.
- (b) Draw the block diagram of 8251 and explain the operation of the transmitter section in detail. [8+8]

\*\*\*\*\*

Code No: R05311901

**R05****Set No. 3****III B.Tech I Semester Examinations, November 2010****MICROPROCESSORS AND INTERFACING****Common to Instrumentation And Control Engineering, Electronics And  
Computer Engineering****Time: 3 hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks**

\*\*\*\*\*

1. Draw and discuss the formats and bit definitions of the following SFR's in 8051 microcontroller.
  - (a) PCON
  - (b) PSW
  - (c) IP
  - (d) TMOD. [8+8]
2. (a) Draw the block diagram of 8086 and explain BIU and EU?  
(b) Explain about memory segmentation and Instruction Queue. [8+8]
3. (a) Describe the response that an 8259 will make if it receives an interrupt signal on its IR1 and IR7 inputs at the same time. Assume rotating priority for the IR inputs. What response will the 8259 make if it is servicing an IR7 interrupt, and an IR1 interrupt signal occur.  
(b) Show the sequence of command words and instructions that you would use to initialize an 8259 with a base address of F000H as follows: Level triggered; Only one 8259; 8086 system; Interrupt Type-32 corresponds to IR0 input; Automatic EOI; Non-buffered mode; Special fully nested mode; IR3 and IR6 masked. [8+8]
4. (a) Show the circuit required to generate the upper and lower I/O strobes in minimum and maximum modes of 8086?  
(b) What is the minimum no. of bus cycles that can occur between the time an interrupt request is recognized and the first instruction in the interrupt service routine is fetched. Show the interrupt acknowledge cycle with a flow chart? [8+8]
5. (a) Consider a string of characters stored in STRING through STRING+99. Suppose that bit 5 of register DL is to be set to 1 if the string contains a digit; otherwise this bit to be set to zero. In any case only bit 5 is to be affected. Draw a flow chart of the problem and implement it in assembler language.  
(b) Write a program sequence for interchanging the contents of two locations. [8+8]
6. (a) Explain the features of 8251 clearly.

Code No: R05311901

**R05****Set No. 3**

- (b) Draw the block diagram of 8251 and explain the operation of the transmitter section in detail. [8+8]
7. Briefly explain the interfacing and programming of 8279. [16]
8. (a) Explain the following Instructions.
- i. MOV
  - ii. POP
  - iii. XCHG
  - iv. SAHF.
- (b) Write a program to convert a 2-digit HEX Number to BCD Number. [8+8]

\*\*\*\*\*