Code No: NR/RR310501 | NR/RR | Set No. 2

III B.Tech I Semester Examinations,November 2010
INTERFACING THROUGH MICROPROCESSORS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain control word format of 8255 in I/O and BSR mode
   (b) Interface 16 bit 8255 ports with 8086. The address of port A is F0H. [10+6]
2. (a) Write short notes on the following string data transfer instructions :
      i. LODS
      ii. STOS
      iii. MOVS
   (b) Explain what the REPE prefix does when coupled with the SCASB instruction ? [12+4]
3. (a) Why is synchronous serial data communication made more efficient than asynchronous communication?
   (b) If an 8251 is being used in synchronous mode for a BISYNC data link, what additional initialization words must be sent to the device. [6+10]
4. Explain write pre-compensation, data separation, phase locked loop and CRC in floppy disk interface. [16]
5. Develop an 8086 assembly language program for the following:
   (a) to sum the numbers from 1 to 100
   (b) to count the total number of negative numbers in the given series. [8+8]
6. (a) Explain the functions of BHE and MN / MX pins in 8086 in detail.
   (b) Explain physical address, effective address, offset used in 8086. [10+6]
7. (a) What are the registers available in 8257? What are their functions?
   (b) Draw and discuss the status registers of 8257? [10+6]
8. (a) Design a circuit to activate a actuator, based on a bit combination given by eight switches interfaced to a microprocessor
   (b) Design a interface circuit to feed numbers 0-9 through a linearly encoded switches and to display the number on a seven segment LED through a microprocessor [8+8]

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Code No: NR/RR310501 | NR/RR | Set No. 4

III B.Tech I Semester Examinations,November 2010
INTERFACING THROUGH MICROPROCESSORS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Develop an 8086 assembly language program for the following:
   (a) to sum the numbers from 1 to 100
   (b) to count the total number of negative numbers in the given series. [8+8]
2. (a) Why is synchronous serial data communication made more efficient than asynchronous communication?
   (b) If an 8251 is being used in synchronous mode for a BISYNC data link, what additional initialization words must be sent to the device. [6+10]
3. Explain write pre-compensation, data separation, phase locked loop and CRC in floppy disk interface. [16]
4. (a) Write short notes on the following string data transfer instructions :
      i. LODS
      ii. STOS
      iii. MOVS
   (b) Explain what the REPE prefix does when coupled with the SCASB instruction ? [12+4]
5. (a) Explain the functions of BHE and MN / MX pins in 8086 in detail.
   (b) Explain physical address, effective address, offset used in 8086. [10+6]
6. (a) What are the registers available in 8257? What are their functions?
   (b) Draw and discuss the status registers of 8257? [10+6]
7. (a) Design a circuit to activate a actuator, based on a bit combination given by eight switches interfaced to a microprocessor
   (b) Design a interface circuit to feed numbers 0-9 through a linearly encoded switches and to display the number on a seven segment LED through a microprocessor [8+8]
8. (a) Explain control word format of 8255 in I/O and BSR mode
   (b) Interface 16 bit 8255 ports with 8086. The address of port A is F0H. [10+6]

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Code No: NR/RR310501 | NR/RR | Set No. 1

III B.Tech I Semester Examinations,November 2010
INTERFACING THROUGH MICROPROCESSORS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the registers available in 8257? What are their functions?
   (b) Draw and discuss the status registers of 8257? [10+6]
2. (a) Explain control word format of 8255 in I/O and BSR mode
   (b) Interface 16 bit 8255 ports with 8086. The address of port A is F0H. [10+6]
3. Develop an 8086 assembly language program for the following:
   (a) to sum the numbers from 1 to 100
   (b) to count the total number of negative numbers in the given series. [8+8]
4. (a) Design a circuit to activate a actuator, based on a bit combination given by eight switches interfaced to a microprocessor
   (b) Design a interface circuit to feed numbers 0-9 through a linearly encoded switches and to display the number on a seven segment LED through a microprocessor [8+8]
5. (a) Explain the functions of BHE and MN / MX pins in 8086 in detail.
   (b) Explain physical address, effective address, offset used in 8086. [10+6]
6. (a) Write short notes on the following string data transfer instructions :
      i. LODS
      ii. STOS
      iii. MOVS
   (b) Explain what the REPE prefix does when coupled with the SCASB instruction ? [12+4]
7. Explain write pre-compensation, data separation, phase locked loop and CRC in floppy disk interface. [16]
8. (a) Why is synchronous serial data communication made more efficient than asynchronous communication?
   (b) If an 8251 is being used in synchronous mode for a BISYNC data link, what additional initialization words must be sent to the device. [6+10]

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Code No: NR/RR310501 | NR/RR | Set No. 3

III B.Tech I Semester Examinations,November 2010
INTERFACING THROUGH MICROPROCESSORS
Common to Information Technology, Computer Science And Engineering, Computer Science And Systems Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Write short notes on the following string data transfer instructions :
   i. LODS
   ii. STOS
   iii. MOVS
   (b) Explain what the REPE prefix does when coupled with the SCASB instruction ? [12+4]
2. (a) Explain control word format of 8255 in I/O and BSR mode
   (b) Interface 16 bit 8255 ports with 8086. The address of port A is F0H. [10+6]
3. (a) Why is synchronous serial data communication made more efficient than asynchronous communication?
   (b) If an 8251 is being used in synchronous mode for a BISYNC data link, what additional initialization words must be sent to the device. [6+10]
4. (a) Explain the functions of BHE and MN / MX pins in 8086 in detail.
   (b) Explain physical address, effective address, offset used in 8086. [10+6]
5. (a) What are the registers available in 8257? What are their functions?
   (b) Draw and discuss the status registers of 8257? [10+6]
6. Develop an 8086 assembly language program for the following:
   (a) to sum the numbers from 1 to 100
   (b) to count the total number of negative numbers in the given series. [8+8]
7. Explain write pre-compensation, data separation, phase locked loop and CRC in floppy disk interface. [16]
8. (a) Design a circuit to activate a actuator, based on a bit combination given by eight switches interfaced to a microprocessor
   (b) Design a interface circuit to feed numbers 0-9 through a linearly encoded switches and to display the number on a seven segment LED through a microprocessor [8+8]

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