Code No: R05410501 **R05** **Set No. 2**

IV B.Tech I Semester Examinations,November 2010
EMBEDDED SYSTEMS
Common to Information Technology, Electronics And Control Engineering, 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. Design hardware and software for displaying your name on two line 20-character LCD display by interfacing it to 8051-based system. [16]

2. Explain in detail about the types of interrupts, the interrupt program addresses and the interrupt control registers of the 8051 microcontroller. [16]

3. Verify whether the following function is a reentrant? Justify your answaer. If not, modify itto make it reentrant.

```
static int iCount;
void vNotReentrant (int x, int *p)
{
int y;
y = x * 2;
++p;
*p = 123;
iCount +=234;
printf("\ n new Count : %d", x);
}
```

[16]

4. Describe the various architectural features of one of the SHARC processors of your choice with its functional block diagram. [16]

5. Give suitable hardware and software at functional level for monitoring and controlling the RAIL-ROAD CROSSING SYSTEM with the assumtion of suitable data. [16]

6. (a) Explain the formalisms for embedded system design.
   (b) List the various complex systems available and explain their performance characteristics. [8+8]

7. (a) Explain the commands that get data from ROM addresses.
   (b) Explain the commands that exchange data. [8+8]

8. (a) Add 05H to the register A using five different instructions.
   (b) Write an Assembly language program to multiply 05H with 06H. [8+8]

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Code No: R05410501 **R05** **Set No. 4**

IV B.Tech I Semester Examinations,November 2010
EMBEDDED SYSTEMS
Common to Information Technology, Electronics And Control Engineering, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Verify whether the following function is a reentrant? Justify your answaer. If not, modify itto make it reentrant.

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static int iCount;
void vNotReentrant (int x, int *p)
{
int y;
y = x * 2;
++p;
*p = 123;
iCount +=234;
printf("\ n new Count : %d", x);
}
```

[16]

2. Describe the various architectural features of one of the SHARC processors of your choice with its functional block diagram. [16]

3. Explain in detail about the types of interrupts, the interrupt program addresses and the interrupt control registers of the 8051 microcontroller. [16]

4. Design hardware and software for displaying your name on two line 20-character LCD display by interfacing it to 8051-based system. [16]

5. (a) Add 05H to the register A using five different instructions.
   (b) Write an Assembly language program to multiply 05H with 06H. [8+8]

6. (a) Explain the commands that get data from ROM addresses.
   (b) Explain the commands that exchange data. [8+8]

7. (a) Explain the formalisms for embedded system design.
   (b) List the various complex systems available and explain their performance characteristics. [8+8]

8. Give suitable hardware and software at functional level for monitoring and controlling the RAIL-ROAD CROSSING SYSTEM with the assumtion of suitable data. [16]

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Code No: R05410501 **R05** **Set No. 1**

IV B.Tech I Semester Examinations,November 2010
EMBEDDED SYSTEMS
Common to Information Technology, Electronics And Control Engineering, Computer Science And Engineering, Computer Science And Systems Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Design hardware and software for displaying your name on two line 20-character LCD display by interfacing it to 8051-based system. [16]
2. (a) Add 05H to the register A using five different instructions.
   (b) Write an Assembly language program to multiply 05H with 06H. [8+8]
3. Give suitable hardware and software at functional level for monitoring and controlling the RAIL-ROAD CROSSING SYSTEM with the assumtion of suitable data. [16]
4. (a) Explain the formalisms for embedded system design.
   (b) List the various complex systems available and explain their performance characteristics. [8+8]
5. (a) Explain the commands that get data from ROM addresses.
   (b) Explain the commands that exchange data. [8+8]
6. Explain in detail about the types of interrupts, the interrupt program addresses and the interrupt control registers of the 8051 microcontroller. [16]
7. Describe the various architectural features of one of the SHARC processors of your choice with its functional block diagram. [16]
8. Verify whether the following function is a reentrant? Justify your answaer. If not, modify itto make it reentrant.

```
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void vNotReentrant (int x, int *p)
{
int y;
y = x * 2;
++p;
*p = 123;
iCount +=234;
printf("\ n new Count : %d", x);
}
```

[16]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: R05410501 **R05** **Set No. 3**

IV B.Tech I Semester Examinations,November 2010
EMBEDDED SYSTEMS
Common to Information Technology, Electronics And Control Engineering, 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. Give suitable hardware and software at functional level for monitoring and controlling the RAIL-ROAD CROSSING SYSTEM with the assumtion of suitable data. [16]

2. Design hardware and software for displaying your name on two line 20-character LCD display by interfacing it to 8051-based system. [16]

3. (a) Explain the formalisms for embedded system design.
   (b) List the various complex systems available and explain their performance characteristics. [8+8]

4. (a) Explain the commands that get data from ROM addresses.
   (b) Explain the commands that exchange data. [8+8]

5. Describe the various architectural features of one of the SHARC processors of your choice with its functional block diagram. [16]

6. Verify whether the following function is a reentrant? Justify your answaer. If not, modify itto make it reentrant.

```
static int iCount;
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{
int y;
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iCount +=234;
printf("\ n new Count : %d", x);
}
```

[16]

7. (a) Add 05H to the register A using five different instructions.
   (b) Write an Assembly language program to multiply 05H with 06H. [8+8]

8. Explain in detail about the types of interrupts, the interrupt program addresses and the interrupt control registers of the 8051 microcontroller. [16]

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