R11

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)

III B.Tech I Semester Supplementary Examinations June/July 2014
Automata and Compiler Design
(Information Technology)

Time: 3 hours   Max Marks: 70

Answer any FIVE Questions from the following
All questions carry equal marks (14 Marks each)
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1. a) Construct DFA for residue mod 5 for binary input.   7M

   b) Construct NFA over {0, 1} such that it accepts the set of strings containing either 101 or 110 as substring.   7M

2. a) Explain the different phases of a compiler, showing the output of each phase for the given statement: x = (a + b) * (c + d)   7M

   b) Write short notes on Bootstrapping process.   7M

3. Construct CLR Parser for the following:

   S→L=R

   S→R

   L→*R

   L→id

   R→L   14M

4. a) Define Syntax Directed Definition. Write Syntax Directed Translation scheme for desk calculator.   7M

   b) Generate the three address code for the following program fragment

   for(i=1;i<=20;i++)

   sum=sum + a[i] + b[i]   7M

5. a) Explain Type Checking for Expressions.   7M

   b) Explain Type Checking for Functions.   7M

6. Compare three different Storage allocation strategies.   14M

7. Construct the Flow Graph for the following code.

```
void quicksort (int m, int n)
{
int i, j;
int v, x;
if(n<=m) return;
i=m-1; j=n; v=a[n];
while(1)
{
do i =i+1; while (a[i]<v);
do j=j+1; while(a[j]>v);
if (i>=j) break;
x=a[i]; a[i]=a[j];a[j]=x;
}
x=a[i];a[i]=a[n];a[n]=x;
quicksort(m, j);
quicksort(i+1,n);
}
```
   14M

8. a) Explain issues in code generation.   7M

   b) Generate the code for the following expression using code generation algorithm

   W:= (A-B)+(A-C)+(A-C)   7M

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Code : 1G153

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ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)
III B.Tech I Semester Supplementary June/July 2014
Computer Networks
(Common to CSE & IT)

Time: 3 hours   **Max Marks: 70**

Answer any FIVE Questions from the following
All questions carry equal marks (14 Marks each)

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1. a) Discuss about TCP/IP Reference Model with neat sketch?   7M

   b) Differentiate between connection oriented service with connection less service?   7M

2. a) Explain about i)Twisted pairs   ii) Coaxial cable   7M

   b) Explain about Switching Techniques in PSTN?   7M

3. a) A bit stream 10011101 is transmitted using the standard CRC method described in the text. The generator polynomial is X^3+1.Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission. Show that this error is detected at the receiver's end?   14M

4. a) Explain about ALOHA protocols for multiple accesses?   7M

   b) Discuss about Binary Exponential Backoff algorithm?   7M

5. a) Discuss the services provided by Network Layer to the Transport layer?   7M

   b) Explain about Distance Vector Routing algorithm with an example?   7M

6. a) Explain Leaky Bucket algorithm?   7M

   b) Explain IP addresses and Subnet Masking?   7M

7. a) Describe the Internet Transport Protocol - UDP?   14M

8. a) Write short notes on Electronic mail?   7M

   b) Explain about Domain Name System?   7M

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ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: RAJAMPET
(AUTONOMOUS)
III B.Tech I Semester Supplementary Examinations June/July 2014

Microprocessors and Interfacing

(Common to CSE & IT)

Time: 3 hours **Max Marks: 70**

Answer any FIVE Questions from the following
All questions carry equal marks (14 Marks each)
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1.	a)	Classify the 8086 flags and discuss each flag.	8M
	b)	Show how the memory is organized in 8086.	6M
2.	a)	Develop 8086 alp code to reverse the string using string instruction.	8M
	d)	Differentiate procedures and macros.	6M
3.	a)	Differentiate I/O mapped I/O and memory mapped I/O.	6M
	b)	With the help of mode register explain different modes of 8255 PPI.	8M
4.	a)	What is the necessity of DMA?	4M
	b)	Explain the architecture of 8257 with suitable diagram.	10M
5.		Explain different 8253 mode of operation.	14M
6.	a)	Explain the signal lines in RS 232 standard.	8M
	b)	Discuss high speed serial communication standards.	6M
7.	a)	Discuss the advance features implemented in Pentium processors.	10M
	b)	Discuss the advantages of paging over segmentation.	4M
8.	a)	Sketch the memory organization in 8051.	10M
	b)	Write short notes on applications of timers, serial communication and interrupts.	4M

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III B.Tech. I Semester Supplementary Examinations June/July 2014
Unix Programming
(*Information Technology*)

Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　　**Max Marks: 70**

Answer any FIVE Questions from the following
All questions carry equal marks (14 Marks each)
* * * * *

1. a) Explain the structure of Unix operating system? Describe different Unix security mechanisms?　8M

   b) Explain the structure of Unix command with any two command examples?　6M

2. a) What is the significance of file path in Unix? Differentiate between absolute and relative pathnames? Can we say that an absolute pathname is always longer than the corresponding relative pathname, Justify?　9M

   b) Explain the structure of Unix file system? What is the relationship of an inode to the physical file stored on the disk?　5M

3. a) What is Filter? Explain, how filters can be joined by pipes with examples?　4M

   b) Explain the following filters with examples:

   i). sort　　　　ii). cut　　　　iii).tail　　　　iv). diff　10M

4. a) Define grep utility? Differentiate among grep, egrep and fgrep with examples?　6M

   b) Write and explain grep commands to simulate each of the following commands:

   i). cp file1 file2　　ii). tail +30 file1　　iii). uniq file1　　iv). sort file1　8M

5. a) What does awk stands for? What are the two formats of awk command? Explain awk execution process with example?　6M

   b) Write an awk script to count words and lines in a file?　8M

6. a) Explain the process of debugging a korn shell script?　10M

   b) Explain about trash and terminal files with examples?　4M

7. a) Explain repetition statements in C shell with examples?　8M

   b) What is an on-off variable? List some of these variables and their use in C shell?　6M

8. Explain following system calls with examples?

   i). symlink　　　　ii). chmod　　　　iii). readdir　　　　iv). mkdir　14M

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