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First/Second Semester B.E. Degree Examination, Dec.2013/Jan.2014
Computer Concepts and 'C' Programming

Time: 3 hrs.

Max. Marks:100

- Note:** 1. Answer any FIVE full questions, choosing at least two from each part.
 2. Answer all objective type questions only on OMR sheet page 5 of the answer booklet.
 3. Answer to objective type questions on sheets other than OMR will not be valued.

PART – A

- 1 a. Choose the correct answers for the following : (04 Marks)
- i) Which of the following is not a primary memory of computer?

A) PROM	B) CDROM
C) EEPROM	D) EPROM
 - ii) Two typical components of CPU are _____

A) ALU and input device	B) CU and output device
C) Memory and ALU	D) CU and ALU.
 - iii) Which of the following is not an output devices of computer system?

A) Mouse	B) Data projectors
C) Plotters	D) Printers
 - iv) The size of 1MB is equal to:

A) 1024 Bytes	B) 1024 Mega bytes
C) 1024 Kilobytes	D) 1024 Gigabytes
- b. Explain with neat diagram the basic structure of a computer. (08 Marks)
- c. Explain types of RAM. (04 Marks)
- d. List types of printers. Explain briefly any two type. (04 Marks)
- 2 a. Choose the correct answers for the following : (04 Marks)
- i) Which of the following is not an optical storage media?

A) CDROM	B) Floppy disk
C) DVD	D) None of these
 - ii) The binary equivalent of the decimal number 13 is

A) 1100	B) 1110
C) 1101	D) 1111
 - iii) Integrated circuits are made from a _____ material.

A) Semiconductor	B) Vacuum tubes
C) Switches	D) All of these
 - iv) Calculations and decisions are performed in the _____ unit of the CPU

A) CU	B) Memory unit
C) ALU	D) IO unit.
- b. Explain in detail any two storage devices. (08 Marks)
- c. Explain briefly about address bus, data bus and control bus. (06 Marks)
- d. Explain briefly the cache memory. (02 Marks)

- 3 a. Choose the correct answers for the following : (04 Marks)
- Which of the following is not an operating system?
A) MACOS B) Windows
C) Linux D) Microsoft office
 - _____ is a set of rules to communicate between computers?
A) Topology B) Protocols
C) OSI model D) All the above
 - Which of the following is used to connect multiple computers through LAN?
A) Hubs B) Routers
C) Switches D) Bridges
 - _____ is a multi user operating system
A) Linux B) Windows
C) DOS D) All of these
- b. What is an operating system? Explain its purpose. (02 Marks)
- c. Define networking. List and explain types of networks. (08 Marks)
- d. Explain briefly switches, bridges and routers. (06 Marks)

- 4 a. Choose the correct answers for the following : (04 Marks)
- _____ represents the process steps defined in algorithms
A) Oval B) Parallelogram
C) Rectangle D) Diamond
 - The size of character datatype is
A) 1 byte B) 2 byte
C) 3 byte D) 4 byte
 - Which of the following is not a bitwise operator in C?
A) & B) <<
C) >> D) &&
 - Assume $X = 70$, then $X = X >> 3$, what is the value of X after computation.
A) 7 B) 8
C) 9 D) 10
- b. Explain program, flowchart and algorithm. Draw a flowchart to input 3 numbers and print largest of 3 numbers. (08 Marks)
- c. Explain in detail the structure of a 'C', program. (05 Marks)
- d. Explain briefly with an example the conditional operator in 'C'. (03 Marks)

PART – B

- 5 a. Choose the correct answers for the following : (04 Marks)
- Format specifier for reading unsigned integer in decimal form is
A) %d B) %i C) %U D) %x
 - _____ is used to suppress an input
A) + B) * C) - D) /
 - Which of the following is not an unconditional decision making statements?
A) if B) goto C) break D) continue
 - Assume $a = 1$, $b = 0$, $c = 0$, what is the output of the following statement?
If (~b)
 c = 1;
Else
 c = 2;
A) 0 B) 1 C) 2 D) 3

- b. Write a 'C' program using goto statement to display to even numbers between 1 to 20. (05 Marks)
- c. Explain with an examples the unformatted input and output functions. (06 Marks)
- d. Explain with syntax the switch statement. Give an example. (05 Marks)

6 a. Choose the correct answers for the following : (04 Marks)

- i) What is the output of the following code segment?

```
a = 10
do
printf ("%d", a --);
while (-- a >= 0);
```

- A) 10, 8, 6, 4, 2
B) 10, 8, 6, 4, 2, 0
C) 10, 8, 6, 4, 2, 0, -2
D) 10, 8, 6, 5, 3, 10

- ii) A for loop with no test condition is known as _____ loop.

- A) infinite
B) finite
C) conditional
D) none of these

- iii) What is the output of the following code segment

```
n = 3
for (i = 0; i < n; i++)
{ printf ("%d", i);
break;
}
printf ("%d", i);
```

- A) error
B) 1, 2
C) 0, 0
D) 0, 1

- iv) What is the output of the following code segment?

```
x = 5
while (x = 5)
{ printf ("%d", x);
x = x + 1;
}
```

- A) 5
B) Run timer error
C) Compile time error
D) infinite

- b. List different looping statements. Explain with syntax and example all looping statements. (10 Marks)

- c. Write a 'C' program to display sum and reverse of the given 5 digit number. (06 Marks)

7 a. Choose correct answers for the following : (04 Marks)

- i) What is the output of the following code segment?

```
char a [4] = {'a', 'b', 'c', 'd'};
printf ("%d", size of (a));
```

- A) 1
B) 2
C) 3
D) 4

- ii) What is the output of the following code segment?

```
int a [2] [3] = {1, 2, 3, 4, 5, 6};
printf ("%d", a [2] [3]);
```

- A) 0
B) 1
C) 2
D) 3

- iii) What will happen if you assign a value to an array element whose subscript exceeds the size of array?

- A) The element will be set to 0
B) Compiler error
C) Runtime error
D) None of these

- iv) If you pass an array as an argument to a function, what actually gets passed?

- A) Values of elements in array
B) First element of array
C) Base address of the array
D) Address of the last element of array.

- b. What is an array? How are they declared in 'C'? What are the rules to be followed while using arrays? (06 Marks)
- c. Write a 'C' program to generate first N Fibonacci series using an array. (05 Marks)
- d. Explain with suitable example the two dimensional arrays. (05 Marks)
- a. Choose the correct answers for the following : (04 Marks)
- i) Parameters are specified in function definition are called as
 A) Actual arguments B) Formal parameters
 C) Actual parameters D) None of these
- ii) What is the output of the following function code statement?

```
int add (int a, int b)
{
  char sum;
  int sum1;
  sum = a + b;
} return (sum);
```

 A) runtime error B) compile time error
 C) 0 D) Return sum1 contents
- iii) The following code statement has an error. Replace the suitable code to make error free statement:

```
add (&a, &b); //calling function
add (int a, int b) //function definition
{
  :
  }:
```

 A) add (int *a, int * b) B) add (int &a, int & b)
 C) add (int *a, int & b) D) no error
- iv) A variable declared in a function is called
 A) global variable B) actual variable C) formal variable D) local variable
- b. What is function? Explain its advantages. (04 Marks)
- c. Differentiate the following:
 i) Actual parameters and formal parameters.
 ii) Call by value and call by reference. (06 Marks)
- d. Write a 'C' program to sort a given elements using bubble sort using functions. (06 Marks)
