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06CCP13/23

First/Second Semester B.E. Degree Examination, Dec.08/Jan.09
Computer Concepts and C programming

Time: 3 hrs. Max. Marks:100

Note: *1.Answer any FIVE full questions, selecting at least TWO questions from each part.*
2.Answer all objective type questions only in first & second writing pages.
3.Answer for objective type questions shall not be repeated.

PART – A

1 a. (i) Which of these is a computer for an organization?
(A) Work station (B) Tablet computer (C) Main frame (D) Smart phones

(ii) Which of these in an example of Hand held PCs?
(A) RAM (B) PDA (C) BUS (D) CMOS

(iii) Approximate value of one Terabyte computer memory & its storage is
(A) 10^9 bytes (B) 10^{10} bytes (C) 10^{12} bytes (D) 10^{15} bytes

(iv) Which of these keys is not called modifier key?
(A) START (B) SHIFT (C) ALT (D) CTRL **(04 Marks)**

b. Describe the computers for individual users. **(06 Marks)**

c. What is information processing cycle? Explain. **(05 Marks)**

d. Write a note on types of monitors. **(05 Marks)**

2 a. (i) Which of the following is NOT a standard text code system?
(A) ASCII (B) LCD (C) UNICODE (D) EBCDIC

(ii) Which of these is NOT a part of CPU
(A) CU (B) ALU (C) L2-CACHE (D) L3-CACHE

(iii) A laser printer's speed is measured in _____
(A) cps (B) ppm (C) dpi (D) ltpm

(iv) Which of these is a hot swappable bus
(A) Local Bus (B) USB (C) PCI (D) AGP **(04 Marks)**

b. Discuss the factors that affect the speed of a computer **(10 Marks)**

c. How to optimize disk performance? Explain. **(06 Marks)**

3 a. (i) Which of the following acts as the primary controlling mechanism for the computer's hardware
(A) RAM (B) CPU (C) CDROM (D) OS.

(ii) Which of these is a freeware operating system
(A) MS-DOS (B) WIN-95 (C) WIN-XP (D) LINUX.

(iii) _____ is a device that connects two LANS or two segments of the same LAN.
(A) Hub (B) Bridge (C) Switch (D) Router.

(iv) E-mail is the system for exchanging messages through a _____.
(A) Client (B) Program (C) Network (D) Backbone. **(04 Marks)**

b. Describe the different network topologies. **(08 Marks)**

c. List and explain four major types of operating systems. **(08 Marks)**

4 a. (i) Which of the following is a 'C' keyword?
(A) Int (B) else (C) scanf (D) character.

(ii) Which of the following is the valid hexa integer
(A) oabc (B) oxabc (C) xabc (D) abc

(iii) If p = 2, q = 3 & r = 4, what is the output of following 'C' statement
Printf("%d", p&q ¦ r);
(A) 6 (B) 4 (C) 2 (D) 0.

(iv) What is output of following 'C' statement
```
x = 3, y = 5;
y = + x – y;
y = ++y;
printf ("%d", y);
```
(A) Error (B) 1 (C) 0 (D) –1. **(04 Marks)**

b. What is an algorithm? List and explain the characteristics of an algorithm. **(04 Marks)**

c. Write an algorithm and draw a flowchart to find factorial of a given integer. **(06 Marks)**

d. Explain with examples:
(i) Increment operators (ii) Decrement operators (iii) Conditional operator. **(06 Marks)**

PART – B

5 a. (i) Format specifier for inputting real numbers is _____
(A) %d (B) %c (C) %f (D) %s

(ii) The output of following code is
```
x = 98.7654;
printf ("%7.2f", x);
```
(A) 98.765400 (B) 98.760000 (C) 98.77 (D) 98.000000

(iii) Which of the following 'C' statement branches unconditionally from one point to another point in the program
(A) if (B) goto (C) switch (D) if else

(iv) Assuming x = 5, y = 0, z = 0 initially, what is the value of z after execution of the following code segments?
```
if (x == 0 || x && y)
    if (!y)
        z = 1;
    else
        z = 2;
else
        z = 3;
```
(A) 0 (B) 1 (C) 2 (D) 3 **(04 Marks)**

b. With an example explain switch statement and significance of break in switch block. **(10 Marks)**

c. Write a 'C' program to find the roots of a quadratic equation. **(06 Marks)**

6 a. (i) A for loop with No test condition is known as _____ loop.
(A) finite (B) infinite (C) controlled (D) None of these.

(ii) Which of the following looping construct is exit controlled loop?
(A) while (B) do....while (C) for (D) None of these.

(iii) What is the output of the following code segment?

```
x = 4;
do
printf ("\ t % d", x)
while (x -- > = 0);
```

(A) Error (B) 4 3 2 1 (C) 4 3 2 1 0 (D) 4 3 2 1 0 –1

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

```
For (i = 0, x = 4; i < 5 && x; i++)
    printf("%d \t", x = x >>1);
```

(A) 2 1 0 0 0 (B) 2 1 0 –1 –2 (C) 2 (D) 2 1 **(04 Marks)**

b. Write a 'C' program using do....while loop to calculate and print first N Fibonacci numbers **(08 Marks)**

c. Using for loop, write 'C' program to generate N prime numbers. **(08 Marks)**

7 a. (i) Which of the following declaration has error?
(A) int N[ ]={0, 0, 0}; (B) int M[3][2] ={1, 2, 3};
(C) char ch[ ] = "vtu"; (D) int Num [2, 4] = {{0,1},{1,2},{2,3},{3,4}};

(ii) What is the memory occupied by the array: int A[10][5]
(A) 15 bytes (B) 150 bytes (C) 100 bytes (D) 30 bytes

(iii) If base address of the int p[5][5] is 5000 then output of :
printf("%d" & p[2][0]); is
(A) 5010 (B) 5004 (C) 5006 (D) 5020

(iv) Arrays can be initialized at
(A) Compile time (B) Run time (C) Both A & B (D) none of these **(04 Marks)**

b. Explain Horner's method to evaluate a polynomial and write a 'C' program for the same. **(06 Marks)**

c. What is an array? What are its advantages & disadvantages? **(04 Marks)**

d. Write a 'C' program to input N integer numbers into a single dimension array. Conduct a linear search for a given key integer number. Report success or failure with suitable message. **(06 Marks)**

8 a. (i) Which of the following return statement in a function has error?
(A) return; (B) return(0); (C) return (expression); (D) None of these.

(ii) Parameter passed as arguments to the function call are called as:
(A) Actual parameters (B) Formal parameters
(C) No parameters (D) None of the above.

(iii) In function prototype, specifying _____ is optional.
(A) return type (B) Parameter name (C) Parameter data type (D) All of these.

(iv) A variable declared in a function is called _____ .
(A) Actual variable (B) Formal variable
(C) Local variable (D) Global variable. **(04 Marks)**

b. Without using Global variables, write a 'C' program, by implementing these functions (i)Read N array elements (ii) Print N array elements and (iii) Conduct binary search for a given key integer number in N array elements. **(08 Marks)**

c. With examples, explain different methods of passing parameters to a function. **(08 Marks)**

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