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**First/Second Semester B.E. Degree Examination, January 2013**  
**Computer Concepts and C Programming**

Time: 3 hrs.

Max. Marks:100

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

- 1 a. Choose the correct answer : (04 Marks)**
- i) Which of the following is not an input device.  
 (A) plotter (B) scanner (C) key board (D) mouse
- ii) Conversion of single program to M/C language is done by  
 (A) linker (B) compiler (C) editor (D) OS
- iii) Computer is controlled by \_\_\_\_\_  
 (A) Hardware (B) Software (C) Instructions (D) Statement
- iv) Computer converts data into \_\_\_\_\_  
 (A) Information (B) Charts (C) I/P , O/P (D) Software
- b. Explain the basic structures of a computer, with a neat diagram. (06 Marks)**
- c. Explain the following input devices : i) Pen based input devices ii) Optical input devices. (06 Marks)**
- d. Explain information processing cycle. (04 Marks)**
- 2 a. Choose the correct answer : (04 Marks)**
- i) DOS is an example of \_\_\_\_\_ interface.  
 (A) Command line (B) Check box (C) Graphical (D) Parallel
- ii) Email is a system for exchanging messages through a \_\_\_\_\_  
 (A) client (B) program (C) Network (D) back bone
- iii) Every webpage has a unique address, called a  
 (A) Hyperlink (B) URL (C) HTTP (D) www
- iv) In a \_\_\_\_\_ n/w all devices are connected to a hub  
 (A) bus (B) star (C) ring (D) mesh
- b. Define operating system. What are the functions of operating systems? (06 Marks)**
- c. Explain the following storage devices : i) Hard disk ii) Compact disk. (06 Marks)**
- d. Explain the characteristics of networks. (04 Marks)**
- 3 a. Choose the correct answer : (04 Marks)**
- i) 'C' is what kind of language?  
 (A) Machine (B) Procedural (C) Assembly (D) Object oriented programming.
- ii) The hexadecimal constant is preceded by :  
 (A) OX (B) O (C) HX (D) H
- iii) The number 025 is \_\_\_\_\_ number.  
 (A) Decimal (B) Octal (C) Hexa (D) Binary
- iv) The operator % yields  
 (A) Quotient (B) Percentage (C) Remainder (D) Fractional part
- b. Briefly explain how to create and run the program. (04 Marks)**
- c. Explain 5 – types of data with its range value. (06 Marks)**
- d. Explain formatted input and output functions. (06 Marks)**
- 4 a. Choose the correct answer : (04 Marks)**
- i) What is the size of character in bytes?  
 (A) 1 (B) 2 (C) 3 (D) 4
- ii) Puts is \_\_\_\_\_ function  
 (A) i/p (B) o/p (C) Input output (D) None
- iii) The conversion specifier \_\_\_\_\_ is used to represent string  
 (A) % d (B) % c (C) % f (D) % s
- iv) Keywords are \_\_\_\_\_  
 (A) Identifier (B) Reserved words (C) Variable (D) None
- b. What do you mean by type conversion? Explain explicit type conversion with examples. (04 Marks)**
- c. Explain the following operators with examples : i) Conditional ii) Size of iii) Bitwise. (09 Marks)**

- d. Determine the value of each of the following logical expressions, where  $a = 5$ ,  $b = 10$  and  $c = -6$ .
- i)  $a > b \ \&\& \ a > c$       ii)  $b > 15 \ \&\& \ c < 0 \ || \ a > 0$       iii)  $(a/2.0 == 0.0 \ \&\& \ b/2.0 != 0.0) \ || \ c < 0.0$ .
- (03 Marks)**

**PART - B**

- 5 a. Choose the correct answer : **(04 Marks)**
- i) The default return type of a function is \_\_\_\_\_  
 (A) int                      (B) float                      (C) char                      (D) double
- ii) How many values returned by functions by default  
 (A) ONE                      (B) TWO                      (C) THREE                      (D) FOUR
- iii) Which is not a variable storage class  
 (A) Automatic                      (B) Extern                      (C) Static                      (D) Dynamic
- iv) Which keyword is used to declare external variable  
 (A) external                      (B) extern                      (C) auto extern                      (D) None
- b. Explain the elements of user defined functions. **(06 Marks)**
- c. Write a function prime that returns 1, if its argument is a prime number and returns 0. Otherwise. Using the same function, write a program to check whether the number is prime or not. **(05 Marks)**
- d. Write a note on parameter passing techniques. **(05 Marks)**
6. a. Choose the correct answer : **(04 Marks)**
- i) Multi way decision making using \_\_\_\_\_  
 (A) if                      (B) for                      (C) while                      (D) switch
- ii)  $5 > 3 ? \text{printf}("hello"); \text{printf}("C");$   
 (A) hello                      (B) C                      (C) hello C                      (D) None
- iii) The result of an expression  $2 > 8 \ \&\& \ 2 < 8$  is  
 (A) True                      (B) False                      (C) 10                      (D) 20
- iv) Size of (float) is  
 (A) 2                      (B) 4                      (C) 8                      (D) 1
- b. Explain switch structure with flowchart and write a program to display name a day in week for the given day number, assume day one is Monday. **(06 Marks)**
- c. Write a program to find the given number is palindrome or not using while loop. **(05 Marks)**
- d. Write a program to find square of a given number using for loop.  
 (Note : Find square using successive addition method). **(05 Marks)**
- 7 a. Choose the correct answer : **(04 Marks)**
- i) Array is an example of \_\_\_\_\_ data types  
 (A) Derived                      (B) Basic                      (C) User defined                      (D) None
- ii) An array a [5] consists of \_\_\_\_\_ number of elements.  
 (A) 10                      (B) 5                      (C) 25                      (D) None
- iii) An array a [5] [3] consists of \_\_\_\_\_ elements.  
 (A) 5                      (B) 3                      (C) 15                      (D) None
- iv) Which of the following is not a data structure  
 (A) Linked list                      (B) Stack                      (C) Queue                      (D) Pointer
- b. Explain how a 1 – Dimensional array can be declared and initialized, write a program to add all the 'n' elements of an array. **(06 Marks)**
- c. Explain the following string handling functions, with examples : i) Strcat      ii) Strcpy. **(04 Marks)**
- d. Write a C program to multiply A[M X N] and B[P X Q] matrices and stores the result in C matrix. **(06 Marks)**
- 8 a. Choose the correct answer : **(04 Marks)**
- i) Parallel computing is \_\_\_\_\_ execution of instructions.  
 (A) Simultaneous                      (B) Serial                      (C) Accurate                      (D) Complete
- ii) Which of the following is not a synchronization construct?  
 (A) Single                      (B) Master                      (C) Section                      (D) Critical
- iii) How many threads would be created for the parallel execution of `for (x = 0 ; x < 10 ; x++) { }`  
 (A) 10                      (B) 9                      (C) 11                      (D) 0
- iv) Which of the following does not signify the need of using threads?  
 (A) Enhanced performance                      (B) Reduced processor idle time  
 (C) Hidden memory latency time                      (D) Error – free computation.
- b. Explain the data handling in open MP. **(06 Marks)**
- c. What is thread? Explain the need for threads. **(06 Marks)**
- d. Write a note on environment variables of open MP. **(04 Marks)**

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