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BCA

III Semester / II Year Examination

BCA 303

Data structure & Programming with "C"

[Time : 03:00 Hours]

[Max. Marks : 70]

Note : 1. Attempt all the questions as per given instructions.

1. Multiple Choice Questions (MCQs) [01×15=15]
- I What is the range of Char data types in C Programming?
 - (a) 0 to 255
 - (b) - 128 to +127
 - (c) -32768 to +32767
 - (d) 0 to 65535
 - II In C what is a pointer primarily used for ?
 - (a) Decision making
 - (b) code organization
 - (c) variable declaration
 - (d) storing values
 - III Which keyword is used for declaring a character array in C?
 - (a) str
 - (b) character
 - (c) arr
 - (d) char
 - IV How do you access a member of a structure in C ?
 - (a) .(dot)
 - (b) ->(arrow)
 - (c) :: (scope)
 - (d) , (comma)
 - V Which keyword is used to declare a union in C?
 - (a) struct
 - (b) union
 - (c) class
 - (d) typedef
 - VI How do you declare a pointer variable that can store the address of an integer ?
 - (a) int *ptr;
 - (b) ptr int;
 - (c) int ptr;
 - (d) ptr *int;
 - VII The data structure used to implement recursive function calls
 - (a) binary tree
 - (b) linked list
 - (c) stack
 - (d) array
 - VIII Which operator is used for logical OR in C ?
 - (a) &&
 - (b) &
 - (c) |
 - (d) ||
 - IX What is the value of the postfix expression 6 3 2 4 + - * ?
 - a) 74
 - b) -18
 - c) 22
 - d) 40
 - X The data structure required for Breadth First Traversal on a graph is?
 - a) Array
 - b) Stack
 - c) Tree
 - d) Queue

- XI** Which data structure is based on the Last In First Out (LIFO) principle?
 a) Tree b) Linked List c) Stack d) Queue
- XII** Which of the following is not the type of queue?
 a) Priority queue b) Circular queue
 c) Single ended queue d) Ordinary queue
- XIII** A data structure in which elements can be inserted or deleted at/from both ends but not in the middle is?
 a) Priority queue b) Dequeue
 c) Circular queue d) Queue
- XIV** What is a data structure?
 a) A programming language
 b) A collection of algorithms
 c) A way to store and organize data
 d) A type of computer hardware
- XV** The data structure required to check whether an expression contains a balanced parenthesis is?
 a) Queue b) Stack c) Tree d) Array

2. Answer in long (any three) [10×3=30]

I Define the following with suitable example

- 1) Structure 2) Union

II Write a Program to implement the Doubly Linked List operations.

III Convert the infix to post expression using stack
 (A+B/C*(D+E)–F)

IV Define Binary tree and their type ?

3. Answer in short (any five) [5×5=25]

I Discuss the deletion operation from a linked list.

II List any four operations on stack.

III What are exception how you handle in python?

IV Define recursion?

V How do we use Pointers in C programming ?..

VI Write a program for addition of two matrices

VII What are the uses of an Algorithm ?

Printing Pages :2

Paper Code: BCA-304S-A

B (SVSU:2024-25/R)

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BCA

II YEAR/III SEMESTER EXAMINATION
Computer Hardware Technology & Installation
Subject Code-BCA-304S-A

[Time: 3:00 Hours]

[Max. Marks: 70]

Objective Question: Answer All Question

[1x15=15]

- Any physical components of a computer system that we can see and touch is
 (A) Software (B) Peripheral device (C) Hardware (D) CPU
- Data moves in and out of the CPU through embedded wires called
 (A) Bus (B) Electronic wires (C) Lines (D) Cables
- Which among the following is the fastest memory in a computer that holds information?
 (A) Register (B) Cache (C) Main memory (D) RAM
- Which keys are also known as toggle keys?
 (A) Caps lock, Num lock (B) Control key, Enter key
 (C) Shift, Esc (D) Both a and b
- Which memory unit communicates directly with the CPU?
 (A) Main memory (B) Register
 (C) Secondary memory (D) Auxiliary memory
- Which of the following components remains on the motherboard?
 (A) CMOS battery (B) PCI slot
 (C) Expansion slot (D) All of these
- The other name of a motherboard is?
 (A) System Device (B) Computer Board
 (C) Central Board (D) System Board
- Which component is responsible for connecting all other components of a computer?
 (A) Power Supply (B) Motherboard
 (C) Hard Disk (D) GPU
- Which type of storage device is faster and more reliable than traditional hard drives?
 (A) Floppy Disk (B) CD-ROM
 (C) SSD (D) HDD
- Which component allows a computer to connect to a network?
 (A) Sound Card (B) Network Interface Card (NIC)
 (C) Graphics Card (D) USB Port

11. Which component is essential for displaying output on a monitor?
 (A) Sound Card (B) Graphics Card
 (C) CPU (D) NIC
12. Which of the following is not a type of computer memory?
 (A) DRAM (B) SSD (C) SRAM (D) DDR
13. Which component handles the boot process and system setup?
 (A) CPU (B) BIOS
 (C) RAM (D) Hard Drive
14. The system unit that contains the most vital part of the personal computer is called
 (A) CPU (B) BIOS chip
 (C) Motherboard (D) Monitor
15. System software acts as a bridge between the hardware and ____ software
 (A) Utility (B) Application
 (C) Antivirus (D) MS World

II. Long Question: Answer Any Three out of six.

[10x3=30]

1. What is input device? Explain any five.
2. How to define wild card and naming convention?
3. Explain different types of power supply?
4. Difference Between Application, System and Utility software?
5. Define virtual machine and its benefit?
6. Elaborate BIOS and its features?

III. Short Question: Answer Any Five out of seven.

[5x5=25]

1. Describe window operating system component?
2. Difference between 32 bit and 64bit version?
3. Define electromagnetic interference?
4. Explain DOS and its command?
5. Why CPU is called the brain of computer?
6. What is surge protector?
7. Write a note on online ups and stand by ups?