Printed Page:- Subject Code:- AMCA0101

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute)

Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

MCA

SEM: I - THEORY EXAMINATION (2021 - 2022)

Subject: Fundamentals of Computer and Programming in C

Time: 03:00 Hours Max. Marks: 100

General Instructions:

1. All questions are compulsory. It comprises three Sections A, B and C.

- Section A - Question No- 1 is objective type question carrying 1 mark each & Question No- 2 is very short type questions carrying 2 marks each.
- Section B - Question No- 3 is Long answer type - I questions carrying 6 marks each.
- Section C - Question No- 4 to 8 are Long answer type - II questions carrying 10 marks each.
- No sheet should be left blank. Any written material after a Blank sheet will not be evaluated/checked.

SECTION A 20

1. Attempt all parts:-

1-a. The fastest memory among the followings is (CO1) 1

1. Virtual Memory
2. ROM
3. Cache Memory
4. RAM

1-b. Computer size was very large in __ (CO1) 1

1. First generation
2. Second generation
3. Third generation
4. Fourth generation

1-c. What is the range of values for integer in a 16-bit computer? (CO2) 1

1. -3.4e38 to 3.4e38
2. -32767 to 32768
3. -32668 to 32667
4. -32768 to 32767

1-d. The function scanf is used to ___(CO2) 1

1. To take logical decisions
2. Input a set of values
3. Print a set of values
4. Do mathematical manipulations

1-e. What is the scope of an register storage class variable ?(CO3) 1

1. Exist only within that scope in which it is declared
2. Exist only within that scope in which it is declared & exist after the block is exited
3. Exists after the block is exited
4. All of the mentioned

1-f. Feature of Break Statement (CO3) 1

1. used to exit from the loop constructs.
2. with the switch statement, and it can also use it within the Loops
3. the control is exited from the loop construct immediately.
4. All of the above

1-g. Which header file is essential for using strcmp() function?(CO4) 1

1. string.h
2. strings.h
3. conio.h
4. maths.h

1-h. Which is more appropriate for reading in a multi-word string like "RAM KUMAR"?(CO4) 1

1. gets()
2. scanf()
3. puts()
4. printf()

1-i. malloc() function used in dynamic allocation is available in which header file?(CO5) 1

1. stdio.h
2. stdlib.h
3. conio.h
4. mem.h

1-j. Which of the following functions allocates multiple blocks of memory, each block of the same size?(CO5) 1

1. malloc()
2. calloc()
3. free()
4. realloc()

2. Attempt all parts:-

2.a. Diffferentiate between Compiler and Assembler (CO1) 2

2.b. Define errors and their types(CO2) 2

2.c. Write and explain syntax of if- else ladder statement. (CO3) 2

2.d. Define Pointers and its use(CO4) 2

2.e. Differentiate between Dynamic and Static Memory allocation(CO5) 2

SECTION B 30

3. Answer any five of the following:-

3-a. Define Algorithm and its Properties. Draw a flowchart to find average of FIVE Numbers. (CO1) 6

3-b. Define Computers and their types on the basis of their data processed, purpose and configuration. (CO1) 6

3-c. Give the Structure of C program. Also write down the steps to write and execute a C program (CO2) 6

3-d. Give Classification of Data Types used in C in detail. Write down the syntax to declare a variable. (CO2) 6

3.e. Explain Loops and their types. Give example of each loop along with its syntax. (CO3) 6

3.f. Define Structure along with its syntax and example. Differentiate between Structure and Union ((CO4) 6

3.g.	Define Dynamic Memory allocation. Write down the functions of Dynamic allocation memory along with their syntax.(CO5)	6

SECTION C 50

4. Answer any one of the following:-

4-a.	Differentiate between Assembly language, Machine Language and High Level Language. Give example.(CO1)	10
4-b.	Define Memory and its types in detail.(CO1)	10

5. Answer any one of the following:-

5-a.	Define Operators and their types in C . Elaborate on Logical Operators (CO2)	10
5-b.	Explain C Tokens in brief with the help of suitable examples.(CO2)	10

6. Answer any one of the following:-

6-a.	Write down the syntax of SWITCH construct. Differentiate between break and continue. Explain the use of default statement.(CO3)	10
6-b.	Define functions and their types in C. Write down the syntax for declaration of Function(CO3)	10

7. Answer any one of the following:-

7-a.	Define array and their types? Explain the declaration and initialization of one dimensional array with an example.(CO4)	10
7-b.	Define structure and its properties. Give Syntax declaration of Structure. Differentiate between structure and union(CO4)	10

8. Answer any one of the following:-

8-a.	Define Dynamic Memory allocation along with its functions and syntax(CO5)	10
8-b.	Define File and its opening modes. Write down any five file handling functions (CO5)	10