Printed Page:- Subject Code:- ACSE0201

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: II - CARRY OVER THEORY EXAMINATION - SEPTEMBER 2022

Subject: Programming for Problem Solving using C

Time: 3 Hours Max. Marks: 100

General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice questions carrying 10 marks each.
5. 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. Arrange in descending order the units of memory TB, KB, GB, MB (CO1) 1

(a) TB>MB>GB>KB

(b) MB>GB>TB>KB

(c) TB>GB>MB>KB

(d) GB>MB>KB>TB

1-b. Which of the following is called low level languages? (CO1) 1

(a) Machine language

(b) Assembly language

(c) Both A & B

(d) None of the above

1-c. Which of the following is not a keyword in c? (CO2) 1

(a) extern

(b) const

(c) register

(d) All of these are keywords

1-d. What is the precedence of arithmetic operators (from lowest to highest)? (CO2) 1

(a) %, +, /, *, –

(b) +, -, %, *, /

(c) %, +, -, *, /

(d) - , + , / , *, %

1 "break" is used to (CO3) 1

(a) exit from a program

(b) exit from the current loop

(c) Both of the above

(d) None of the above

1 A ‘while’ loop may always be converted to an equivalent ‘for’ loop. (CO3) 1

(a) TRUE

(b) FALSE

1-g. Size of a union is determined by size of the (CO4) 1

(a) First member in the union

(b) Last member in the union

(c) Biggest member in the union

(d) Sum of the sizes of all members

1-h. What is the dimension of the following C Array? (CO4) 1

int arr[]={1,3,5,7};

(a) 1

(b) 2

(c) 3

(d) 5

1-i. The first and second arguments of fopen() are (CO5) 1

(a) A character string containing the name of the file & the second argument is the mode

(b) A character string containing the name of the user & the second argument is the mode

(c) A character string containing file pointer & the second argument is the mode

(d) None of the mentioned

1-j. What is the need for a File when you can store anything in memory? (CO5) 1

(a) Memory (RAM) is limited in any computer.

(b) A file is stored on Hard Disk which can store Gigabytes of data.

(c) File stored on Hard Disk is safe even if PC is switched off. But Memory or RAM contents are cleared when PC is off.

(d) All the above

2. Attempt all parts:-

2.a.	What do you understand by flowchart? (CO1)	2
2.b.	Give example of unary operators? (CO2)	2
2.c.	When do we use if-else statement? (CO3)	2
2.d.	What do you mean by sorting? (CO4)	2
2.e.	Differentiate between ftell() and fseek() functions. (CO5)	2

SECTION B 30

3. Answer any five of the following:-

3-a.	Differentiate between compiler and interpreter. (CO1)	6
3-b.	Write an algorithm to print area and circumference of circle. (CO1)	6
3-c.	Write a program to swap the values of two variables without using third variable. (CO2)	6
3-d.	Explain increment/ decrement operators with the help of examples. (CO2)	6
3.e.	What do you mean by C preprocessor? (CO3)	6
3.f.	Write a function that returns smallest of three numbers. (CO4)	6
3.g.	What are various file opening modes in C. (CO5)	6

SECTION C 50

4. Answer any one of the following:-

4-a.	Discuss the major components of a digital computer with suitable block diagram. Also discuss the function of each component. (CO1)	10
4-b.	Write an algorithm and draw flowchart to print reverse of a number. (CO1)	10

5. Answer any one of the following:-

5-a.	Explain operator precedence with suitable examples. (CO2)	10
5-b.	What is type conversion? Explain its types with the help of an example. (CO2)	10

6. Answer any one of the following:-

6-a.	Write a program that prints the real roots of a quadratic equation. (CO3)	10
6-b.	WAP to print following pattern (CO3)	10

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7. Answer any one of the following:-

7-a. What is searching? write a program to search an element in a sorted array using binary search. (CO4) 10

7-b. WAP to add two matrices of order nxn. (CO4) 10

8. Answer any one of the following:-

8-a. Write a program to read numbers from a file and write squares of these numbers into another file. (CO5) 10

8-b. Write a program to count number of vowels in a text file. (CO5) 10