

1058
B.E. (Electrical and Electronics Engineering)
Second Semester
CS-204: Computer Programming

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.

x-x-x

I	a) Differentiate between SIMM and DIMM. b) How a while loop is different from do-while loop? Discuss in brief. c) List two major advantages of using pointers. d) What is the purpose of typedef statement? Discuss in brief. e) What are the different forms of Inheritance? List any four.	(02) (02) (02) (02) (02)															
SECTION A																	
II	a) What is an operating system? What are its important functions? Discuss any five. b) How a multidimensional array can be accessed using pointers? Write a program to add two matrices using pointers.	(05) (05)															
III	a) Write a program in C to display the following pattern up to n lines: 1 2 4 3 6 9 4 8 12 16 5 10 15 20 25 Appropriately assume any required information yourself. b) Write a program to copy one string to another without using built-in string functions. Appropriately assume any required information yourself.	(05) (05)															
IV	a) What is recursion? Write a program, making use of recursion, to display the Fibonacci series (0, 1, 1, 2, 3, 5, 8, 13, 21, ...) up to n terms. Appropriately assume any required information yourself. b) Explain the syntax of switch statement and then write a program to demonstrate its utility.	(05) (05)															
SECTION B																	
V	a) A car manufacturing company records the following information about their cars: <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th>Data Item</th> <th>Type</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>Engine Number</td> <td>Character</td> <td>6</td> </tr> <tr> <td>Chassis Number</td> <td>Character</td> <td>8</td> </tr> <tr> <td>Year of Manufacturing</td> <td>Integer</td> <td>-</td> </tr> <tr> <td>Horse Power</td> <td>Floating point number</td> <td>-</td> </tr> </tbody> </table> Assume that there are not more than 100 cars. Design a structure to store data about a car, and using this structure, write a program that accepts the data about cars from the user and retrieves the data about a car whose Engine Number is given. Appropriately assume any required information yourself. b) Give the syntax of <i>fprintf()</i> and <i>fscanf()</i> functions and briefly discuss their use with the help of suitable code snippet.	Data Item	Type	Length	Engine Number	Character	6	Chassis Number	Character	8	Year of Manufacturing	Integer	-	Horse Power	Floating point number	-	(07) (03)
Data Item	Type	Length															
Engine Number	Character	6															
Chassis Number	Character	8															
Year of Manufacturing	Integer	-															
Horse Power	Floating point number	-															
VI	a) Write a program that combines two files end-to-end and writes the result into a third file. Appropriately assume any required information yourself. b) Discuss the use of following preprocessor directives with the help of suitable examples: #define, #ifdef, #undef, #error	(06) (04)															
VII	Differentiate between: a) Structures and Unions b) Classes and Objects c) Abstraction and Encapsulation	(03) (03) (04)															