K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Supplementary Exam August 2023 (B.Tech) Program: Basic Science and Humanities: Scheme: II Examination: FY Semester: II Course Code: BSC205 and Course Name: Computer Programming	
Date of Exam: 21/08/2023	Duration: 2.5 Hours	Max. Marks: 60

Instructions:-
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q 1	**Solve any six questions out of eight:**	**12**		
i)	Which are the different data types used in C?	2	CO1	U
ii)	Differentiate between for A while and Do-while	2	CO2	U
iii)	Explain the concept of call by value with example.	2	CO3	U
iv)	What is array? Give properties, advantages and disadvantages of an array.	2	CO4	U
v)	Explain the various ways to initialize array using example	2	CO4	U
vi)	Differentiate between structure and union.	2	CO5	U
vii)	Discuss what is an operator? Illustrate the different operators used in C	2	CO1	U
viii)	Illustrate the working of if-else-if ladder by using flowchart	2	CO2	U
Q.2	**Solve any four questions out of six.**	**16**		
i)	What do you mean by token? What are the different tokens used in C?	4	CO1	U
ii)	Write a c program to perform different operations like addition, subtraction, multiplication, division using Switch case	4	CO2	U
iii)	Illustrate the example of : a) function without arguments and without return value, b) function without arguments and with return value	4	CO3	U

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iv)	Explain any 5 String Functions from string.h header file in C Programming.	4	CO4	U
v)	A Hospital needs to maintain details of patients. Details to be maintained are first name, surname, date of Birth, Disease. Write a c program which will print the list of all patients with given disease.	4	CO5	A
vi)	Define a structure called Player with data members: Player name, team name, batting average. Create array of objects, store information about players, sort and display information of players in descending order of batting average.	4	CO5	A
Q.3	**Solve any two questions out of three.**	**16**		
i)	Explain what do you mean by a flowchart with an example of a flowchart check if given number is ODD or EVEN	8	CO1	U
iii)	Explain call by reference? Write a C program to swap the values of two variables using call by Reference.	8	CO3	U
iii)	Write a complete program to implement a structure to store the details of 50 students and sort and display the information of students in descending order of their percentage. Student details include. i)Roll number ii)Student Name iii)percentage	8	CO5	A
Q.4	**Solve any two questions out of three.**	**16**		
i)	What is recursion? Write a program to print factorial of number given by user using recursion.	8	CO3	A
ii)	Write a c program to print all even numbers from 1 to n using while loop.	8	CO2	A
iii)	Write a C program to count the number of Upper Case and Lower Case Characters from a given sentence using function.	8	CO4	A