P P SAVANI UNIVERSITY

First Semester of B. Tech. Examination

November 2022

SECE1050 Programming for Problem Solving

25.11.2022, Friday **Time: 1:00 p.m. To 3:30 p.m.** **Maximum Marks: 60**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1	Answer the following: (Any Five)	**[05]**	**CO**	**BTL**
(i)	State difference between RAM and ROM.		**1**	**1**
(ii)	List various header files available in C.		**1**	**1, 2**
(iii)	State difference between Variable & Constant.		**1**	**1**
(iv)	State use of sizeof operator in C with suitable example.		**1,2**	**1, 2**
(v)	Differentiate between break and continue.		**1**	**1**
(vi)	Define supercomputer.		**1**	**1**
Q - 2 (a)	State various application of computer and explain in detail.	**[05]**	**1**	**1**
Q - 2 (b)	Explain in detail the structure of C program with suitable example.	**[05]**	**1,3**	**1, 2**
	OR			
Q - 2 (a)	Draw block diagram of hierarchy of memory. Explain primary memory in detail.	**[05]**	**1**	**1**
Q - 2 (b)	What do you mean by symbolic constants? Explain in detail with suitable how symbolic constants are used in C.	**[05]**	**1**	**1**
Q - 3 (a)	List various operators available in C. Explain in detail relational and logical operator with suitable line of code.	**[05]**	**1,2**	**1, 2**
Q - 3 (b)	Explain with a line of code the use of if-else-if ladder in C.	**[05]**	**1,2**	**1, 2**
	OR			
Q - 3 (a)	Explain with appropriate example the concept of explicit conversion (type casting).	**[05]**	**1,2**	**1, 2**
Q - 3 (b)	Differentiate between while and do-while loop.	**[05]**	**1,2**	**1, 2**
Q - 4	Attempt any one of the following:	**[05]**		
(i)	Write a note on bitwise operators.		**1,3**	**1, 2**
(ii)	Write a C program to find sum of the digits of any given positive integer.		**1,2,3**	**3**

SECTION – II

Q - 1	Answer the following: (Any Five)	**[05]**		
(i)	Define index or subscript of array.		**1**	**1**
(ii)	How string is stored in memory?		**1**	**1**
(iii)	What is custom data type? List and explain various custom data types available in C.		**1,2**	**1, 2**
(iv)	Define pointer.		**1**	**1**
(v)	What is dynamic memory allocation?		**1**	**1**
(vi)	Define preprocessor.		**1**	**1**
Q - 2 (a)	Explain in detail advantages (merits) and disadvantages (limitations)	**[05]**	**1,2**	**1, 2**

	of arrays in C.			
Q - 2 (b)	Define string. Explain string handling functions of C. Explain any three with suitable example.	[05]	1,2	1, 2
	OR			
Q - 2 (a)	What do you mean by Multi-Dimensional array? Explain with suitable example use of 2D Array in C.	[05]	1,2	1, 2
Q - 2 (b)	Write a C program to find the largest element given in an one dimensional array of elements.	[05]	2,3	2, 3
Q - 3 (a)	Explain elements (components/structure) of user defined function with appropriate example.	[05]	1	1
Q - 3 (b)	Define structure. Write syntax to declare structure. Also explain how structure is stored in memory with proper representation.	[05]	1,2	1, 2
	OR			
Q - 3 (a)	Explain with suitable example how union are declare, initialize and assessed in C.	[05]	1,2	1, 2
Q - 3 (b)	Define File in C. Explain steps that are required to carry out while implementing file in C.	[05]	1,2	1, 2
Q - 4	Attempt any one:	[05]		
(i)	Explain programmatically declaring and initializing pointers in C.		1,2	1, 2
(ii)	Explain various functions that are used in dynamic memory allocation in C.		1,2	1, 2

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CO : Course Outcome Number BTL : Bloom's Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create