		(Autonomous Institute under Visvesvaraya Technological University, Be	iEMEN lagavi)	Т
USN		Course Code	MM	C 1 0 1
		First Semester MCA Degree Examinations, April PROBLEM SOLVING USING C	2025	
Dui	ation	: 3 hrs	Μ	ax. Marks: 100
Not	e: 1 2	l. Answer any FIVE full questions, choosing ONE full question from each modu . Missing data, if any, may be suitably assumed	le.	
<u>Q.</u> 1	No	Question	<u>Marks</u>	(RBTL:CO: PI)
		$\underline{MODULE - 1}$		
1.	a.	Explain structure of 'C' program with example.	08	(2:1:1.4.1)
	b.	Explain any three types of <i>operators</i> in 'C' with example.	06	(2:1:1.4.1)
	c.	Explain <i>if, if-else and if-else-if</i> statements in C with example.	06	(2:1:2.5.2)
		(OR)		
2.	a.	What is a data type? Explain the data types supported in C language.	08	(2:1:1.4.1)
	b.	Explain different types of <i>looping</i> statements in 'C' with syntax.	06	(2:1:2.5.2)
	c.	Demonstrate with an example program the use of <i>break</i> and <i>continue</i> statements in 'C'.	06	(3:1:3.6.2)
		$\underline{MODULE - 2}$		
3.	a.	What is the need for arrays? Explain how to declare and initialize <i>1-D</i> array.	08	(2:2:2.5.2)
	b.	What is a string? Explain how strings are declared and initialized with example.	06	(2:2:2.5.2)
	c.	Write a 'C' program that reads 'N' integer numbers and arrange them in ascending order using <i>Bubble Sort</i> technique.	06	(3:2:3.6.2)
		(OR)		
4	a.	What is the need for arrays? Explain how to declare and initialize 2-D array.	08	(2:2:2.5.2)
	b.	Explain string manipulation library functions in 'C' with their syntax.	06	(2:2:2.5.2)
	c.	Write a 'C' program to implement <i>string length</i> and <i>string concatenation</i> functions without using built in functions.	06	(3:2:3.6.2)
		$\underline{MODULE - 3}$		
5.	a.	What is function? Explain the term's function declaration/prototype, function definition & function call with related example.	08	(2:3:1.4.1)
	b.	Explain parameter passing techniques available in 'C'.	06	(2:3:2.5.2)
	c.	Write a C program to find <i>factorial</i> of a number using recursive function.	06	(3:3:3.6.2)
		(OR)		
6.	a.	What is a pointer? Explain how pointer variables are declared and initialized.	08	(2:3:2.5.2)
	b.	Explain how pointers can be used to traverse the array without using the index operator ([]).	06	(2:3:2.5.2)

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	c.	Write a program to pass arguments as a parameter to functions using pointers.	06	(3:3:3.6.2)		
MODULE – 4						
7.	a.	What is structure? Explain 'C' syntax of structure declaration and initialization with example.	08	(2:4:1.4.1)		
	b.	Explain self-referential structures with an example C program.	06	(2:4:2.5.2)		
	c.	Explain storage classes and its visibility in C.	06	(2:4:2.5.2)		
(OR)						
8.	a.	What are unions? Explain 'C' syntax of union declaration and initialization with example.	08	(2:4:1.4.1)		
	b.	Explain dynamic memory allocation functions in C.	06	(2:4:2.5.2)		
	c.	Write a 'C' program to read the contents of a file and display on to the output screen using structures.	06	(3:4:3.6.2)		
		<u>MODULE – 5</u>				
9.	a.	Explain sequential access file with an example C program.	10	(2:5:1.4.1)		
	b.	Write a program to demonstrate fseek(), ftell() and rewind() functions in C.	10	(2:5:3.6.2)		
(OR)						
10.	a.	Explain random access file with an example C program.	10	(2:5:1.4.1)		
	b.	Explain command line arguments with an example C program.	10	(2:5:2.5.2)		

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