		Hall Ticket Number :	R-1	9	
	С	ode: 19AC14T			J
		I B.Tech. I Semester Supplementary Examinations Decembe Engineering Chemistry	r zuzz		
		(Computer Science and Engineering)			
	1		ime: 3	Hours	
	ŀ	Answer any five full questions by choosing one question from each unit (5x14	4 = 70 N	∧arks)	
		******	Marks	со	Blooms
		UNIT–I	IVIAI NS	0	Level
1	a)	Define electrode potential? How is the standard electrode potential of a cell			
	u)	measured?	7M	1	L1
	b)	Calculate the emf of a following galvanic cell. the standard electrode potentials			
		of Zn and Cu electrodes are -0.76v and +0.34v respectively for			
		Zn/Zn ⁺² [0.1M]//Cu ²⁺ [0.01M]/Cu.	7M	1	L3
		OR			
2.		What are ion selective electrodes? Classify various types of ion selective	4 41 4		1.4
		electrodes.	14M	1	L4
2	a)	UNIT-II	714	0	10
3.	a) L	Distinguish between cell and a battery.	7M	2	L2
	b)	List out challenges of battery.	7M	2	L3
4	-)	OR Classify different types of betteries	714	0	1.4
4.	a)	Classify different types of batteries.	7M	2	L4
	b)	What is working principle of secondary battery? Give one example	7M	2	L1
~			714	0	1.4
ວ.	a)	Write a short note on energy systems.	7M	3	L1
	b)	Explain doping concept of silicon semiconductor.	7M	3	L2
~		OR Define cale call Eucleic chart cale call menufacture by chartical years			
6.		Define solar cell. Explain about solar cell manufacture by chemical vapour deposition technique.	14M	3	L2
				0	LZ
7	a)	Write a brief note on the classification of polymers.	7M	4	L1
	b)	Illustrate the cationic addition polymerization mechanism.	7M	4	L2
	2)	OR	,		
8	a)	What is Ziegler natta catalyst? Explain stereospecific polymerization with			
0.	u)	examples.	8M	4	L2
	b)	Explain about functionality and tacticity of polymer.	6M	4	L2
		UNIT-V			
9.		Illustrate the working principle and applications of scanning electron			
		microscope (SEM).	14M	5	L2
		OR			
10.	a)	Define rotaxane. Explain linear motion in rotaxanes.	7M	5	L2
	b)	Summarize few applications of scanning electron microscope.	7M	5	L2

Code: 19ASTIT R-19 I B.Tech. I Semester Supplementary Examinations December 2022 Problem Solving and C Programming (Common to All Branches) Max. Marks: 70 Irme: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks) Irme: 3 Hours I a) What are identifiers? What are the rules for declaring identifiers? Give example. BM b) What is constant? Describe its classification with example BM I a) What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. IMIT-II 3. a) Explain various iterative statements available in C language with examples. BM b) Write a program to find out whether the given number is Armstrong or not? GM cunt OR OR A a) What are the limitations of switch () case statement? 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. Intervent i. Rate of typing 3 Rs. / page. 7M b) What is mean by recursion? Explain the purpose of recursive function. 5M oR OR 0 0 6 What is dynamic memory allocation? Write a			Hall Ticket Number :					
I B.Tech. I Semester Supplementary Examinations December 2022 Problem Solving and C Programming (Common to All Branches) Max. Marks: 70 Max. Marks: 70 Marks								
Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks) ******** UNIT-I 1. a) What are identifiers? What are the rules for declaring identifiers? Give example. B) What is constant? Describe its classification with example BM B) What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. 3. a) Explain various iterative statements available in C language with examples. B) Write a program to find out whether the given number is Armstrong or not? BM B) Write a program to find out whether the given number is Armstrong or not? BM COR 4. a) What are the limitations of switch () case statement? BM B) Write a program to find out whether the given number is Armstrong or not? COR 5. a) Explain any five string manipulation library functions with examples. BM B) What is mean by recursion? Explain the purpose of recursive function. COR 6. What is function parameter? Explain different types of parameters in C functions. COR 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. COR 8. a) What is a pointer? Explain how the pointer variable declared and initialized. TM D) Write a corgarm to read and display a text from the file. TM D) Write a C program to read and display a text from the file. TM D) What is a self-referential structure? Give an example. D) What is a file? Explain how the file open and file close functions DM D) What is a file? Explain how the file open and file close functions DM D) What is a file? Explain how the file open and file close functions DM D) Write a file? Explain how the file open and file close functions DM D) Write a file? Explain how the file open and file close functions DM D D DM D DM D D D D D D D D D D D D	l B.Tech. I Semester Supplementary Examinations December 2022 Problem Solving and C Programming (Common to All Branches)							
1. a) What are identifiers? What are the rules for declaring identifiers? Give example. 8M b) What is constant? Describe its classification with example 6M OR 0R 2. What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. 14M 3. a) Explain various iterative statements available in C language with examples. 8M b) Write a program to find out whether the given number is Armstrong or not? 6M OR 0R 6M 4. a) What are the limitations of switch () case statement? 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M i. Rate of typing 3 Rs. / page. 7M ii. Printing of 1 st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M oR 0R 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M 0R 0 1 14M 0. 0 1 14M 0. 0 1 <td></td> <td colspan="6">Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)</td>		Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)						
b) What is constant? Describe its classification with example 6M OR OR 2. What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. 14M 3. a) Explain various iterative statements available in C language with examples. 8M b) Write a program to find out whether the given number is Armstrong or not? 6M 0R 0R 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write ap rogram to calculate bill of a job work done as follows. Use if else statement. 7M b) Write ap rogram to calculate bill of a job work done as follows. Use if else statement. 7M c) UNIT-UI INIT-UI 7M c) UNIT-IV 7M 0R	1	a)		8M				
OR 2. What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. 14M 3. a) Explain various iterative statements available in C language with examples. 8M b) Write a program to find out whether the given number is Armstrong or not? 6M 0R 0R 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M c) UNIT-II 0 7M c) UNIT-III 7M 7M b) What is mean by recursion? Explain the purpose of recursive function. 14M <		,						
 2. What is flowchart? Describe various symbols used in flowcharts and draw flowchart for reversing the digits of a given number. 14M INIT-II 3. a) Explain various iterative statements available in C language with examples. 8M b) Write a program to find out whether the given number is Armstrong or not? 6M OR 4. a) What are the limitations of switch () case statement? 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. i. Rate of typing 3 Rs. / page. ii. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M c) Write a Self-referential structure? Give an example. 5M b) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M 		0)		oivi				
 3. a) Explain various iterative statements available in C language with examples. b) Write a program to find out whether the given number is Armstrong or not? 6M OR 4. a) What are the limitations of switch () case statement? b) Write a program to calculate bill of a job work done as follows. Use if else statement. i. Rate of typing 3 Rs. / page. ii. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M 5. a) Explain any five string manipulation library functions with examples. b) What is mean by recursion? Explain the purpose of recursive function. 5M 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 8. a) What is a pointer? Explain how the pointer variable declared and initialized. b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. c) Write a C program to read and display a text from the file. 7M b) Write a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 	2.		What is flowchart? Describe various symbols used in flowcharts and draw flowchart for	14M				
 3. a) Explain various iterative statements available in C language with examples. b) Write a program to find out whether the given number is Armstrong or not? 6M OR 4. a) What are the limitations of switch () case statement? b) Write a program to calculate bill of a job work done as follows. Use if else statement. i. Rate of typing 3 Rs. / page. ii. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M 5. a) Explain any five string manipulation library functions with examples. b) What is mean by recursion? Explain the purpose of recursive function. 6M OR 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 8. a) What is a pointer? Explain how the pointer variable declared and initialized. b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. b) Write a C program to read and display a text from the file. 7M b) Write a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 			UNIT-II					
OR 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. 7M i. Rate of typing 3 Rs. / page. 7M ii. Printing of 1 st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M UNIT-III UNIT-III 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR 0R 6. What is function parameter? Explain different types of parameters in C functions. 14M UNIT-IV 7. 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M b) Write a C program to read and display a text from the file. 7M core 0R 7M b) Write a Self-referential structure? Give an example. 5M b) Write a C program to read and display a text from the file. 7M core 0R 7M <t< td=""><td>3.</td><td>a)</td><td></td><td>8M</td></t<>	3.	a)		8M				
4. a) What are the limitations of switch () case statement? 7M b) Write a program to calculate bill of a job work done as follows. Use if else statement. i. Rate of typing 3 Rs. / page. 7M ii. Printing of 1 st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M COR 0R 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M 0R 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) Write is a file? Explain how the file open and file close functions 9M		b)	Write a program to find out whether the given number is Armstrong or not?	6M				
 b) Write a program to calculate bill of a job work done as follows. Use if else statement. Rate of typing 3 Rs. / page. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. OR 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 								
 i. Rate of typing 3 Rs. / page. ii. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. 7M UNIT-III 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M 90. a) Explain how the structure variable passed as a parameter to a function with example. 7M 0R 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 	4.	a)	What are the limitations of switch () case statement?	7M				
 ii. Printing of 1st copy 5 Rs. /page & later every copy 3 Rs. /page. TM UNIT-III 5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. OR 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M 0R 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 		b)	Write a program to calculate bill of a job work done as follows. Use if else statement.					
5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR OR 14M 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M				7M				
5. a) Explain any five string manipulation library functions with examples. 9M b) What is mean by recursion? Explain the purpose of recursive function. 5M OR OR 14M 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M								
b) What is mean by recursion? Explain the purpose of recursive function. 5M OR OR 0R 6. What is function parameter? Explain different types of parameters in C functions. 14M 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M	5	a)		QМ				
OR Image: Standard S	0.							
 6. What is function parameter? Explain different types of parameters in C functions. 7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M Write a C program to read and display a text from the file. 7M 0R 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 9M 								
7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M OR 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M	6.			14M				
7. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C. 14M OR 0R 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M			UNIT-IV					
OR 7M 8. a) What is a pointer? Explain how the pointer variable declared and initialized. 7M b) Write advantages and disadvantages of pointers 7M 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 0R 7M 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M	7.							
 8. a) What is a pointer? Explain how the pointer variable declared and initialized. b) Write advantages and disadvantages of pointers 9. a) Explain how the structure variable passed as a parameter to a function with example. b) Write a C program to read and display a text from the file. COR 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 			allocation functions in C.	14M				
 b) Write advantages and disadvantages of pointers 7M UNIT-V 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M 0R 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions 			OR					
UNIT-V 9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M	8.	a)						
9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M		b)	Write advantages and disadvantages of pointers	7M				
9. a) Explain how the structure variable passed as a parameter to a function with example. 7M b) Write a C program to read and display a text from the file. 7M OR 10. a) What is a self-referential structure? Give an example. 5M b) What is a file? Explain how the file open and file close functions 9M								
 b) Write a C program to read and display a text from the file. OR 10. a) What is a self-referential structure? Give an example. b) What is a file? Explain how the file open and file close functions M 	0	2)		714				
OR10. a) What is a self-referential structure? Give an example.5Mb) What is a file? Explain how the file open and file close functions9M	9.	,						
10. a) What is a self-referential structure? Give an example.5Mb) What is a file? Explain how the file open and file close functions9M		U)		7 111				
b) What is a file? Explain how the file open and file close functions 9M	10.	a)	-	5M				
	5.	,	·					
		,						

		Hall Ticket Number :			
	L	Code: 19AC11T	R-19		
		I B.Tech. I Semester Supplementary Examinations December Algebra and Calculus (Common to All Branches)	2022 ne: 3 Hour	ſS	
		Answer any five full questions by choosing one question from each unit (5x14	= 70 Marks)	
4		UNIT-I	Marks	со	BL
1.		Solve the system of equations x + 3y + 2z = 0, 2x - y + 3z = 0, 3x - 5y + 4z = 0, x + 17y + 4z = 0 OR	14M	1	3
2.		Find the rank of $A = \begin{bmatrix} 1 & 2 & 3 & 4 \\ -2 & -3 & 1 & 2 \\ -3 & -4 & 5 & 8 \\ 1 & 3 & 10 & 14 \end{bmatrix}$	14M	1	3
3.		Verify Cayley-Hamilton theorem for the matrix $A = \begin{bmatrix} 1 & 2 & -1 \\ 2 & 1 & -2 \\ 2 & -2 & 1 \end{bmatrix}$ and hence find	A^{-1}		
		using Cayley-Hamilton theorem.	14M	2	2
4.		Diagonalize the matrix A= $\begin{bmatrix} 1 & 1 & 1 \\ 0 & 2 & 1 \\ -4 & 4 & 3 \end{bmatrix}$ UNIT–III	14M	2	2
5.	a)	Find the first and second partial derivatives of $z = x^3 + y^3 - 3axy$	7M	3	3
	b)	If $z = f(x+ct) + g(x-ct)$ then prove that $\frac{\partial^2 z}{\partial t^2} = c^2 \frac{\partial^2 z}{\partial x^2}$ OR	7M	3	2
6.		Find the maximum and minimum values of $x^3 + y^3 - 3axy$	14M	3	3
		UNIT–IV			
7.	a)	Expand $\log_e x$ in powers of $(x-1)$	7M	4	3
	b)	Using Maclaurin's series , expand $\sin x$ in powers of x . OR	7M	4	3
8.		Trace the curve $y^2(a-x) = x^2(a+x)$	14M	4	4
9.		Evaluate $\int_{0}^{4a} \int_{x^2/4a}^{2\sqrt{ax}} dy dx$ by changing the order of integration. OR	14M	5	3
10.		Evaluate $\int_{0}^{t/2} \sin^2 u \cos^4 u du$	14M	5	3