VIT
Vellore Institute of Technology

School of Computer Science and Engineering
Winter Semester 2022-2023
Continuous Assessment Test – 1

SLOT: B1+TB1

Programme Name & Branch :	B.Tech & SCOPE
Course Name & code :	Data Structures and Algorithms & BCSE202L
Class Number (s) :	VL20222230507614
Faculty Name (s) :	Dr.M.Thurai Pandian
Exam Duration :	90 Min.
Maximum Marks :	50 marks

Answer all the questions: (5*10=50)

Q.No	Question	Max Marks	CO	BL

1.	Derive the recurrence function for the following code & find the Time complexity using master's theorem.
	Algorithm:
	void fun(int n)
	{
	
	if (n>1)
	{
	for(i=0;i<n;i++)
	{
	printf("value of n is",n);
	}
	fun(n/2);
	fun(n/2);
	}
	}
		10	CO1	BL2

2.	Consider the below Recurrence function $T(n) = \begin{cases} T(n-1) + 1; & n > 0; \\ 1 & ; n = 0 \end{cases}$ Find the Time complexity by using back substitution method.	10	CO1	BL2
3.	Inscribe infix to postfix algorithm and apply the same to convert the given infix expression to a postfix expression. Show the stack trace also for the given Infix expression (A+B/C*(D+E)-F).	10	CO2	BL2