



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)
CHENNAI

Reg. Number: 21BLC1122

Continuous Assessment Test (CAT) – II - MARCH 2024

Programme	: B.Tech - Electronics and Computer Engineering	Semester	: WINTER 2023-24
Course Code & Course Title	: BCSE307L & Compiler Design	Class Number	: CH2023240502667 CH2023240502671 CH2023240502675 CH2023240502679
Faculty	: Dr. Joe Dhanith.P.R Dr. Rathna.R Dr. Sivakumar.P Dr. Mercy Rajaselvi Beaulah.P	Slot	: A2 + TA2
Duration	: 90 Minutes	Max. Mark	: 50

General Instructions:

- Write only your registration number on the question paper in the box provided and do not write other information.
- Use statistical tables supplied from the exam cell as necessary
- Use graph sheets supplied from the exam cell as necessary
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No	Sub Sec.	Description	Marks
1		Perform CLR parsing for the following grammar. [10 marks] $S \rightarrow AB$ $A \rightarrow aA \epsilon$ $B \rightarrow bCB \epsilon$ $C \rightarrow c$ Parse the string <i>aaabcbc</i> [5 marks]	15
2.		Write the Syntax Directed Translation for converting the given octal number to Decimal number. [4 marks] Using this SDT convert the given octal number 702 to its equivalent decimal number. [2 marks] Show the annotated parse tree of this conversion [4 marks] [Note: the digits 0 to 7 can be taken as terminals]	10
3.		Generate the three address code for the following statements using quadruples: a) $x = (a + b) * (c - d) / e + f * (g - h) / (i + j) - k * l / m$ b) $\text{if } (n > 10 \ \&\& \ n < 30) \ p = p + 1$	5 5
4.		Generate three address code using quadruples, triples and indirect triples for the following code segment $\text{while } (i < 20)$ $\text{if } (i \% 2 \neq 0)$	15

		<pre> odd=odd+1 else even=even+1</pre>	
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*****All the best *****

