Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Department of Computer Science and Engineering

SET III

Continuous Assessment Test - 4

Question Paper

Degree & Branch		BE (CSE)		**Semester**	VI
Subject Code & Name		UCS1602 Compiler Design		**Regulation: 2018**	
Sections		**A, B &C**	**Academic Year**	**2020-2021**	
Date:	**30.04.2021**	**Session: AN**	**Time: 1.15 pm – 3.15 pm**	**Max. marks : 50**	

Optimized three address code generation

K Level	Question	CO
K3	Assume the operators are having the following Precedence and Associativity **Operators** +, -, * , / and ^ Precedence →^ is lesser priority than + , -, *, / Associativity →+ and - →left , * and / → right Develop a front end of a compiler by generating the Intermediate code in the form of Three Address Code sequence for the sample input program written using **assignment statements (involving ^ operator)**. Further, optimize the generated intermediate code **using constant folding.** Also develop a back end of the compiler for an assignment statement. Following is the sample input **INPUT** x=10 * 20.5 x=x+5 y=a+b*c ^d **(1)** Write the LEX specification to identify the tokens. (5) **(2)** Write the YACC specification to check the syntax of the input source	CO1

	code is correct or not (10) **(3)** Write the SDT in YACC to generate three address code (10) **(4)** Implement the code optimization segment in YACC (10) **(5)** Implement the code generation in YACC (5) **(6)** Integrate all the phases and generate optimized three address code for the given source code. (15)	CO2 CO3 CO5 CO4

Prepared By B. Bharathi D. Thenmozhi B. Prabavathy	Reviewed By	Approved By
Course Coordinator	PAC Team	HOD