

GOVERNMENT COLLEGE OF ENGINEERING AND TECHNOLOGY, JAMMU

DEPARTMENT OF COMPUTER ENGINEERING

Course Name: Compiler Design

Course Code : PCS-603

ASSIGNMENT I

Marks :50

Submission Date : 15th June 2023

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| Q1 | Elaborate on the symbol table organization. Also Explain different data structures used for symbol table organization. | 10,CO1 |
| Q2 | Explain the categories and goals of Error Handling. Describe with suitable example various errors different phases of compilers and how error recovery strategies are recovered. | 10,CO2 |
| Q3 | (a) Describe various techniques of the static and dynamic memory allocation. | 06,CO1 |
| | (b) What is runtime stack? Explain storage allocation strategies used for recursive procedure calls. | 04,CO3 |
| Q4 | Write short note on
(i) Activation records&Activation trees (CO2)
(ii) Peephole optimization (CO1) | 04,CO1
04,CO2 |
| Q5 | (i) Explain the type system in type checker? Write the syntax directed definition for type checker.
(ii) What is an Abstract syntax tree? How to construct it using mknnode(), mkleaf() functions? Give an example. | 06,CO3
06,CO2 |

Bhawna...

(Prof. Bhawna Sharma)
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ASSIGNMENT II

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|----|---|------------------------------|
| Q1 | Describe how system directed translation scheme is used to generate quadruples for a Boolean expression with the help of three functions: MAKELIST (), MERGE () & BACKPATCH () | 06, CO2 |
| Q2 | (i) Define LR parser write down its advantages and limitations. Explain the algorithm of LR parser.
(ii) Differentiate between SLR, LALR and CLR parsers | 08,CO1
09,CO1 |
| Q3 | (i) Explain with suitable example how the Predicted Parser can be constructed with the help of First () and Follow () in detail.
(ii) Elaborate on LL(1) parsing technique with suitable example. | 07,CO2
06,CO2 |
| Q4 | (i) Explain the code generation algorithm phase of compiler.
(ii) Discuss various issues in design of code generator.
(iii) Efficient Register allocation and assignment improves the performance of object code-Justify this statement with suitable examples. | 06, CO3
04, CO1
04,CO1 |

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