THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023
(Regular/Improvement/Supplementary)

COMPUTER SCIENCE
FCSS3C13-PRINCIPLES OF COMPILERS

Time: 3 Hours   **Maximum Weightage: 30**

Section A: Short answer questions. Answer any *four* questions. Each carries *two* weightage.

1.   Define tokens and lexemes with proper examples.

2.   Mention various compiler construction tools.

3.   Define CFG with example.

4.   What is parse tree? Give example.

5.   What do you mean by polymorphic functions?

6.   Define constant folding in code optimization.

7.   Explain heap memory management?

$$(4 \times 2 = 8 \text{ weightage})$$

Section B: Short essay questions. Answer any *four* questions. Each carries *three* weightage.

8.   What is the role of transition diagram in the lexical analysis phase?

9.   Explain various code optimization techniques.

10.   What is an operator grammar? Explain operator precedence parsing using an example.

11.   Translate the expression a= (b∗-c) + (b∗-c) into: Quadruples, triples and indirect triples.

12.   Write a note on activation record.

13.   What is meant by left recursion? How left recursion is eliminated?

14.   How tokens are recognized in lexical analysis phase?

$$(4 \times 3 = 12 \text{ weightage})$$

Section C: Essay questions. Answer any *two* questions. Each carries *five* weightage.

15.   Discuss various components of compiler. Explain each of its role in detail.

16.   Write a note on recursive descent parsing.

17.   Explain briefly the intermediate code generation.

18.   Discuss various storage allocation strategies.

$$(2 \times 5 = 10 \text{ weightage})$$