



K24U 0185

Reg. No. :

Name :

**Sixth Semester B.C.A. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2024
(2019 to 2021 Admissions)**

Core Course

6B18BCA : INTRODUCTION TO COMPILER

Time : 3 Hours

Max. Marks : 40

**SECTION – A
(Very Short Answers)**

Answer all the questions.

(6×1=6)

1. Define lexical analysis in the context of compilers.
2. Explain the purpose of a symbol table in compiler design.
3. Define three-address code and its significance in intermediate code generation.
4. Define the term code optimization.
5. Differentiate between assembler and interpreter.
6. What are global variables ? Give an example.

**SECTION – B
(Short Answers)**

Write short notes on any six of the following questions.

(6×2=12)

7. Compare and contrast top-down and bottom-up parsing techniques in the context of compiler construction.
8. Explain the difficulties associated with error handling in compilers.
9. What is the significance of a preprocessor in the compilation process and its functionalities.

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10. Explain the role of a compiler in the software development process.
11. Discuss the challenges associated with register allocation in compiler design.
12. Describe three-address code and its advantages as an intermediate code representation. Provide examples to illustrate its structure.
13. Explain the principles of data flow analysis.
14. Explain the term left recursion in the context of grammar.

SECTION - C
(Essay)

Answer **any four** of the following questions.

(4×3=12)

15. Differentiate between triples and indirect triples.
16. Classify the various errors encountered in different phases of compilers.
17. Draw the transition diagram for relational operators and unsigned numbers.
18. Define storage optimization in the context of compiler design.
19. Elaborate on peephole optimisation.
20. Discuss the role of precedence and associativity in resolving syntactic ambiguity.

SECTION - D
(Long Essay)

Answer **any two** of the following questions.

(2×5=10)

21. Explain bottom-up parsing technique.
 22. Explain the phases of a compiler. Illustrate each stage with a suitable example.
 23. Describe the role of a buffer in lexical analysis and how it facilitates the tokenization process.
 24. Describe the role of type equivalence in parameter passing mechanisms.
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