K22U 0344

Reg. No. : .....

Name : .....

VI Semester B.C.A. Degree (CBCSS-OBE-Regular) Examination, April 2022
(2019 Admission)
Core Course
6B18BCA : INTRODUCTION TO COMPILER

Time : 3 Hours Max. Marks : 40

SECTION – A **(Very Short Answer)**

Answer **all** the questions. **(6×1=6)**

1. What is the major difference between single pass and multi-pass compiler ?
2. List out the different phases of compilation.
3. What is a token in lexical analysis ?
4. When is a grammar said to be ambiguous ?
5. What is a left-recursive grammar ? Specify the context and reason for its elimination.
6. Mention the different possible operations on languages.

SECTION – B **(Short Answer)**

Write short notes on **any six** of the following questions. **(6×2=12)**

7. Differentiate between a compiler and an interpreter.
8. Discuss briefly about Symbol Table.
9. Explain briefly the terms alphabet, string and language in grammars.
10. What is a parse tree ? Draw an example.
11. Elaborate on the different forms of type checking.
12. What is a calling sequence and return sequence in the context of procedure calls ?
13. What is a dead-code ? Mention a method used for its elimination.
14. What are the conditions to be satisfied for a block to be a basic block ?

P.T.O.

SECTION – C **(Essay)**

Answer **any four** of the following questions. **(4×3=12)**

15. Explain briefly about any three major components in a language processing system.

16. Which are the major two parts of compilation process, explain and mention the phases coming under each part ?

17. Explain the structure and use of a transition diagram with an example.

18. Define and detail on Context-free Grammar with an example.

19. In the context of intermediate code generation, discuss on Directed Acyclic Graphs (DAG) and its major difference with syntax trees.

20. Discuss briefly about data-flow schema "Reaching Definitions" ?

SECTION – D **(Long Essay)**

Write an essay on **any two** of the following questions. **(2×5=10)**

21. Explain in detail about regular expressions for specifying token patterns with a suitable example.

22. Elaborate on the various Error-Recovery strategies in a parser.

23. Discuss in detail about the different representations of three-address instructions.

24. Explain in detail the general structure of an activation record.
