

Subject Code: CS 3901

Subject: Compiler Design

Duration: 3 hours

Max. Marks: 100

Instructions

- All Questions are compulsory
- The Question paper consists of 2 sections - Part A contains 10 questions of 2 marks each. Part B consists of 5 questions of 16 marks each.
- There is no overall choice. Only Part B question include internal choice.

PART - A

(2 * 10 = 20 Marks)

1. What is a translator?
2. What are loaders and linkers?
3. What is an assembler?
4. What are the phases of a compiler?
5. What are the types of derivation?
6. What is a Lexical analyser?
7. What is a symbol table?
8. Briefly explain code optimization?
9. What do you mean by syntax and semantics of a language?
10. Explain in brief intermediate code generation phase?

PART - B

Or

Write short notes on:-

- (a) Macros (6)
- (b) Two Pass Assembler (10)

12. Explain the phases of the compiler in detail. Write down the output of each phase for the expression $a = b + c * 50$.

Or

Explain various compiler construction tools in detail?

13. Explain LR Parsing and its type with example. Which type of LR parsing is more powerful?

Or

Write short notes on:-

- (a) Left factoring
- (b) Left recursion & backtracking

14. What are the different types of errors in compilation process? Explain a typical error detection and recovery mechanism?

Or

What is the use of symbol table? Explain the various data structure associated with symbol table?

15. What do you mean by intermediate code generator? Explain the various intermediate code generator schemes?

Or

Explain various targets for code optimization?