## RAND AFRIKAANS UNIVERSITY



## **FACULTY OF SCIENCE**

## COMPUTER SCIENCE IT00087 Compiler Construction

EXAMINER Mr. A. Hardy

TIME MARKS 100

Please read the following instructions carefully:

- 1. Write clearly and legibly.
- 2. This paper consists of 3 pages.

## IT00087

| Name: |   |         |  |  |
|-------|---|---------|--|--|
| Stud  | dentnumber:                                     |         |  |  |
| 1.1   | Grammar   | _ (10)  |  |  |
| 1.2   | Lexical analysis                                | _ (5)   |  |  |
| 1.3   | Semantic analysis (type checking etc.)          | _ (5)   |  |  |
| 1.4   | Declaration of variables                        | _ (5)   |  |  |
| 1.5   | Sequence of statements                          | _ (5)   |  |  |
| 1.6   | Expressions                                     | _ (5)   |  |  |
| 1.7   | If statements                                   | _ (5)   |  |  |
| 1.8   | Loops   | _ (5)   |  |  |
| 1.9   | Input/Output                                    | _ (5)   |  |  |
| 1.10  | Other data types (real, string, boolean)        | _ (5)   |  |  |
| 1.11  | Advanced data types (pointers, arrays, records) | _ (5)   |  |  |
| 1.12  | Functions/procedures (objects)                  | _ (5)   |  |  |
| 1.13  | Local variables and parameters                  | _ (5)   |  |  |
| 1.14  | Interpreted / running program                   | _ (5)   |  |  |
| 1.15  | Code generation                                 | _ (8)   |  |  |
| 1.16  | Register allocation (or stack frames etc.)      | _ (8)   |  |  |
| 1.17  | Optimization                                    | _ (4)   |  |  |
| 1.18  | Error handling (error recovery)                 | _ (5)   |  |  |
| 1.19  | Other   | _ (0)   |  |  |
|       | Total   | _ (100) |  |  |
| Stud  | dent's signature:                               |         |  |  |
| Mar   | rker's signature:                               |         |  |  |

| End of paper |  |
|--------------|--|