NKT/KS/17/5222

Bachelor of Science (B.Sc.) Semester—VI (C.B.S.) Examination

COMPILER CONSTRUCTION

Paper–1

(Computer Science)

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **ALL** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

EITHER

1. (a) Explain intermediate code generation phase with example. 5

(b) Write short note on Error Handling. 5

OR

(c) What is Addressing Mode ? Explain any three addressing modes with example. 5

(d) Draw phase diagram of compilation process and give purpose of each block. 5

EITHER

2. (a) Draw and explain hierarchical structure of programming languages. 5

(b) How is static storage allocation and dynamic storage allocation managed in HLL ? Explain. 5

OR

(c) Explain the following semantic specifications :

(i) Interpretive

(ii) Translation

(iii) Axiomatic definition

(iv) Extensible definition

(v) Mathematical semantics. 5

(d) List types of arrays. Explain any two. 5

EITHER

3. (a) Explain role of Lexical Analyzer. 5

(b) Draw Parse tree for the following expression :– id + id * id. 5

OR

(c) Write a short note on context free grammar. 5

(d) Draw parse tree for the following :– if C_1 then S_1 else if C_2 then S_2 else S_3. 5

EITHER

4. (a) Write short note on Loop Optimization. 5

(b) Explain simple code generator. 5

OR

(c) Explain DAG representation of basic blocks. 5

(d) What is Top Down parsing ? Explain with example. 5

5. Attempt **ALL** :

(a) Why are translators needed ? 2½

(b) List tokens and give one example of each. 2½

(c) What is Regular Expression ? 2½

(d) What are the capabilities of a symbol table ? 2½