

Bachelor of Science (B.Sc. I.T.) Semester–IV Examination
COMPILER CONSTRUCTION
Paper—V

Time : Three Hours]

[Maximum Marks : 50

- N.B. :—** (1) All questions are compulsory and carry equal marks.
 (2) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) Write a short note on Book-keeping. 5
- (B) Explain error handling phase in compilation. 5

OR

- (C) Explain phases of compilation with well labelled diagram. 5
- (D) What is three address code ? Explain it with example. 5

EITHER

2. (A) What are the characteristics of high level programming language ? 5
- (B) Explain static and dynamic storage allocation. 5

OR

- (C) What is an operator ? Explain different types of operators. 5
- (D) Write a short note on data elements. 5

EITHER

3. (A) What is buffer ? Explain need of input buffering. 5
- (B) Define CFG. What are the rules for constructing CFG ? 5

OR

- (C) What is ambiguous grammar ? Explain using example. 5
- (D) Find different types of tokens and draw parse tree for the following expression :

$$Y = \frac{(e^x + e^y)/(a^i + b^j)}{(e^x - e^y)} . \quad 5$$

EITHER

4. (A) What is top down parsing ? Explain with example. 5
- (B) Explain the working of predictive Parser. Show that the following grammar is LL(I) or not.

$$E \rightarrow E + T/T$$

$$T \rightarrow T * F/F$$

$$F \rightarrow (E)/id. \quad 5$$

OR

- (C) What is operator precedence ? Explain with example. 5
- (D) Explain loop optimization. Give its features. 5

5. (A) Explain the need of compiler. 2½
- (B) What is parameter transmission ? 2½
- (C) Define leftmost derivation and rightmost derivation with example. 2½
- (D) Explain the features of Directed Acyclic Graph (DAG). 2½