

2nd internal Examination of MSc (CS/IT) 2022
Paper: Compiler Design
Semester: 3rd

Total Marks: 20

Time: 1hr

Answer any two questions from the following questions-

1. Compute FIRST and FOLLOW for the following grammar- 10

$$\begin{aligned}E &\longrightarrow TE' \\E' &\longrightarrow +TE' \mid \epsilon \\T &\longrightarrow FT' \\T' &\longrightarrow *FT' \mid \epsilon \\F &\longrightarrow (E) \mid id\end{aligned}$$

Also construct the predictive parsing table for the above grammar.

2. Construct LR(0) automaton and LR parsing table for the following grammar- 10

$$\begin{aligned}E' &\rightarrow E \\E &\rightarrow E + T \mid T \\T &\rightarrow T * F \mid F \\E &\rightarrow (E) \mid id\end{aligned}$$

3. Construct the Canonical LR(1) Sets of Items Canonical LR(1) parsing table for the following grammar- 10

$$\begin{aligned}S' &\rightarrow S \\S &\rightarrow C C \\C &\rightarrow c C \mid d\end{aligned}$$