JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- 2025
B.Tech-VI Semester (CSE)

COURSE CODE (CREDITS): 18B11CI612 (3) MAX. MARKS: 25
COURSE NAME: COMPILER DESIGN
COURSE INSTRUCTORS: Pardeep, Ramesh, Nitika & Akshay MAX. TIME: 1 Hour 30 Min

***Note:*** *(a) All questions are compulsory.*
*(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*
*(c) Candidate is required to write step by step answers in answer sheet.*

| Q.No | Question | CO | Marks |
|---|---|---|---|
| Q1 | Calculate the first() and follow() set for the given productions of grammar G with S as start symbol:<br>S →ACB/CbB/Ba<br>A → da/BC<br>B → g/∈<br>C → h/∈ | 3 | 3+3 |
| Q2 | (a) Check whether the given grammar G with start symbol S is LL(1) or not:<br>S →aSbS/bSaS/∈<br>(b) Consider the grammar G with start symbol S to process the string abab<br>G:<br>S →AA, A→aA, A→b<br>Show the step by step working of LL(1) parser to process the given string. | 4 | 3+4 |
| Q3 | (a) Construct LR(0) parser for the given grammar G with start symbol E:<br>E →T+E/T, T →id<br>Is there any conflict in the constructed parser by you? If yes, then name the conflicts.<br>(b) Consider the grammar G with start symbol T:<br>T →T+T/T*T/id and the string id+id*id. Process the given string with operator precedence parser. | 4 | 2+3 |
| Q4 | Construct the LALR (1) parser and show its parsing table for the given grammar G with start symbol E.<br>G:<br>E → (E)/b | 4 | 7 |