Code No: 136AQ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, March/April - 2021
COMPILER DESIGN
(Common to CSE, IT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1. How to design and implement a lexical analyzer? Explain with an example. [15]

2. Discuss the phases of a compiler indicating the inputs and outputs of each phase in translating the statement "amount = principle + rate * 36.0". [15]

3. Test whether the grammar is LL(1) or not and construct a predictive parsing table for it?
S→AaAb|BaBa|a|b
A→∈
b→∈ [15]

4. Construct the LR(0) items for the following grammar:
S→ L=R|R
L→*R|id
R→L
Check whether the above grammar is LR(0) grammar or not. [15]

5. State and explain the syntax directed translation scheme for the desk calculator give the parse tree and the translation for the string (7 + 4) * 249/3 + 26. [15]

6. What is intermediate code representation? Explain quadruples, triples and indirect triples with an example. [15]

7. Explain various storage allocation strategies with an example. [15]

8.a) Construct a DAG for the expression: a+a*(b-c)+(b-c)*d.
  b) Explain various notations used in data flow analysis. [7+8]

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