DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER VI [IT]
SUBJECT: (IT608) LANGAUGE TRANSLATOR

Examination	**:Block Exam(Regular)**	**Seat No.**	**: _____**
Date	**: 18 / 04 /2016**	**Day**	**: Saturday**
Time	**: 11.00 to 12.15**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed.

(a) Match the following appropriately. **[2]**

A. Brute force	1) Multiple derivations.
B. Recursive descendent parser	2) Preferred when language does not permit Recursion.
C. LL parser	3) No backup needed.
D. Ambiguity	4) Parses string with all possible combinations.

(b) Give syntax tree/DAG (directed acyclic graph) for following statement. **[2]**
x=(b+c) /(b/-c) * (b+c)

(c) Is this grammar S→ (L) | a L->L,S | S valid operator precedence grammar? Why? **[2]**

(d) Discuss advantages and drawbacks of having separate lexical and syntactic phases in compilation process. **[2]**

(e) What is a "handle "in bottom up parsing? Explain with example. **[2]**

(f) Bottom up parser is doing rightmost derivations in reverse. **[2]**

Q.2 Attempt ***Any Two*** from the following questions.

(a) Draw Parse table for following grammar. Use the parse table to parse the input string "11210". S→ 1A0 A→ 1B1 | 1S1| 0B0 B→ 2|3 **[6]**

(b) Write a recursive descendent parser (RDP) routine for the following grammar. **[6]**
E→ T X X→+T X | -TX | ^ T→ num| id | (E)

Q.3 (a) Is following grammar suitable for parsing by SLR parser? Justify. **[6]**
S' → S# S → qABd A → x | ^ B → y | ^

(b) Obtain the precedence functions for the following grammar and trace operator precedence parser for the following input: "id + id * id". **[6]**
E→E + E | E * E | id