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| ACAD-R-42 | SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT | | Rev: 00 |
| Department  COMPUTER SCIENCE & ENGINEERING | VII SEMESTER B.E. [COMPUTER SCIENCE & ENGGI.]  SUBJECT: LANGUAGE PROCESSORS  CLASS TEST 1 – EXAMINATION (2015-16)  SHIFT – II (CO1, CO2) | | Page: 01/01 |
| Date: 11-08-2015 |
| MAX MARKS: 15 | | TIME: 1 hour (4.30 pm to 5.30pm) | |

**Instructions: Question – 1 (a) and Q.2 (b) are compulsory.**

Q.1) (a) Answer in brief **[CO1]** (0.5x4 = 02)

(i) Give any one example of syntax error and related error correction routine for any compiler.

(ii) Give any one example of semantic error and related error correction routine for any compiler.

(iii) Any Two properties of Context Free Grammar and Regular Grammar

(iv) Write Context Free Grammar for language to accept all strings over {a,b} with equal number of a’s and b’s.

Q.1) (b) Design LL(1) Parser for the following grammar and perform String parsing using stack. (03+02+01)

S 🡪 c T u Y Z | a

T 🡪 T S | ­­c

Y 🡪 b |ε

Z🡪 d T e | ε

**String: ccaub**

For which symbols in the string: Guessing is required. **[CO2]**

**OR**

Q.1) (b) Design LL(1) Parser for the following grammar. (04+02)

S 🡪 a X Y h

X 🡪 X t | c

Y 🡪 A B

A 🡪 q |ε

B 🡪 e |ε **[CO2]**

Give any one example of valid and invalid string of grammar. Perform parsing of valid string using Stack

Q.2) a) Design LR(0) Parser for the following grammar and perform string parsing using stack. **[CO2]**

S 🡪 Ca |bCa |Da |bDa (03+01+01)

C 🡪 t

D 🡪 t

Which type of conflict the above grammar will generate.

String: **bta.** Comment on Guess state.

**OR**

Q.2) a) Design LR(0) parser for the following grammar and perform string parsing.

S 🡪L = R | R **[CO2]**

L 🡪 \* R | id

R 🡪 L (05)

State whether grammar is ambiguous. **String: id = \* id**

Q.2) b) (i) How LR(0) parser will recognize, start symbols of the string from given parsing table. Explain with suitable example. **[CO2]** (01)

(ii) How LL(1) Parser will be able to reduce / optimize string before checking its validity from the given parsing table. **[CO2]** (01)