<table>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

DAYANANDA SAGAR COLLEGE OF ENGINEERING
(An Autonomous Institute Affiliated to VTU, Belagavi)
ShavigeMalleshwara Hills, Kumaraswamy Layout, Bengaluru-560078
Department of Information Science and Engineering

ASSIGNMENT (CONTEXT FREE GRAMMARS)

1.Define the following terms with examples

- Grammar

- Derivation

- Derivation trees

2.Obtain grammar to generate set of palindromes over input a and b

3.Obtain grammar to generate the language $L=\{0^n 1^{n+1} \mid n>0\}$

4.Obtain grammar to accept the following language

$L=\{W|w|mod\ 3>0\ where\ Wc\{a\}*\}$

5.Write the grammar to perform basic arithmetic expression

6.Obtain the grammar to generate the language

$L=\{W|n_a(w)>n_b(w)\}$

7.What is derivation Explain different types of derivations along with example .

8.Differtiate between leftmost derivation and rightmost derivation with example.

9.Define ambiguous grammar with example.

10.Is following grammar is ambiguous ? if it is ambiguous prove its ambiguity.

E->E+E

E->E-E

E->E*E

E->E/E

E->id

11.Show that the following grammar is ambiguous

S->aSbS

S->bSaS

S->e

12.List and explain the applications of context free grammar