Unit 3 Granmer
Colombos 10 13 3 x 40 150 my 2 mg 1200 mg 1500
classification et Granmer
Noam clarmeky classification
Recurring Enumerable - Maring Macrana
Type 1 -> Content sensitive -> canquege common of some
Type 2-) Content Tree -) Content rice -) rossisse
Type 3 -> 6700 Regular Grammer-1R.L-) FSM
Granmer: A granner can be formally defined by 4 tuples
The Tuples are U, T, S, P
V= set of variable nonterminals.
T = set of terminal symbols. commosod to naitoviss
p= production Rule for terminals & nonterminals. $\alpha \rightarrow \beta$
Non- Terminal = & symbol are those symbols which take part in the component of sentence.
inthe component of sentence but it is not the component of sentence.
There are represented by lagrice testing Eg. Fills, C, X, Y, Z)
Terminal symbol are the component of sentence & represented by
smalllettin, (eg: a,b,c,z)
9) 6G = ({s, A, B3, {a, b3, s, {s, AB, A -> a3}}
$V=V_n=\{S,A,B\}$ $S\rightarrow AB$ $S\rightarrow AB$ $S\rightarrow AB$ $T=\{S=Sa)b\}$ $A\rightarrow a$ $S\rightarrow AB$
R-16 -) ab [By B-) b]
5 = S = A -> B L(G) = fab 2 0 1 1 2 1 3 600 3

THE REAL PROPERTY.

\*\* A production has a form & -> B where & & B are strings on VUT and atleast one symbol of XEBV. Regulae Grammer: That generate regulae language. charisky classification It has 2 types. They are Heft linear Grammer currents of a personal 2) Right linear Grammer. Content seritive \_ Continus continu Right lineae Gramma left linear Grammer A -> BX A, B E V MORE Non teriminalis on right hand side so it is R.L.G. i.e 'B' xeT dis Nonterminalis on left ulamos of no emmany A summer hand side so it is L. L. G. 927 U seo salqui ordi V= set of vasiable & remterminals. It is set of Derivation of Grammer: elodings lovinus do tos = T set of all stream that can be derived from a grammer is ( said to be language generated from grammer. En: G= ( {S, AZ, {a, bZ, S, S-) a A b an-)aanb mat or mis missering have one or presented by Cold Ates (8, P.B. C.X.) V= {5, A3 terminal complete act compered T= Sa, b3 -) aaAbb [ByaA-)aaAb] S-) QAB -) aaaAbbb[ByaA-)aaAb] -) afb[By A) E] -) ab an Abn -) areby [By Ane] L(G)= { a b 1 n > 13

Recursive & Enumerable set A set's' is said to be recursive enumerable if there is a procedure to find elements belongs to 's'. S-)OSA12 Em:-5-1012 2A1 -) A12 1 A 1 - 1 A 1 Check whether it is recurring enumerable for A) 00112 BA-JAB 18 001122 Any T= \$0,1,23 Rain RE V= 65, A3 1) Cornert RG to FA CONSTROND (S-)012] S-) 0 SA12 [ 10 1002 -) 0012A12 (CRY 181) [2A1-) A12] (1A) -) 00 1A122 -A-EHCIATJ -) 001122 But to RE to RG steps 1) Convert R.E to FA by Elimination method. 2) Convert F.A to R.G. En: 0\* 1(0+1)\* [ [ FRA ] DA 5- { A }

B-OB- Top side on and from Exercises A -- ) O A A set's is could to the recurrence A A -) 1B moredune to this clumints believe to B's A -> 1 B-1 En 6 + a 6 \* a 6 \* A a B a Ob B -> 6B A-) bA B-ac A-)aB C-)b B-a RGGRE 1) Convert RG to FA 2) Convert FA to R.E by Arden's Theorem. 9) G= { {A,B, 63, {a,b3, . {A}} } A -) aB A -> bC ENGORE RE LERA Boa B-bc. ist RE to FA by Etunination me A = E -0 F F. P. B. P. G. B = Aa - 0 C = A6+Bb-B D=Ba-(4) RO Valledy Put (5) in (4) (Din 2) D=Ba B= Aa D=aa BE EaftRF B=a-(5)