PRACTISE SET



Context Free Gramman (CFG)

- (9) write a CFG that
 - (a) generates strungs of balanced paranthesis
 - (b) generates palindrome for binary Strong
 - (C) generates strings having equal numbers of a's & b's
 - (2) unite a CFG for the negular expression

(03) Design a CFG for the language

(Oy) Consider a CFG. "a" whose modulion

ane S-) aAS|a A-) SbA|ss|ba

show that S => a a s s a a and control a derivation thee where yield is a a s saa

(05) change the following gramman into

a CHF

(a) $S \rightarrow 1A \mid OB$ $S \rightarrow 1AA \mid OS \mid O$ $B \rightarrow OBB \mid I$

(b) S -> a5Sb | a | aAb A -> 5S | aAAb

C) S-> bA/aB A-> bAA/aS/a B-> aBB/55/5

Properties of CFG

15 not context free Language

OF prive that L= [anbm/n=m²] 13
not context free

Pushdown Automata

OP Design a PDA for the following Largure

(a) L= {we fa,5}x | whas the equal.

mumber of a's & b's}

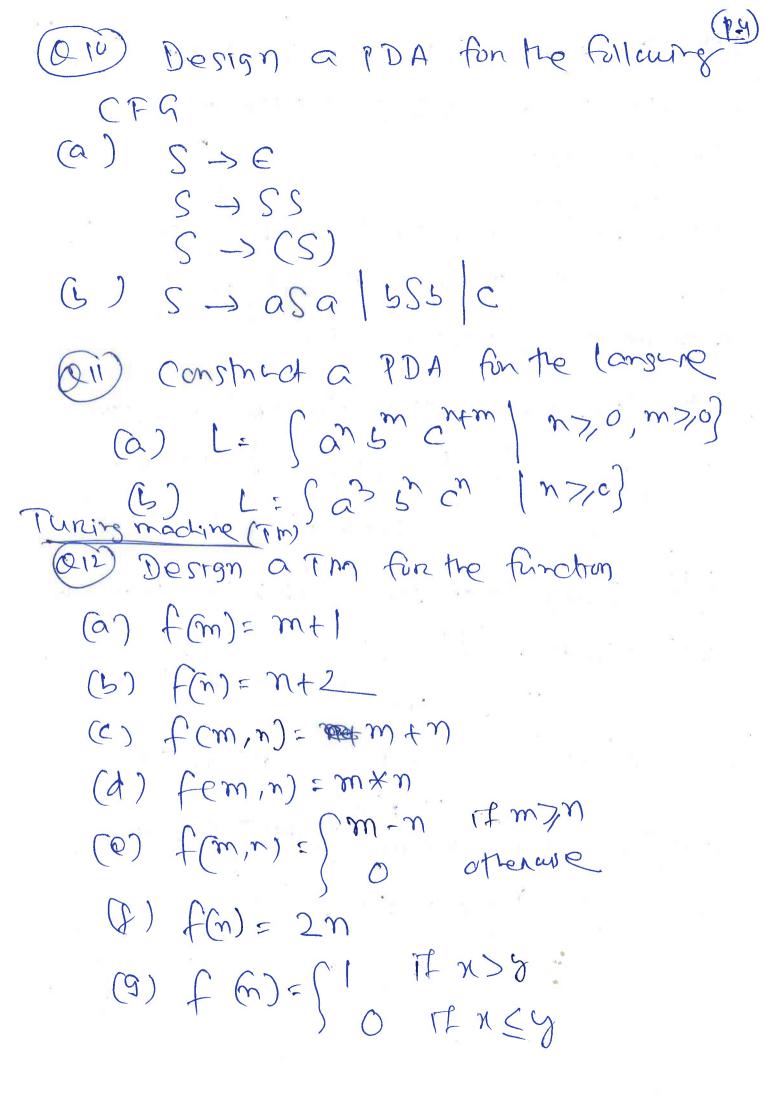
(5) L= [wwr] w ∈ Sa,53*, w= reversedu)

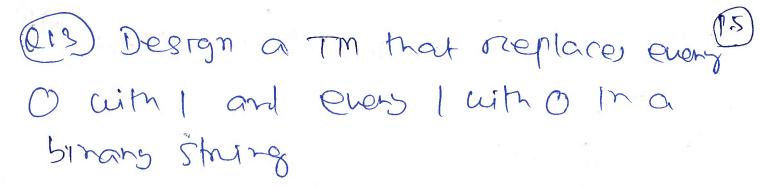
(d) L= [an 52m] n>0}

(e) L= [an 5nH | n=1,2,3,--.]

(f) [= {ansm|n>m>0}

(09) Construct a PDA for the RE R= 0×1×





Q14) Design a TM that recognises the Set of all strings of oils and is containing at least one 1

(Q15) Design a TM Fon the function

fw) = www whome where the

revence of w

From that the following function

15 compatest

f(m)=

1 if m<2

Design a Tm for the function

f (x, 4) = x

(021) What is the difference Setween DFA CDeterminate Fraite automate) and PDA CPUSH down automate) O22 Chat is turing machine (7 m)? what is its structure a rewer of a operation?

23) a De Ane Halting possem? Prive that it is undeordable.

O24) Deiffaentiere Setween TM. & PDA

(225) What do you mean to Ambiguity in CFG, Explain with example

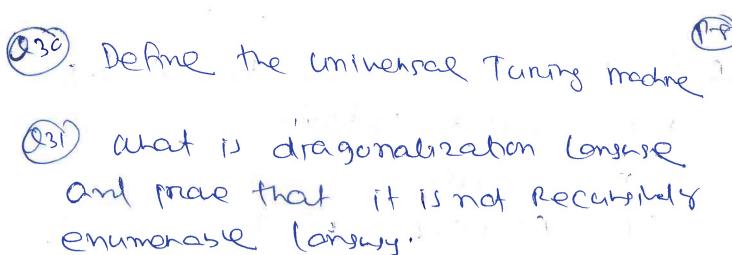
(026) What is multi-track TM and show that it is equivalent to single traceletm

(Orp) Defre Mon-Determination TM

(a) Recurring Cansused
(b) Recurring Enumerable lang.

org) proof that Recurring languages are clared arodon complementation.

(2) Union (3) Interrection



Debre topecon the term with Osg Debre the following term with enomple (D) P Class P (2) Class MP Complete (3) Class MP Complete

(4) class MP-Hend Show thier relationship.

(23) if L, SpL2 then point that

problem is possionized the solvable

then P=MP

(035) If LEMPC and LIEMP-Hand

Mp-complete prostom

(a) 3 CMF

(b) CLIQUE prostom

(c) VERTEX Count Prostom

a) TSP problem.