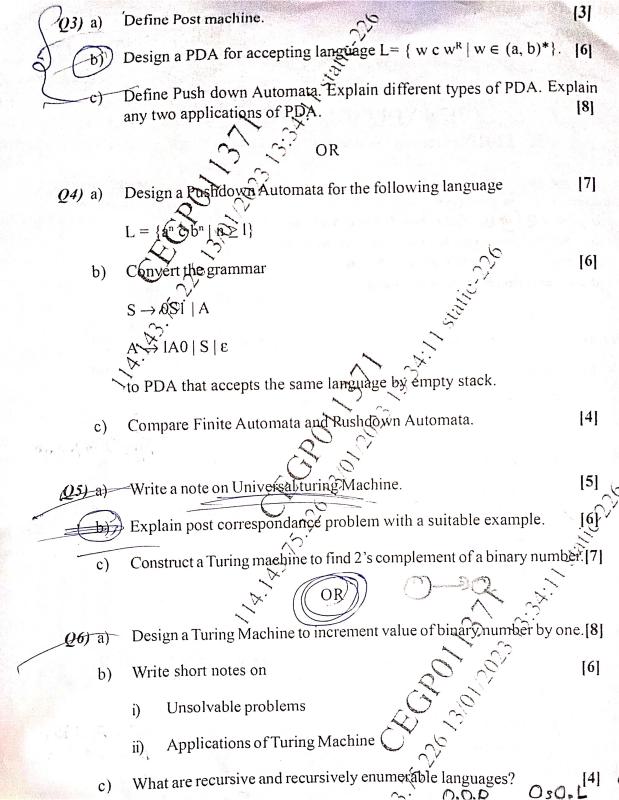
Total No. of C	Questions: 8]	00	SEAT No. :	
PA-1499		\mathcal{Y}_{λ}		of Pages: 3
	(u,s) = w w o w file 15	92615119	was on AIM Eu	Marine Land
		nation Technol	logy)	
	The state of the s	FCOMPUTAT		
	(2019 Pattern)			
· Control of				ax. Marks : 70
Time: 2½ H	ours]		· berson Many 1916	ix. Marks . 70
Instructions 1) So	to the candidates. \(\) lve Q.(1 \) 0, Q.2, Q.3 or Q.4, Q	0.5 or O.6, O.7 or C	2.8.	
	rat diagrams must be drawn			
	gures to the right indicate fu		mitting and All Hi	
	sume suitable data, if necess		.01	
	√2.		10 A 10	
<i>Q1)</i> a)	What is a Regular Gramm	ar? Explain type	\sim s of regular gram	nmar. [5]
	Simplify the following CF	G A	5 - ADA 1	RAID Idel
	Simplify the following Cr		7-3-4Bh	ONIGHA
}	$S \rightarrow ABA$	200	A->QH 19	TV
	$A \rightarrow aA \mid \epsilon$	00,00	D-3001	Type O 3 R
	B → bB E desix	5-126K	Sofregular gram Sofregular gram A Soffe lo B Soft	Tyce of
	What is ambiguous gran	mmar Show th	at the following	g grammar is
1	ambiguous and find the e	quivalent unamb	iguous grammar	[7]
	//	-· M		espara (in the second of the s
	$E \rightarrow E + E \mid E \mid E \mid E \mid E$	The state of the s		
	a b	9-6		
100	\\ \tag{\partial}{\partial}\tag{\partial}{\partial}\tag{\partial}{\partial}\tag{\partial}{\partial}\tag{\partial}\tag{\partial}	OŘ*		S.
1	Write CFG for the langu	and $I = \{a^i b^i c^k \}$	i = i + k k + k	>=`i}. [6]
Q2) a)	White CFG for the langu	age E (a o o))))
b)	Check whether the giver	n language is CF	r or dot r= sage	'c" n>=0}. [0]
c)	Covert the following RL	G to FA.	(C) (D)	[6]
	$S \rightarrow 0A \mid 1B \mid 0 \mid 1$	کے براد اور	45	SAGS
	$A \rightarrow 0S \mid 1B \mid 1$		1. V. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	A > as
aasbec	$B \rightarrow 0A 1S$		V. man	BA
			2 57 0	Sho



Q7) a)	What is a Traveling Salesman Problem? Justify that it is a NI problem.	P-class 48]
b)	Write short notes on	[19]
	i) A Simple Un-decidable problem ii) Measuring Complexity	
	OR	
<i>Q8)</i> a)	Explain Gook's theorem in detail. Explain in detail the Node-Cover Problem.	[8]
b)	Explain in detail the Node-Cover Problem.	[9]
	Explaîn in detail the Node-Cover Problem.	
		20