

# FACULTY OF COMPUTING

### SEMESTER 1 2023/2024

## SECI1013 - DISCRETE STRUCTURE

## SECTION 3

## ASSIGNMENT 1 - CHAPTER 1

## LECTURER: DR. NOR HAIZAN BT MOHAMED RADZI

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	Assignment 1		911 3	(444)	140	4477 /48				
1. a)	i) Let. F = FL students that have Facebook									
		C students that have Twitter	Level	10	1 h					
	I = F	- students that have Instagram		4	*					
			1	4	3	*				
	٤	F	٠,		T	3				
		25 (15) 30	4		4	1				
		20 5 5		18. 2. 3	<u> </u>					
	100	MAN WIN AN	-) = (1)	y loop	(1793)					
		20 30	· >							
		1 1/19	A =							
			Λ =			Leden frank				
	ii) 150 - (25+	19+5+20+5+20+30) = 30								
	ALL DE PROPERTY OF THE PROPERT									
	iii) 15+20+5 = 40									
	(an Ara) to an (ii)									
	iv) 30 + 5 + 20 = 55									
	{(-(x-xx+x))+y}-(x									
6)	$A = \{3, 5, 7, 9\}$ $(6 = 8 - 4(5 = 6)) = \frac{1}{2}$									
	$B = \{2, 3, 5, 7\}$ $C = \{3, 6, 4\}$ $(55) \ge 2 = \{-(15) + ($									
	L= 2 110,13	1893			7,3	· N II				
7)	1A1 = 4			and it topological is true						
	B  = 4									
	C  = 3   100 = 100 = 100 = 200 = 200   200   100									
	R status wie can appair Richam									
ii)										
	2" = 2" = 16		1111							
-sta	16-1=15									
	(A+ (A) = 4 (a)									
iii)	[xB={(3,2),(3,3),(3,5,),(3,7),(6,2),(6,3),(6,5),(6,7),(9,2),(9,3)									
	(9,5), (9,7)}									
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	No.:								Date:	*********	
2. 4)	~(pVq) V (~pAq) = ~p								hap to the		
	ADDIES FREE FREE FREE FREE CONTROL FREE CONT										
	P	9	~ p	(pva)	~(pV9)	(~p19)	at the authorized by the section	PR. 19 P. L. 197			
	7	7	F	7	F	and the second second second second second	alt that				
	7	F	F	T	F	F		0			
	F	T	T	T	F	/TX	Personal Laboration	7	3		
	F	F	7	F	T	08 F (3)	35 / 3	Ī			
						( 2 3 )					
	$\sim (p \vee q) \vee (\sim p \wedge q) = (\sim p \wedge \sim q) \vee (\sim p \wedge q)$										
					pn (~qva		/				
				= ^	PNU						
	70 V.S			= 1	Charles Indian Car						
	1 -				08 3	(38+45)	4+56+4	+ 31.4	1 150 - (25-	H pe	
The Marie		$q \rightarrow \rho$							15+20+5		
		~q)-					0.4		e Tactel	10	
(11)	~p -	> (~r/	1~4)				2.5	2 4	0 4 2 4 45 (	vi.	
	~ [ Wh	( 42 + 74	-3=0)	}						-	
- S-C-11	and the strong of the	2+2n-3	THE RESIDENCE						= {3,5,7,4	A (d	
			-10/					rea introducer	= {3,3,5,4		
	if h	=2 (2)	12 + 2(2	.) - 3 = 5	(#0)				{P.+ F} =	erelanda Algar	
	: The statement is true						1 = 0	1 6			
									t = 18		
di	Lef. n: Student at school						( - )				
				A STATE OF STATE OF	ale Russian						
	Same and	A 100 A	Carrier State	no knows					41 = 16		
i)	Jn (png)										
	Vr (pvg)										
	¥n (	np11~									
87	(c f)	10.	1, (2,	1, (1, (1)	(2,4)	(++) (++	the fitter one of the paterness.	Service Providence	(4)] = 0 x	3.10	
							(14)	),(	1.83		

	No.:	Date:
3. A)	for all integers, if a <sup>2</sup> -3b is even then a is eve	n and b is even.
	$P(n) = a^2 - 3b$ is even	
	R(r) = a is even and b is even	
	Indirect proof: $P(n) \rightarrow Q(n) \equiv \sim Q(n)$	→ ~ p(n)
	$\sim P(n) = a^2 - 3h$ is odd	
	Case 1: Let a is even, b is odd	Case 2: Let a is odd, b is even
	$a^2-3b = (2k)^2 - 3(2m+1)$	$a^2-3b = (2m+1)^2-3(2k)$
	$= 4k^2 - 6m - 3$	$= 4m^2 + 4m + 1 - 6k$
	$= 2(2k^2 - 3m) - 3$	$= 2(2m^2 + 2m - 3k) + 1$
-	$= 2t - 3  (where \ t = 2k^2 - 3m)$	= 2t +1 (where f = 2m² + 2m - 3k)
	[odd]	[odd]
	: a <sup>2</sup> -3b is odd, thus ~p(n) is the	: a2-3b is odd . thus ~ P(n) is the .
	4 -36 17 000 , thinh ~ year 17 me.	. A - Jo I) BAW I (MAY TO
	Case 3: Let a is odd, b is odd	
	$a^2 - 3b = (2m+1)^2 - 3(2k+1)$	
	$=4m^2+4m+1-(6k+3)$	Property Note Statistic
	= 4m²+4m-6k-2	
	$= 2(2m^2 + 2m - 3k - 1)$	
	$= 2t  (where \ t = 2m^2 + 2m - 3k - 1)$	, )
	[even]	
	= a <sup>2</sup> -3b is even, thus ~ P(n) is false	
-	W - 36 13 WWW , THUS TO THE 15 14150	
	:. When a is odd or b is odd, A <sup>2</sup> -3b is odo	1, but when a is odd and b is odd,
	a <sup>2</sup> -36 is even. Thus, the statement is	
	11119	
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