

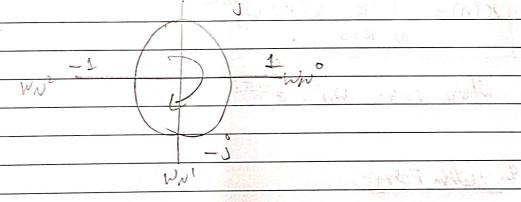
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*	Plat Magnitude spect	rum:-			
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*	For x(n) = \$1,2,3,4.	3 < Tim	ne Domain Se	bymence	
	X(R) = 10	K 20	W=0		
	-2+2;	K=L	$\omega = \pi/2$	~- W = 21K	(N=4)
	Fregioney -2	K=2	W= To		
	Damain -2-2;	K=3	$\omega = 3\pi/2$	$: \omega = \lambda rok$	= RK
*	Sampling Flicquercy depend	ds on Mon	nimum Freque	ocy.	
*	Sorphing Frequency dependent	Freguere	and Time	ore not Islated.	A 194, 200
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	Magnitude Representation of DFT A DDFS
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M(>)	Magnitude Representation of DFT A IDFS DFT (Discrete Fourier Theolog):- Gives Discrete spectrum - Gives Apphon Spectrum; - Gives Poliodic Signal.
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m(→)	Magnitude Representation of NFT A IDFS DFT (Discrete Fourier Theolog):- Gives Discrete spectrum - Gives Apphon Spectrum; Gives Poliodic Signal. TDFT (Inverse Discrete Fourier Theory) 82:- N(n) = C1, 2, 3, 4) Find x(k):- N(k) = E x(n) Wn nk

Y(k) = x(0) WN + x(1) WN + x(2) WN + x(3) WN 3k

In Mathin Form:

	_				-	<u> </u>
Kzo	XW		NNO + NN & WNO *EWNO	d	x(p)	
K=1	x(1)	2	MN° & WN' = WN2 & WN3		x(1)	
K=2	χ(2)		WN & WN & WN 6		2(2)	
K=3	x(3)		LWN° & WN3 & WN & WN9		×(3)	į.
•	$\times (k)$		City of the	al Ac	1200 - 1/2	1
			Was Modern Fol,	4	x(1.)



			Contract Con
: k=0	X(0)	=	[181-01-01][1]
K=1	×(1)		1 -ju-1 +j 2
k=2	X(r)		1 =1 1 -1 3
K = 3	×(3)		1 1 -1 -1 1 6
	10 10 1000	1 3	

				· · · · · · · · · · · · · · · · · · ·
x(k)=	1+2+3+4	=	10	K 20
	1-2j-3+9j	1 25 2	2-25	K=1
	1 -2 +3-4		-2	K= 2
	1 +2j-3+4j J		-2-25	, K23

(alubé
$$x(h) = -10$$
 | $k = 0$ | $-2 - 2j$ | $k = 1$ | -2 | $k = 2$ | $-2 - 2j$ | $k = 3$ | $-2 - 2j$ | $-2 - 2j$

As To find x(n):-

By gruels OFT: (IDFT):-

 $X(n) = \int_{N}^{N-1} \frac{\chi(k) w^{-nk}}{N}$

where N=5; $W_N = e^{-\frac{2\pi}{N}}$

In Mollin Form's

$$\chi(n) = \int Wh^{0} Wh^{0} Wh^{0} Wh^{0} \chi(0)$$

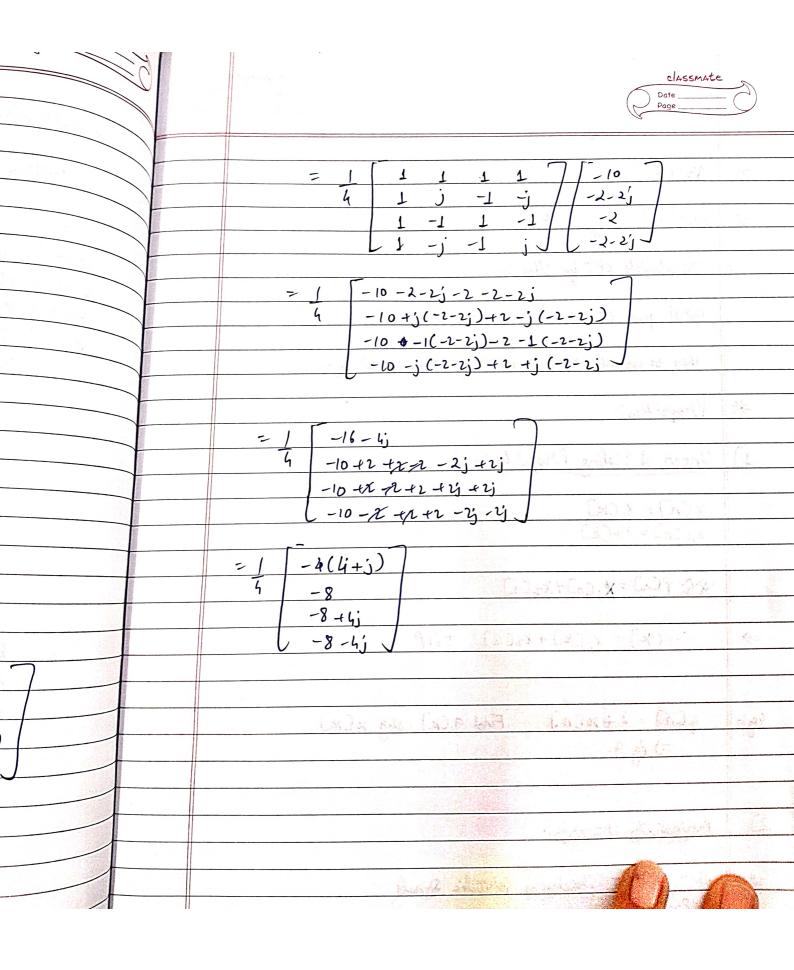
$$Wh^{0} Wh^{1} Wh^{2} Wh^{-2} Wh^{-3} \chi(1)$$

$$Wh^{0} Wh^{2} Wh^{-4} Wh^{-4} \chi(2)$$

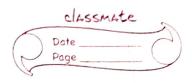
$$Wh^{0} Wh^{-2} Wh^{-4} Wh^{-4} \chi(2)$$

I W°

 $W_{N}' = -j$ $W_{N}'' = -j$ $W_{N}'' = -j$ $W_{N}'' - j$ $W_{N}'' - j$ $W_{N}'' - j$



125			Poge
	*	NOTE !-	
-	•		
	7	XCD= {1, 2, 3, 53	
	0	To calculate OFT for thy:	
	Hand Francisco	First find ATFT:	
		then so corner DTFT to DFT by replacing w by:-	
	-14		
	*	Properties 1-	
	1)	Linear & Scaling Property:	8
		X(N) = X(R) $X_2(N) = X_2(R)$	
		Macri Macri Marian Mari	
		XC PCNJ = XICNJ+X2CNJ	
7	-	PCKJ = X, CKJ + X2CKJ IMP	
eg:-		g[n] = 2+x[n] Find g(k) using x(k)	
·		⇒ fg 9.	
2)	Pos	riodicity Braperty 1-	
	10	400 wyers	
*	DFT	TAIDET produces Petrodic Signals	
		910-	



3	Time Shift Property
4)	Foreguera Shift Property
5)	Firequercy shift thoperty.
6)	Symmetry Property
1)	Even signal broperty
C8	Odd signal Stropesty
9)	Carulera Conjugade Songe

