CIA	550	nate	-	2
Date_			- (1
age_	_1	_	- (/
	Date _ Dage _	Date	Date	Date

		1		Page				
	S	Omputers Ne	twork-SN	"				
***	Ip addressing:							
	IP address → N/WID Host ID 210 220 230 240 K M Ct T 32 In (N IP add is 32 bits → 8bit 24) NID HIP							
`								
	• class A: IPin a	lass-A is 231						
	Q NID HID.							
	8 hit 124 bit \Rightarrow trange = (1-126) = class A. (2^8-2^7) = 128							
	· class B: IP in all	**************************************	······································	= 128				
/	10 11							
	16 bit	16 4.91		(28 -61)				
1			range B/W (128-19	$(2^8 - 2^6)$ = 192				
	· classe: 1P add =			W. B 6 353				
/	110	HID HID !						
	24 bi	\rightarrow	trange B/W (192-22	(2^8-2^5)				
	· class - D: IPadd =		0	= 224				
j			comge B/W (224-23	$(2^{8}-2^{4})$				
	o class-E: (Passeld 29)							
	→ range R/w (240-255) @2000							
	** if in a Notion	ank howing 2	1) IPaddress then, tot					
J		# Host 1						
		2 ^m -2						
	∠A → 2 ²	2292						
	0	216_2						
	$(c \rightarrow 2^8)$	8-2		7				
	1Paddress #	D N/W ID	Direct	limited				
			Breoad cast Braddness	Broadcast Address				
	1.2.3.4	1.0.0.0	1.255.255.255	255.255-255-255				
(1-126)	10-15-20-60	10.0-0.0	10.255.255.255	255-255-255-255.				
∠8 →	130.1.0.0	130-1.0-0	130.1.255.255))				
(123-191)	150.0.0.0	150.0.0.0	150.0.255-255	יי				
< <u> </u>	200-1-10.100	200.1.10.0	200-1-10-255	1)				
(192-223)	220.15.1.10	220.15.1.0	220.15.1.255)				
			i.					
(240-255)	250.001.2	X	X	X				
	300,1.2.3 Not valled.							

. •

· Subnets: Dividing a big n/w Into many small network.
· Subnet Mark: 32 bit (contain)
i's -> N/W)D & subject 1D , o's -> Host 1D.
255 255 255 255
11111111 . 1111111 . 1111111 . 1111111 . 111111
Subnet mont - 11111111 111111 11 11 11 11 11 11 11
1D add - 11001000 . 20000001 . 200000010 aloug a page
11001000 • 00000001 • 00000000 • 10000000
200 • 1 • 2 • 128
-> given IP add and Subnet mask we can find out network id
Of network to with which the IP address belongs.
-> Os. given Subnet Mask (SM) 255.255.255.15 how many subnet possible
=> 255. 255 255 15
=> 255. 255 255 15 11111111 . 11111111 . 01111
N/WID+ subnet = 28
2-4 + 51D = 28
SID = 4
Subrut musk = (24)
-> Swmet 11D, IP
7/0 3/0 1/10
-> HID =n, 2-2 -> # horts.
· Classes Inter Domain routing (IDR) -
itules for forming CIDR BIOLK -
(1) All as IP add schould contiguous (11) block cite alway power of 2
(11) First 1 Padd in the block should be evenly divisible by size of block
ex: [150.10.20.64]
150.10.20.65 64 = (26) -> 2nd reule tollowed.
150.10.20.66
-> this block are CIDR block.
$\frac{17add = 2^6}{1000000000000000000000000000000000000$
$\frac{\text{HID+BID(NID)} = 32}{\Rightarrow \text{BID} = 28}$
CIPR representation, [150.10.20.69/28]

TCP (Transmission control protocol) -									
• TCP headers -									
9B-	(Source Port (16 bit)	Deab	inchin partillabit						
4B-									
4B-	CI								
		1 1 1 1	winders (ide (an))						
4B-	length reserved R c	S S N 1 La	rdv window						
4B —									
O KHOUS TO 10%									
* longth of the header = (4+4+4+4+4) = 20 R (Minimum)									
=> 208+40B = (60 B) (Maximum)									
,									
Application Protocols:									
\rightarrow	DNS, HTTP, FTP, SMTP	Pop Capplica	hon probably						
1									
> Domain DNS > IP									
-	→ DNS une UDP at Transport layer.								
1									
11		U							
Jan 2000									
	Market ment accounted become	61)							
>,,,,,	monthing not lated to m	otruse Securita							
11									
LUKI		. 1 - 1 - 1 - 1 - 1							
	- TC 4B- 4B- 4B- 4B- 4B- -	TCP headers - AB — [Source Pont] (16 bit) AB — [Sequence AB — Acknowled AB — Length reserved R c con the source of the headers — Abit — Application Protocols: -> DNS, HTTP, FTP, SMTP -> DNS, HTTP, FTP, SMTP -> DNS une UDP at Transport -> Mainly used to getting -> Use TCP at Transport -> Statefull. -> SMTP and POP -> (post of the headers) -> Statefull. -> SMTP and POP -> (post of the headers) -> Statefull. -> SMTP and POP -> (post of the headers) -> Statefull. -> SMTP and POP -> (post of the headers) -> Statefull. -> SMTP and POP -> (post of the headers) -> Statefull. -> SMTP and POP -> (post of the headers) -> Superintifing not used to him	AB Sequence mam 32 bit AB Sequence mam 32 bit AB Header 66ft V A P P S F V Length reserved R C S S Y I C Abit V A P P S F V Length reserved R C S S Y I C Abit V A P P S F V AB Length reserved R C S S Y I C Abit V A P P S F V AB Length reserved R C S S Y I C Abit V A P P S F V AB Length reserved R C S S Y I C Abit V A P P S F V A P P S F V A R C S S Y I C A P P P S F V A R C S S Y I A P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A P P P S F V A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S Y I A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S Y A R C S S S S Y A R C S S S S S I A R C S S S S S S A R C S S S S S S S S S A R C S S S S S S S S S S S A R C S S	TCP headers— AB— Source Port (6 bit) AB— Sequence num 32 bit AB— Leaders obst UAPPS = Window) Lise (an) About langth revenues R C S S V I adversindow) About langth revenues R C S S V I adversindow) About langth of the headers = (4+4+4+4+4) = (20 B) (Minimus and 16 bit) Option S (0-408) * length of the headers = (4+4+4+4+4) = (20 B) (Minimus and 16 bit) Application Protocols: DNS, this P, FTP, SMIP, POP (application protocols) DNS Damain DNS Damain DNS P 18 are not stable. DNS use UDP at Transport Largers. HTTP mainly used in getting Webpage. Must TCP at Transport Largers. Statefull. SMIP and POP — (post officer protocol) Stagernetling not used to impresse Securality. Supernetling not used to impresse Security.					