

# EDST5308

HYUWX Yf'@YUfb]b[

HYfa &Z&\$&&



7ci fgY`Cj Yfj ]Yk

GHJZ 7cbHJW`8YHU]`g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
Hcbm@ci [ \`UbX	<a href="#">hcbm`ci [ \`UbX4 i bgk "YXi "Ui</a>	D`YUgY`Ya U]`Zcf Ub`Uddc]bha Ybh	A cfj Yb 6fck b'; &fck b'; &fck b'; &fck b'; &fck b';	

## 5W\_bck`YX[ Ya YbhcZ7ci blfm

I B G K `5fngž8Yg][ b`UbX`5fWk]fYWhi fY? Ybg]b[ hc b`UbX`DUXX]b[ hc b`Wla di gYg`UfY`Vi ]`hcb`5Vcf][ ]bU`  
@UbXg"K Y`dUmci f`fYgdYWhg`hc`hY`6]X}[ U`UbX` ; UX][ U`dYcd`Yg`k`c`UfY`hY`7i`gfcX]Ubg`cZ`hY`gY`UbXg"  
K Y`UW\_bck`YX[ Y`hY`5Vcf][ ]bU`UbX`Hc`fYg`G`fU]h`g`UbXY`f`dYcd`Ygž`hY` : ]fgh5i`gfcU`]Ubgžk`c`gY`UbXgž  
k ]bXg`UbX`k`U`fYg`k`Y`U`bck`g`U`fYž`UbX`dUm`fYgdYWhi`hc`hY`f`i`b]ei`Y`j`U`i`Ygž`UbX`hY`f`V`b`h]bi ]b[ `UbX  
YbXi`f]b[ `W`h`fYg`k`\\]W`XYYdYb`UbX`Yb`f]W`hY`Z`cZci`f`b`U`h]cb`UbX`W`a`a`i`b]h`Yg`"

U[ Y`W`ci`f`h`gmicZ`hY`C`Z]W`cZ`hY`D`fc`J`]W`!7`UbW`c`f`b`X][ Ybci`g`[L`B`G`K`f`g`b`X\]\[ Ybci`g`g`f`U`h`\[`m](#)



%''''F5HCB5@9': CF`H<9' B7@! GCB'C: `7CBH9BH'5B8'H957< B; `5DDFC57<`

H\]g`Wci fgY`k ]''YbUVY`ghi XYbhg`hc`XYj`Y`cd`Ub`i`bXYfgHUbX]b[ `cZHAY`ja`dcfUbhfc`Y`HYUWXYf`dfcZYgg]cbU`  
`YUfb]b[ `UbX`XYj`Y`cda`Ybhd`Umj`]b`WcbHYa`dcfUfmWcbHYI`hg''H\Y`Wci`fgY`]bj`c`j`Yg`U`XYHJ]YX`ghi`XmcZHAY`  
h`Ycfnz`fYgYUfW`UbX`dfUW`U`UggcW`UHY`X`k`]h`h\]g`hcd]WUg`k`Y''Ug`h`Y`cddcfh`b]mhc`Wca`d`YH`U`dfUW`U`  
dfc`YWH`h`Uh]g`Udd`]WUV`Y`hc`h`Y`WcbHYI`h]b`k`\]W`h`Y`dUfh]W]dUbhk`cf\_g''Gh`XYbh`YUfb]b[ `ci`hWca`Yg`UfY`  
gi`ddcfHYX`VmiHYUW]b[ `UbX`YUfb]b[ `ghfUHY`[ ]Yg`h`Uh]bWi`XYg`YWH`fY!XY`]j`Yfnz`[ fci`d`k`cf\_z]bX]j`]Xi`U`  
dfYgYbH]cbg`UbX`X]gW`gg]cb"

# 5ggYgga Ybh

5ggYgga YbhUg_	K Y[\ h	8i Y'8UH'	7ci fgY'@YUfb]b[ Ci hWca Yg'5ggYggYX
%`A ]bcf'k f]hYb'Ugg][ ba Ybh	' )	' )&+#\$* #&\$&&'\$) . \$\$ 'DA	%ž&ž' ž ( ž - ž%\$
&"C fU`dfYgYbhUj]cb	%\$	&* # \$ + # & \$ & & '\$ ) . \$\$ 'DA	%ž&ž' ž ( ž ) ž * ž + ž , ž - ž%\$

Gh XYbhtg'k ]''fYW]j Y'k f]htyb ZYXVUW\_k ]h]b'hfYY'k YY\_g'cZgi Va ]gg]cb

H\]g'g'hY'Z]bU''UggYgga Ybh

H\]g'Ugg][ ba Ybh]g'gi Va ]htX'hfci [ \ 'Hi fb]hb'UbX'ghi XYbhtg'W]b'gYY'Hi fb]hb'gja ]Uf]mfYdcftg"

5XX]h]cbU'XYHJ]g

HUg\_' 'Zc`ck g'cb Zfca 'HUg\_&z]b'XYj Y'cd]b[ 'U'XYHJ]YX'dfcdcgU'hc'gYhi d'cf'g][ b]Z]W]b]hm]fYj ]gY'U  
dfcZ]gg]cbU''YUfb]b[ 'dfc[ fUa 'W]b]fYX'k ]h]b'hY'gh XYbhtg'ck b'k cf\_d'UW''H\Y'd'Ub'a i ghVY'VUgYX'cb  
bYk '\_bck 'YX[ Y'UW'ei ]fYX' ]b'h]g'W'ei fgY''Gh XYbhtg'g\ci 'X'W]h]ei Y'hY'j Uf]ci g'dfcZ]gg]cbU''YUfb]b[  
a cXY'g'UbX'ghfU]h[ ]Yg'hYm'W'ebg]XYfYX' ]b'Uff]j ]b[ 'Uh'hY'Z]Ua Yk cf\_'h'Ymd'Ub'hc'XYd'cni'

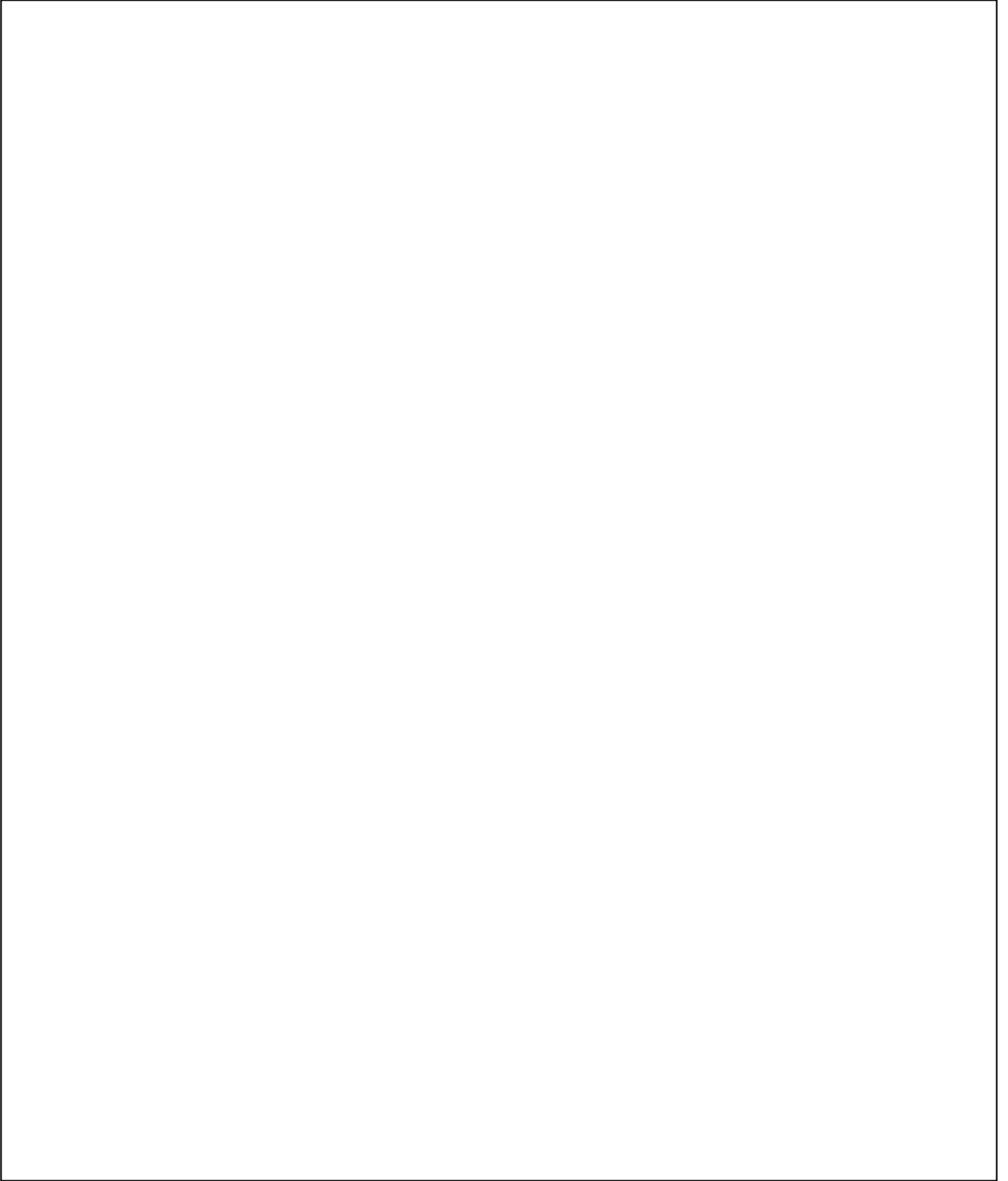
H\Y'dfcdcgU''bYYXg'hc' ]bWi XY'U'W'ghVYbYZ]hUbU'ng]g'Ug'k Y''Ug'Ub'YI d'UbU]h]cb'cZ]hg'U'] [ ba Ybhk ]h  
W ffYbh]bg]h]h ]h]cbU'' [ cU'g'z] U'i Yg'UbX'cdYfU]h]cbU'W'ebg]fU]bhtg''

HUg\_' 'fYei ]fYg'gh XYbhtg'hc'XYj Y'cd'UbX'gi Va ]hU'XYHJ]YX'k f]htyb'dfcdcgU''k ]h'U''Yb[ h'cZ' \$\$\$'k cfXg"











FI 6F ⇒ # 998657? 'G<99H  
 98GH)' \$, 'H957<9F '@95F B-B;  
 I BGK 'G7<CC@'C: '98I 75H€B

5ggYgga YbhHUg\_" . 'A U'c'f'k f]hYb'Ugg][ a bYbh

GdYWZjW7 f]hYf]U	1fŁ ————— 2fŁŁ				
<p>I bXYfghUbX]b[ 'cZhY'ei Ygh]cb'cf']ggi Y'UbX'h\Y'_YmVcbWdrg          ]bj c'j YX</p> <ul style="list-style-type: none"> <li>• 4hYfdFYU]h]cb'cZei Ygh]cb'UbX'Yj ]XYbW</li> <li>• 5bU'mg]g'UbX'Yj U'i Uh]cb'cZgU']YbhUf[ i a Ybfg</li> </ul>					
<p>8Yd' 'cZUbU'mg]g'UbX'W]h]ei Y']b'fYgdcbgY'hc'h\Y'hUg_          • 9j ]XYbW'cZ\][ \ 'cfXYf'UbU'nt]Wg_]`g          • FYUgcb]b[ 'cZUf[ i a Ybhg</p>					
<p>: [Uf]m]k ]h' UbX'fY'Yj UbW'cZdfcZYgg]cbU'UbX#f'fYgYUfW          i fY'i gYX'hc'gi ddcfhfYgdcbgY</p> <ul style="list-style-type: none"> <li>• I bXYfghUbX]b[ 'cZhYcfmUbX'fYgYUfW' ]bW' X]b[ 'fYZfYbW'g'hc              WcbHYa dcfUfm']hYfU]h fY'cb'dfcZYgg]cbU'YUfb]b[ 'a cXY'g'UbX              g]fU]h[ ]Yg</li> <li>• 8Ya cbg]fU]h]cb'cZU'grmbhYg]g'cZbYk '_bck YX[ Y'UW'ei ]fYX']b'h]g              W'ei fgY</li> <li>• 9j ]XYbW'cZW]h]WU'fYUX]b[</li> </ul>					
<p>Wi fY'UbX'cf[ Ub]gUh]cb'cZfYgdcbgY</p>					

GdYWZjW7 f]hYf]U	f]k ————— 2fZk				
<ul style="list-style-type: none"> <li>FYZfYbWb[ 'cZgci fWg'i g]b[ '5D5 'gmiY / 'Wca d'YHbYgg'cZ fYZfYbW'']gh</li> </ul>					
; YbYfU' 'Wca a Ybhg#fYWca a YbXU]cbg'Zcf'bYI hh]a Y.'					

F YWca a YbXYX. #&\$'fl @'DG'7F'8B'<8k K Y] [ \h]b [ . ))i

B6. 'H\Y'h]W\_g]b'h\Y'j Uf]ci g'Vcl Yg'UFY'XYg][ bYX'hc'dfcj ]XY'ZYXVUW'hc'ghi XYbhg/h\YmUFY'bch[ ]j Yb Yei U'k Y][ \h]b'XYH'fa ]b]b[ 'h\Y'fYWca a YbXYX'[ fUXY''8YdYbX]b[ 'cb'h\Y'bUhi fY'cZ'h\Y'UggYgga YbhfUg\_ž 'YW'i fYfg'a UmU'gc'Wcbh\I h U']gY'UbX#cf'Ua YbX'h\YgY'gdYWZjW7f]hYf]U''H\Y'fYWca a YbXYX'[ fUXY'jg hYbU]h] Y'cb'mž'gi V'YW'hc'ghUbXUfX]gU]hcb'dfcW'ggYg'UbX'Uddfcj U'Vm'h\Y'GVX'cc''cZ9Xi W]h]cb'@YUfb]b[ UbX'HYUW]b[ '7ca a ]hYY''



> i m		





7ca di `gcfmfYUX]b[ g`Zcf`cb`]bY`k cf\_g\cd`(`

- 6fUXmžA "D"ž<Y]gYfž@'5"žA W cfa ]W\_ž>"? "ž/ ': cf[ Ubž">"f&\$%\*Ł"J U'i Y!5XXYX'A cXY`g`Zcf HYUW\Yf'DfYdUfUĥcb'Dfc[ fUa g. 'J U`X]mUbX'F Y`]UV`]]mH\fyUĥžUbX'U`A UbU[ YUV`Y`5`h'fbUĥj Y" YV 7UfTRež \_R] 8` d ^ t \* " fl Ł' ' -!' ) &"Xc].%\$"%\$, \$#\$\$% %+&) "&\$%\*"%%+' %) \$
- ? UbYžA "H"ž/ 'GHJ][ Yfž8"C"f&\$%&Ł"9ReYVc\_Z 8VVUSRT\ Wc VRTYZ\_Xž5` ^ SZ\_Z\_X: ŽYŽ fR]ž 7 SdVcgRež \_d h ŽY f UV\_e fcgVj d R\_U 3TYŽ/gV^ V\_e9RZ\_d"F Yf]Yj YX`Žca `GYUĥYžK 5.` [\hd.##Yf\]WYX"\[cj #3\]X198\)\(\\$- \\*](#)

Gi Va ]gg]cb 'cZ5ggYgga YbhiHUg\_g

Hi fb]h]b 'Gi Va ]gg]cb

Ʒmci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UH'Ya dh]b[ 'hc'gi Va ]hmc i f'Ugg][ ba YbhiH'fci [ \ 'Hi fb]h]bž'd'YUgY  
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'- ' , ) " ' ' %cf'Ya U] 'H'Ya 'cb'YI HYfbU'HY'f'gi ddcfh4 i bgk "YXi "Ui "'Gi ddcfh  
\ci fg'UfY' , .\$Ua '—%\$.\$\$da 'cb'k YY\_XUmg'UbX'-. .\$Ua '—) . \$\$da 'cb'k YY\_YbXg'fI \*) 'XUmg'U'm'YUfI" Ʒmci  
UfY'i bUV'Y'hc'gi Va ]hmc i f'Ugg][ ba YbhiXi Y'hc'U'Zi 'hk ]H'Hi fb]h]b' mci 'a UmUdd'm'Zc'f'Ub'YI HYbg]cbž'Vi hmc i  
a i ghfYHU]b' mci f'h]W\_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb[ 'k ]H'UbmcH'Yf'fY'Yj UbhXcW a YbHgE'hc  
]bWi XY'Ug'Yj ]XYbVW'hc'gi ddcfhmci f'YI HYbg]cb'Udd' ]W]h]cb" Ʒmci 'Ya U] '9I HYfbU'Gi ddcfhmci 'k ]  
Ui 'ca UH]WU'`m'fYW]j Y'U'h]W\_Yhbi a VYfž'Vi h]Zmci 'HY'Yd\cbY' mci 'k ]'`bYYX'hc'gdYW]Z]WU'`m'Ug\_ 'Zc'f'cbY"  
Hi fb]h]b'U'gc'dfcj ]XYg'i dXUH'g'cb'H'Y]f'gmgh'Ya 'ghU'hi g'cb'Hk ]H'Yf"

; YbYfU'`mž'UggYgga YbhiHUg\_g'a i ghVY'gi Va ]H'YX'Y'YW'fcb]WU'`mj ]U'Y]H'Yf'Hi fb]h]b'cf'U'A ccX'Y  
Ugg][ ba YbH' 'b]bgHUbVW'g'k \YfY'H'lg ]g' bchdcgg]V'Yž'hk ]'VY'ghUH'X'cb' mci f'Wci fgY'g'A ccX'Y'g]H'k ]H  
U'HYfbUH] Y'gi Va ]gg]cb'XYHU]g"

: cf]bZ'fa UH]cb'cb'\ck 'hc'gi Va ]hUgg][ ba YbHg'cb']bY j ]U'A ccX'Y. \`hdg. #gh XYbH'i bgk "YXi "Ui #ck!  
gi Va ]hUgg][ ba YbH'a ccX'Y

## 5 WUXYa ]W< cbYgmiUbX'D`U[ ]Uf]ga

D`U[ ]Uf]ga ]g'i g]b[ 'hY'k cfXg'cf]XYUg'cZcH.Yfg'UbX'dfYgYbh]b[ 'hYa 'Ug'mci f'ck b" #WUbb'fU\_Y'a Ubm  
Zcfa gZ'Zca 'XY'jVYfUHY'WX.YUf]b[ 'hc'UWw]XYbhU'mWcdm]b[ 'Zca 'U'gci fW'k ]h'ci hUW\_bck`YX[ Ya Ybh'

I BGK '[ fci dg'd`U[ ]Uf]ga ]bhc'hY'Zc`ck ]b[ 'WUHY[ cf]Yg.

7cdm]b[ . 'l g]b[ 'hY'gUa Y'cf'j Yfmg]a ]Uf'k cfXg'hc'hY'cf][ ]bU'HYI hcf]XYU'k ]h'ci hUW\_bck`YX[ ]b[ 'hY  
gci fW'cf'i g]b[ 'ei chU]cb'a Uf\_g" 'H\ ]g' ]bW' XYg'Wcdm]b[ 'a UHYf]U'gZ]XYUg'cf'WcbW'dhg'Zca 'U'Vcc\_ž'Ufh]WYž  
fYdcfhcf'ch.Yf'k f]HYb'XcW'a Ybž'dfYgYbhU]cbž'Wca dcg]h]cbž'Ufh'cf\_žXYg][ bžXfUk ]b[ ž'WfW ]fmx'Wca di hYf  
dfc[ fUa 'cf'gcZk UfYžk YVg]hYž]bHYfbYhž'ch.Yf'Y'YVfcb]WfYgci fW'ž'cf'Ubch.Yf'dYfgcb'f]Ugg][ ba Ybhk ]h'ci h  
Uddfcd]UHY'UW\_bck`YX[ Ya Ybh'

#Uddfcd]UHY'dUfUd\ fUg]b[ . '7 \Ub[ ]b[ 'U'Zk 'k cfXg'UbX'd\ fUgYg'k \]Y'a cghmifYU]b]b[ 'hY'cf][ ]bU'  
]bZcfa U]cbž'gh' W' fY'UbX#cf'dfc[ fYgg]cb'cZ]XYUg'cZcH.Y'cf][ ]bU'k ]h'ci hUW\_bck`YX[ Ya Ybh' 'H\ ]g'U'gc  
Udd'jYg' ]b'dfYgYbhU]cbg'k \YfY'gca YcbY'dUfUd\ fUgYg'Ubch.Yf'g' ]XYUg'cf'k cfXg'k ]h'ci hWfYX]hUbX'hc  
d]YW]b[ 'hc[ Yh.Yf'ei chYg'UbX'dUfUd\ fUgYg']bhc'U'bYk 'k \c'Yžk ]h'ci hUddfcd]UHY'fYZfYbW]b[ "

7c`i g]cb. 'K cf\_]b[ 'k ]h'ch.Yfg'Vi hdUgg]b[ 'cZcH.Y'k cf\_'Ug'U'dYfgcb'g' ]bX] ]Xi U'k cf\_"7c`i g]cb'U'gc  
]bW' XYg'dfcj ]X]b[ 'mci f'k cf\_'hc'Ubch.Yf'gh' XYbh'Zc'f'hY'di fdcgY'cZcH.Ya 'd`U[ ]Uf]g]b[ ž'dUm]b[ 'Ubch.Yf'  
dYfgcb'hc'dYfZcfa 'Ub'UWUXYa ]WfUg\_ž'gh'U' ]b[ 'cf'UW'ei ]f]b[ 'Ubch.Yf'dYfgcb'g'UWUXYa ]Wk cf\_'UbX'Wcdm]b[

## 5 WUXYa ]WbZcfa Uh]cb

8i Y'rc'Yj c'] b[ 'UXj ]W'VmiBGK ' <YU'hž'gh XYbh'g'a i gh'WXYW'Zcf'i dXU'hX'']bZcfa Uh]cb'fY[ 'UfX]b[ 'cb']bY 'YUfb]b[ 'Zcf'U''5fngž8Yg][ b'UbX'5fW]h'W'i fY'W'i fgYg'h]g'h'fa 'fj ]U'A ccX'Y'cf'W'i fgY'']bZcfa Uh]cb dfcj ]XYX"Ł

: cf'YggYbh]U'gh XYbh']bZcfa Uh]cb'fY'Uh]b[ 'rc.

- fYei Ygth'Zcf'YI h'bg]cb/
- 'UH'gi Va ]gg]cbg' [ i ]XY'']bYg/
- fYj ]Yk 'cZa Uf\_g/
- I 'BGK ' <YU'h'UbX'GUZY'hd'c'']WYg/
- YI Ua ]bUh]cb' d'fc'W'Xi fYg/
- gdYW]U'W'cbg]XYfUh]cb'']b'h'Y'Yj Ybh'cZ]'bYgg'cf'a ]gUXj Ybh' fY/
- gh' XYbh'Yei ]m'UbX'X]gUV']]m/
- UbX'ch'Yf'YggYbh]U'UWXYa ]W]bZcfa Uh]cbž'gYY

\hrg.##k k k "i bgk "YXi "Ui #Ufng!XYg][ b!UfW]h'W'i fY#gh XYbh'']ZY#Ygci fW'g!gi ddcf'hd'fch'W'g![ i ]XY'']bYg

⇒ U[ Y'7 fYX]h

GmbYf[ ]Yg'']b'Gci bX'&\$%\*

7F ⇒ CG

7F ⇒ CG'Dfcj ]XYf'7cXY.'\$\$\$- ;