

; GA!Gi ddcfh'i `"8cVfY[c DUghYfnU'%\$&#) ž' %! ( %\* '?fU\_CEk a cV]`Y'Ž (, '\* \$, %\$+()) ž'B =D', %' ''), \* \$- 'F 9; CB.'%, %\$, %' ' ( k k k "[ga!gi ddcfh'bYh

# G9"HCC@6CL" UVMI Uhlcb





 $\textbf{G9"HCC@"6CL"' "UVM]j Uh]cb"! k Y "gY"" \$ ``c[g'Z^{f}ca'k \] W `\&\$``c[g'a i gh'VY'i gYX'hc'i dXUhY'GY'Hcc''6cl'' "'5ZhYf''UVM]j Uh]cb'GY Hcc''6cl'' ''k]```\Uj Y'UWWgg'hc'h\Y'bYk Ygh'gi ddcfh'gYfj Yf'UbX'k cf_'k]h\'h\YgY'i dXUhYg.$ 

## j %"\$, )

! 'i dXUhYX'U&'`cUXYfg

! i dXUhYX g% cUXYfg

! X]ZZYfYbh Wcga Yh]WVi [Z]l Yg

! X]ZZYfYbh'Vi [Z]l Yg

# j %"\$, (

! ``[ '[ h( \$1 'd\cbYg'i b`cW\_#fYdU]f#ZUg\ 'Z bWh]cbU`]hmbck 'k cf\_g'Ug']bhYbXYXž'W\YW\_': 5E 'Zcf'XYhU]`g

 $! \ bc \ bYYX \ hc \ fYZ Ug \setminus UZhYf \ i \ b \ c \underline{W} \ gca \ Y \ gdY \underline{W}Z\underline{W}' [\ XV' \ \&\$\$! \ V UgYX \ d \setminus cb Yg \ Zfca \ bck \ cb$ 

 $! ``[ `XV' &\$\$! VUgYX'd\cbYg'bck `VWb'i h]`]nY'Z ```I G6\&"\$'gdYYX ``` YWb'i h]`]nY'Z ```I G6&"$'gdYYX ``` YWb'i h]`]nY'Z ```I G6&"$''gdYYX ``` YWb'i h]`]nY'Z ```I G6&"$''gdYYX ``` YWb'i h]`]nY'Z ```I G6&"$''gdYYX ``` YWb'i h]``]nY'Z ```I G6&"$''gdYYX ``` YWb'i h]``]nY'Z ```` YWb'i h]``]nY'Z ```` YWb'i h]``]nY'Y ``` YWb'i h]``]nY'Z ``` YWb'i h]``]nY'Y ``` Ywb'i h]`` Ywb'i h]` Ywb'i h]`` Ywb'i h]` Ywb'i$ 

! Z fh\Yf'XYWfYUgYX'a Ya cfmi gU[Y'Xi f]b['Z'Ug\]b['cZ'I%!U']\_Y'd\cbYg

 $!~X]Z\!Z\!Yf\!Ybh`W\!cga~Yh]\!W\!Vi~[~Z\!]l~Yg$ 

# j %"\$, %

! ]bWfYUgYX gYfj Yf Wca a i b]WUh]cb h]a Yci hgž WUb \Y`d ]b WUgY cZh]a Yci hYffcfg

! X]ZZYfYbh Wcga Yh]WVi [Z]l Yg

## j %"\$,

! I %\$a ]b] gi ddcfh UXXYX"

mYgžbYhkcf\_ib`cW\_gh]``ibUjU]`UV`Y`ZcfdiV`]W

 $\label{lem:conditional} Xc\ bch'Ug\_'i\ g`Zcf'gdYV\/U`'I\ \%\$!\ YbUV`YX`UW\/Ci\ bhg'!\ 'h\ Ymbch'YI\ ]ghg''$ 

## j %"\$+

cXa 'd\cbYgž'dXU'd\cbYg'k Ug'UZZYVMYX"

[fYUhmgcffmZcf]bWcbjYb]YbWfg"

 $! `a Ya cfm' Wcbgi a dh] cb `XYWfYUgYX`k \] `Y`ZUg \] b[ `I \% `d \cb Yg'' \] b[ `I \% `d \cb Yg'' \] b[ `I \% `d \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg'' \cb Yg''' \cb Yg''' \cb Yg'' \cb Yg''' \cb Yg'''$ 

## j %"\$\*

! 'UXXYX'gi ddcfh'Zcf'egX, &) \$! VUgYX'gYa Wd\cbYg'fl %\$ 'Uh'h\Y'a ca Ybh':"

 $ZUg \ [\ Z' Yghi \ fY' \ cW' \ fYgYhzhf] a \ "UfYU' fYUX\#k \ f]hY' ]g'ghUbXU' cbY' UbX' ZfYY' d'YUgY' bchYz' \ ][\ \ 'ei \ U']hmi \ gV' WUV' Y' fYei \ ]fYX' hc' k \ cf_k \ ]h \ 'l \ \%$"$ 

 $bYhk\ cf\_'i\ b`cW\_']g'gYfj\ Yf!\ VUgYX'UbX'dU]X"$ 

I %\$ bYhk cf\_i b`cW\_X]gUV`YX`Zcf'di V`]WUh'h\Y'a ca Ybh"

! 'UXXYX'gi ddcfh'Zcf'U&'WJX, %'d\cbYg"

# j %"\$)

! "gca Y"bYk Yf"C8A "Z] fa k UfYg"k YfY "bch"dUfgYX "dfcdYf"mž"Z] I YX

## j %"\$(

! 5XXYX gi ddcfh Zcf gUa gi b[ 'a ) \*) \$ 'd\cbY"

=hi]g'UVgc'i hY`mbYW'ggUfm'hc'gY`YWh'WcffYWh'a cXY`ž'ch\Yfk]gY'd\cbY'k]```VY`hfUg\YX"

U5k UmgʻUXXʻa U]bʻdUfhʻcZʻ $\mathbb{Z}$ fa k UfYʻ $\mathbb{Z}$ fghʻ

! '5&'Ya dhm\/cUfX'ZJ```dfcW/Xi fY'bck 'k cf\_g'Ug']bh\/bXYX

 $! : ] | YX gi ddcfh Zcf'i b`cW_U&W_X, $'d\cbYgž'k \Yb'g][ bUhi fY'gYfj Yf'cZZ']bY \\$ 

! :: ]l YX ZYk 'a ]bcf 'Vi [ g

! 'I dXUhYX'Xf]j Yfg

# j %"\$'

! '6fc\_Yb`XV&\$\$\$žXV&\$%\$`fYX`VJX( - 'gi ddcfh'i bg][ bYX`a cXYž`ZJI YX

## j %"\$&

! '5XXYX'dfY`]a ]bUfmgi ddcfh'Zcf'U&'WJX&\*'d\cbYg'fg)' &\$'Uh'h\Y'a ca Ybht'Uh'h\Y'a ca Ybht'bYhk cf\_'i b`cW\_'dcgg]V`Y'Vm'ZUg\]b[ gdYWJU`'Zfa 'gi ddcfh'gUa gi b[ 'g) ' &\$'g\ci `X'VY'WtbbYWhYX'k ]h\`"- Ž \_ "'dfYggYX']b'cfXYf'hc'YbhYf'Vcch'a cXY"'U``ch\Yf Z bWh]cbg'gi ddcfhYX'k ]h\ci h'bchUV`Y'YI WYdh]cbg"

! '5XXYX'U&'XV' %) \$žXV' &\$\$žXV' &%\$ 'Ya dhm\/cUfX'Z\)``gi ddcfh''

 $mci \ 'bYYX'gdYW]U``WUV'Y']b'\ 'cfXYf'hc'gi \ WWYggZi \ ``m'k f]hY' C \ HD'WX ]dž \ Z +") j \ 'g\ 'ci \ `X'VY' Udd`]YX'hc'87 = C' fMX Uf[ Yf'd]bž'd]b'' \& L \ 'w'' + L \ 'w''$ 

GYhi]bWi XYg. !'' \$idWgigYihcc`'' '`c[g

¥ &\$&& k k k "[ga !gi ddcfh"bYh





