

H\Y`7fmdhc`8U]`m` `A cj Yfg`UbX`G\U_Yfg`
%%" `GYdhYa VYf`&\$&%

6]hWc]bž`6H7`ni` `l G8ž`Z]Y`Ua` : fY]hU[`i a` `ž` `i` `6]hWc]b`
_Y\fhY`Y]bYb` ; Yk]bb`j cb`\$ž+` `i` ` [Y[YbØVYf`8cbbYfghU[`i a`
`i bX`VYYbXYhY`XYb`HU[`VY]`((`"`,`) &ž\$`l G8`"9]b`[Ya`]gW`hYf`
GhUfh]b`XYb`HU[`ZØ\fhY`XUni`ž`XUgg`6]hWc]b`Ui`ZY]b` ðhfUXUmł
<cW`Ua` `ZfØ\Yb`A cf[Yb`j cb`(`+"\$`(`ž\$`l G8`gh]Y[ž`VYj`cf`Yg`
XYb`FØW_k`Åfhg[Ub[`Y]bgW`i` ["6]hWc]b`j YfZY`\`hY`XUg`YfghY`
[fc»Y`K`]XYfghUbXgb]j YUi` `j cb`(`+"`(` `l G8`i bX`fi hgW`hY`Ui`Z`
Y]b`gd`ÅhYg` ðhfUXUmłH]YZ]j cb`(`(`"%`)) ž\$`l G8`"6]hWc]b`Z]Y`
Xi fW`XUg`YfghY`[fc»Y`l bhYfghØhni b[gb]j YUi` `VY]`(`)`(-`%`~`
i bX`XUg`nk`Y]hY`[fc»Y`l bhYfghØhni b[gb]j YUi` `VY]`(`(`)`-`&`~`
5`g`6]hWc]b`YXcW`Y]bY`gd`ÅhY`l bhYfghØhni b[`ZUbXž`
Xi fW`VfUW`Yg`XUg`nk`Y]hY`[fc»Y`l bhYfghØhni b[gb]j YUi` `i bX`
/ Ua`d^Y``]d/

6]hWc]bž`6H7`ni` `l G8ž`Z]Y`Ua` : fY]hU[`i a` `ž` `i` `6]hWc]b`_Y\fhY`
Y]bYb` ; Yk]bb`j cb`\$ž+` `i` ` [Y[YbØVYf`8cbbYfghU[`i a` `i bX`
VYYbXYhY`XYb`HU[`VY]`((`"`,`) &ž\$`l G8`"

9]b`[Ya`]gW`hYf`GhUfh]b`XYb`HU[`ZØ\fhY`XUni`ž`XUgg`6]hWc]b`Ui`ZY]b`
ðhfUXUmł<cW`Ua` `ZfØ\Yb`A cf[Yb`j cb`(`+"\$`(`ž\$`l G8`gh]Y[ž`VYj`cf`
Yg`XYb`FØW_k`Åfhg[Ub[`Y]bgW`i` ["

6]hWc]b`j YfZY`\`hY`XUg`YfghY`[fc»Y`K`]XYfghUbXgb]j YUi` `j cb`(`+"`(``

I G8 'i bX'fi hgWx hY 'Ui ZY]b 'gdÅhYg' ðhfUXUm!HJYZj cb '(("%)) ž\$ 'I G8 "

6]hWc]b 'Z]Y''Xi fWx 'XUg'YfghY '[fc»Y 'I bhYfghØhni b[gb]j YUi 'VY]
() "(- %~ 'i bX'XUg'nk Y]hY '[fc»Y 'I bhYfghØhni b[gb]j YUi 'VY]'((") - &
~

5`g`6]hWc]b 'YXcWx 'Y]bY'gdÅhY 'I bhYfghØhni b['ZUbXž'Xi fWxVfUWx 'Yg
XUg'nk Y]hY '[fc»Y 'I bhYfghØhni b[gb]j YUi 'i bX'VYYbXYhY 'XYb'HU[
VY]'((" , \$ \$ ~ "

8 Yf`_i fnZf]gh][Y`5i Zk ÅfhghfYbX`V`Y]V`hfc hn`XYf`Øb[ghYb`F ØW__Y\ f
Ui ZY]b`B]j YUi `j cb`(' "\$\$\$ 'I G8 `]bhU`h": Øf`X]Y`6ÅfYb`VfÅi Wx hY
6]hWc]b `Y]bYb`Ub\`U`hYbXYb`F ØW_[Ub[`Xi fWx `XYb`* & `i `: ð j cb
&+`&` +`~ ži a `Y]bYb`_i fnZf]gh][Yb`5Vk ÅfhghfYbX`ni `V]`XYb"

8 Yf`F Ygh`XYg`DU`Yhg

ð`U`Yb`UbXYfYb`A U`c`fg`k Uf`Yg`Y]b`Xi fWx k UWx gYbYf`HU[`Ua
: fY]hU[

Dc`_UXch`gh]Y[`i a `%ž%+ı ži a `XYa `HfYbX`XYg`HU[Yg
Ybh[Y[Ybni k]f`Yb"

: Øf`X]Y`UbXYfYb`A U`c`fg`k Uf`Yg`YXcWx `Y]b`VÅf]gWxYf`HU["

9h\YfYi a `fi hgWx hY `i a `* ž&*ı `UVži a `XYb`K Y[`bUWx `i bhYb`ni
ZØ\ fYb"

6]bUbWx`7c]b`fl(ž+\$ı Łž`6]hWc]b`7Ug\`GJ`fl(ž\$, ı Łž`7UfXUbcg`585
fl) ž&- ı Łž`7\U]b`b`_fl) ž+\$ı Łi bX`7fmdhc"Wc`a`7c]b`fl(ž- &ı Ł
k UfYb`b]Wx`h`k`Y]h`XU\]bhYf"

@]hYWc]b`fl' ž(- ı Łi bX`F]dd`Y`g`LFD`fl' ž\$- ı Ł\`UhhY`YXcWx
YVYbZU`g`DfcV`Ya`Y"

ð`XYf`U`_hi Y`Yb`K`cWx`Y`gh]Y[`XYf`?fmdhc!; YgUa`ha`Uf`_h`Ui`ZY]b
8]YbghU[!<cWx`j`cb`&`(' , `A`fX`" `I`G8`ž`VYj`cf`Yf`Ui`ZY]b
8]YbghU[gh]YZj`cb`%, ` ') `A`fX`" `I`G8`Y]bVfUWx`" `Ni`a`NY]hdi`b`_h`XYg

GW\FY]VYbg`U[`X]Y ; YgUa ha Uf_h_Ud]hU`]g]Yfi b[`VY]'&"\$+\$
A]``UfXYb`l G!8c``Uf"

8]Y`8ca]bUbn`j cb`6]hWc]b`gh]Y[`Ui ZY]b`8]YbghU[!<cW`j cb`(' ž*(
l žVYj cf`g]Y`Ui ZY]b` : fY]hU[g!H]YZj cb`' - ž- &`i `Z]Y``Ni a
NY]hdi b_h`XYg`GW\FY]VYbg`U[`X]Y`8ca]bUbn`j cb`6]hWc]b`VY]
(%ž\$(l "

< Yi hY`A cf[Yb

Ni a `NY]hdi b_h`XYg`GW\FY]VYbg`gh]Y[`6]hWc]b`i a `ž* &`i `Ui Z
() "%' &ž\$`l G8``9]b`[Ya]gW`hYf`GhUfh]b`XYb`HU[`ZØ\fhY`XUni ž`XUgg
6]hWc]b`Ui ZY]b`H]YZUa `ZfØ\Yb`A cf[Yb`j cb`(("+) \$ž\$`l G8`Z]Y`ž
VYj cf`Yg`Ui ZY]b`<cW`j cb`(`) "%* - ž\$`l G8`gh]Y["

6]hWc]b``Y» `X]Y`k]W`h[ghYb`l bhYfghØhni b[g!`i bX
K]XYfghUbXgb]j YUi g`ZfØ\`nY]h[`i b[YhYghYh"

5b`UbXYfYf`GhY``Y`k Uf`Yg`Y]b`Xi fW`k UW`gYbYf`GhUfh]b`XYb`HU["

7fmdhc"Wca `7c]b`i bX`Dc`_UXch`k]XYfgYhnhYb`g]W`XYa `ZfØ\Yb
HfYbX`a]h`JYf`i ghYb`j cb`%ž(%i `Vnk ``ž , `i "

: Øf`XYb`F Ygh`XYf`A U`c`fg`k Uf`Yg`Y`XcW`Y]b`Vi ``]gW`Yf`GhUfh"

Ni a `NY]hdi b_h`XYg`GW\FY]VYbg`k Uf`9h`YfYi a `i a `žž\$`l
[Ygh]Y[Ybž`i a `XYb`K Y[`ni`k Y]gYb"

: Øf'XYb'VYj c fghY\YbXYb'6]hWc]b!HU[

6]hWc]b'a ØgghY'g]W\Xi fW\XYb'D]j chj cb'() "') \$!G!8c`Uf
VYk Y[Ybž'i a 'X]Y'YfghY'[fc»Y'K]XYfghUbXga Uf_Y'VY]'(*) (*!G!
8c`Uf']bg'Gd]Y`ni 'Vf]b[Yb"

8Ua]h'6]hWc]b'k]YXYf'Ui Z'XUg'B]j YUi 'j cb'(*"\$\$\$!G8
Xi fW\VFYW\Yb'_Ubbž'k ÅFY'I bhYfghØhni b['j ca 'VFY]hYfYb'A Uf_h
YfZcfXYf']W"

5V[YgY\Yb'j cb'Y]bYf'VFY]h'Ub[Y'Y[hYb'?fmdhc!FU`mY'k ØfXYb'XUg
YfghY'[fc»Y'K]XYfghUbXgb]j YUi 'i bX'XUg': fY]hU[g\cW\j cb
(+"\$((ž\$!G8'k U\fgW\Y]b']W\XYb'5i Zk ÅfhghfYbX'VY[fYbnYb"

⇒a : U`Y'Y]bYf'VFY]h'Ub[Y'Y[hYb'?fmdhc!FU`mY'_ØbbhY'6]hWc]b'XYb
K]XYfghUbX'VY]') "\$\$\$!G!8c`Uf'hYghYbž'VYj cf'Yg'ni 'Y]bYa
FØW_ni ['_ca a h''8]Y'nk Y]hY'[fc»Y'K]XYfghUbXga Uf_Y`]'Y[h'VY]
(, '&' - !G!8c`Uf"

K Ybb'XYf'D]j chj cb'() "') \$!G!8c`Uf'b]W\hXi fW\VfcW\Yb'k]fXž
k ØfXY'XUg'YfghY'[fc»Y'I bhYfghØhni b[gb]j YUi 'VY]'(' "*") +!G!
8c`Uf']bg'Gd]Y`'_ca a Yb"

5V[YgY\Yb'j cb'Y]bYa 'k Y]hYfYb`'Åb[YfYb'5i gj Yf_Ui Z'Ub'X]YgYa
HU['gc`hY'6]hWc]b'g]W\j cb'XYa ' , ž&ı : €j cb'("%) - &`
ZYfb\U'hYb"8Ug'nk Y]hY'[fc»Y'I bhYfghØhni b[gb]j YUi 'VY]'(&'(*%
!G8'gc`hY'X]Y'5Vk ÅfhgVYk Y[i b['VY[fYbnYb"

8YhU]`g

6Ygi W\Yb'G]Y'i bg'Ui Z. '_fmdhc!bYk g"Uh