

A i h][Y`< Y`ZYf`fYhhYb`9bbYdYhU`Yf`Ui g
a]gg`]W\ Yf`@U[Y

9]bgUhn`XYf` : Yi Yfk Y\ f`9bbYdYhU`. `5b[Y\ Òf][Y`VYZfY]Yb
DYfgcb`Ui g`D? K `i bhYf`\YfUV[YghØfnhYa `; UfU[Ybhc f"

9bbYdYhU`fbhgŁ

5a `A cbhU[žXYb`&\$"\$, "&\$&(žYfY)[bYhY`g]W\ `]b`9bbYdYhU`Y]b
VYa Yf_Ybgk YfhYf`J cfZU`žXYf`k]YXYf`Y]ba U`X]Y`HYUa UfVY]hi bX
XYb`gW\ bY`Yb`9]bgUhn`XYf`Òfh`]W\ Yb` : Yi Yfk Y\ f`nY][h`i a `%) "" \$
I \f`k i fXY`X]Y` : Yi Yfk Y\ f`U`Ufa]Yfhž`U`g[Ya Y`XYh`k i fXYž`XUgg
Y]b`5bk c`bYf`]b`gY]bYa ` : U\ fnYi [`Xi fW\ `Y]b`YfUV[YghØfnhYg
; UfU[Ybhc f`[YZUb[Yb`gY]b`gc`""8]YgYf`B chZU`YfZcfXYfhY`Y]bY
i a [Y\ YbXY`FYU_h]cbž`i a `XUg`@YVYb`XYg`VYhfcZZYbYb`A UbbYg
b]W\ h`bi f`ni `gW\ ØhnYb`ž`gcbXYfb`]b`Ui W\ `gW\ bY`gha Ò[`]W\ `Ui g
gY]bYf`a]gg`]W\ Yb`@U[Y`ni `VYZfY]Yb"

?i fn`bUW\ `XYa `5`Ufa `k i fXY`_`Ufž`XUgg`X]Y`5b[Y\ Òf][Yb`XYg
A UbbYg`gW\ bY`i bX`a i h][`UbXY`hYb`"G]Y`gW\ UZhYb`Ygž`bcW\ `j cf
XYa `9]bhfYZZYb`XYf` : Yi Yfk Y\ fž`XYb`Y]b[YgW\ `cggYbYb`5bk c`bYf
Ui g`XYa `5i hc`ni `VYZfY]Ybž`k Ug`g]W\ `U`g`YbhgW\ Y]XYbXYf`GW\ f]hh
\YfUi gghY`hY`"8 Ug`nY][hž`k]Y`k]W\ h][`Yg`]ghž`]a `B chZU`fi \][`ni
V`Y]VYb`i bX`gcZcfh`ni `UbXY`b"

9]bgUhn`XYf` : Yi Yfk Y\ f

5`g`X]Y` : Yi Yfk Y\ f`YbX`]W\ `Ua `C fh`XYg; YgW\ Y\ Ybg`Y]bhfUž`k Uf
X]Y`G]hi Uh]cb`VYfY]hg`i bhYf`? cbhfc`Y`"8]Y`9]bgUhn`fÄZhYž`X]Y`a]h
Y]bYa `<>`ZY`Y]ghi b[g`ÒgW\ ZU\ fnYi [`i bX`Y]bYa `HUb`_`ÒgW\ ZU\ fnYi [
Ui g[YghUhhYh`k UfYbž`_Øa a YfhYb`g]W\ `XUfi a ž`XUg; UfU[Ybhc f`ni
VYgY]h][Ybž`XUg`g]W\ `nk]gW\ Yb`XYa ` : U\ fnYi [`i bX`XYa

; UfU[Ybhc f'j Yf_Y]'h'\UhhY""8i fW]\f'gW.bY`Yg'i bX`_ccfX]b]YfhYg
J cf[Y\Yb'[Y`Ub['Yg']\bYbž'X]Y'9]bgUhnghY`Y`bUW`bi f`k Yb][Yb
A]bi hYb`XYf`Dc`]nY]'i bX`XYb`5bk c\bYfb`ni `ØVYf[YVYb"

8]Y`6Y\Yfnh\Y]h'XYf`5b[Y\Øf][Yb`gd]Y`hY`\]YfVY]'Y]bY
YbhgWY]XYbXY`F c`Y`ZØf`X]Y`G]WYf\Y]h'XYg`A`UbbYg""8`Ub`_]`fYf
gW.bY`Yb`F`YU`_h]cb`i bX`XYf`gc`]XYb`5fVY]h'XYf`Yi`Yfk`Y`f`V`]YV
XYf`5bk c\bYf`i`bj`Yf`Yhh""Gc`WY`J`cfZ`A`Y`Yf]bbYfb`i`bg`XUfUbž
k`]Y`k`]W]h][`Yg]'ghž]'b`?`f]gYbg]hi`Uh]cbYb`gck`c`\`VYfi`\][`h`U`g`Ui`W
\UbX`i`b[`gZ`\][`ni`V`Y]VYbž`i`a`UbXYfY`ni`i`bhYfghØhnYb"

8]Y`6YXYi hi b[`XYf`Ni gUa a YbUfVY]h

8Yf`J`cfZU`i`bhYfghfY]W`h`X]Y`6YXYi hi b[`j`cb`Ni`gUa`a`YbUfVY]h
i`bX`gc`Zc`fh][`Ya`<`UbXY`b`]b`B`chU[`Yb`"`⊕`j]Y`Yb`i`A`Y`b`g]bX`Yg
b]W`h`bi`f`X]Y`F`Y`hi`b[`g`f`A`Z`h`ž`X]Y`X`Ug`@`VYb`j`cb`A`Y`bg`W`Y`b
fY`hhY`bž`gcb`XYfb`Ui`W`X]Y`A`Y`bg`W`Y`b`]b`XYf`i`ba`]h`Y`V`UfYb
l`a`[`Y`Vi`b[`ž`X]Y`g`W`b`Y`f`Y`U[`]Y`fYb""8]Y`i`Yi`Yfk`Y`f`9`bb`Y`d`Y`h`U`
nY][`h`Y`Y]ba`U`a`Y`f`ž`X`Ugg`g]Y`]b`XYf`@U[`Y`]ghž`gW`b`Y`i`bX
k`]f`_i`b[`gj`c`U`i`Z`B`chZ`A`Y`ni`f`YU[`]Y`fYb""Δ`fY`9`ZZ]n]Y`bn`i`bX
D`fc`Z`Y`gg]cb`U`]h`A`h`g]bX`i`bj`Y`fn]W`h`V`Uf`ZØf`X]Y`G]W`Y`f`Y`h'XYf
;`Ya`Y]bXY"

8Yf`9]bgUhn`j`YfXYi`h]W`h`Ui`W`ž`k`]Y`k`]W]h][`c`_`U`Y`i`Yi`Yfk`Y`f`Y`b
ZØf`X]Y`i`Ya`Y]bgW`U`Z`h`g]bX`"G]Y`ghY`Y`b`V`Y`fY]hž`i`a`]b
j`Y`fg`W]Y`XY`b`Y`b`G]hi`Uh]cbYbž`c`V`VY]`6`f`A`b`XY`bž`B`U`hi`f`_`Uh`U`gh`f`c`d`\`Y`b
c`XY`f`]b`B`chZ`A`Y`b`k`]Y`X]Y`g`Y`a`ž`Y]bni`[`fY]Z`Y`b`i`bX`<`]Z`Y`ni`Y]ghYb"
G`d`c`b`g`c`f`Y`bž`i`bhYfghØhnYf`i`bX`i`fY]k`]`][`Y`gd]Y`Y`b`X`U`V`Y]`Y]bY
k`Y`g`Y`b`h]W`Y`F`c`Y`i`bX`\`Y`Z`Y`bž`X]Y`b`ch`k`Y`b`X][`Y`b`A`]h`Y`
V`Y`fY]hni`ghY`Y`bž`X`U`a`]h`X]Y`i`Yi`Yfk`Y`f`c`d`h]a`U`U`i`g[`Y`gh`U`h`Y`h]`gh"

⊕`5`b`V`Y`hf`U`W`h`X`Y`f`i`Y`Z`\`f`Y`bž`X]Y`]a`5`h`U[`U`i`Y`fb`_`Ø`b`Y`bž`]gh`Y`g
Y`bh`g`W`Y]X`Y`b`Xž`X`U`gg`k`]f`i`bg`b]W`h`bi`f`Ui`Z`X]Y`i`Yi`Yfk`Y`f`
j`Y`f`U`gg`Y`bž`g`c`b`X`Y`fb`Ui`W`g`Y`V`gh`j`c`f`V`Y`f`Y]h`Y`h`g]b`Xž`i`a`]b`B`ch`U[`Y`b
]bh`Y`f`j`Y`b]Y`f`Y`b`ni`_`Ø`b`Y`b""G`W`i`i`b[`Y`b`]b`9`f`gh`Y`f`<`]Z`Y`i`b`X
B`ch`Z`U`Ø`Vi`b[`Y`b`_`Ø`b`Y`b`X`U`V`Y]`Y`Z`Y`bž`X]Y`b`ch`k`Y`b`X][`Y`F`i`\`Y`i`b`X
X`Y`b`A`i`h`ni`Z]b`X`Y`bž`i`a`f]W]h][`ni`\`Ub`X`Y`b"

I bhYfa 'Ghf]W\ Yf`YVYb`k]f`a]h`X]YgYa `J cfZU``Y]bYb`k Y]hYfYb
6Yk Y]g`Z0f`XYb`; Ya Y]bgW\UZhg[Y]ghi bX`X]Y`GW\ bY``[_Y]hž`a]h
XYf': Yi Yfk Y\`f`i bX`N]j]`]ghYb`]b`9bbYdYhU`ni gUa a YbUfVY]hYb
_0bbYb``Bi f`Xi fW\`Ni gUa a YbUfVY]hi bX`I bhYfgh0hni b[_Ubb
Y]bY`; Ya Y]bgW\UZhi]b`?f]gYb`ghUf`_V`Y]VYb`i bX`X]Y
<YfUi gZcfXYfi b[Yb`VYk A`h][Ybž`X]Y`XUg`@YVYb`i bg`a UbW\ a U`
ghY`h"

F Y hhi b[ga U» bU\ a Yb`i bX`9]bgUhn_fAžhY

8]Y': Yi Yfk Y\`f`9bbYdYhU``\Uh`Ui Z`XYb`5`Ufa `gW\ bY``fYU[]Yfhi bX
nk Y]: U\fnYi [Y`]b`X]Y`9]bgUhnghY``Y`[YgW\]W_h`XUg
<]Z`Y`Y]ghi b[g`0gW\ ZU\fnYi [`i bX`XUg`HUb`_0gW\ ZU\fnYi [``8]YgY
: U\fnYi [Y`g]bX`a]h`Y]bYa `i a ZUb[fY]W\Yb`5fgYbU`Ub`F Y hhi b[g!
i bX`@0gW\ [YfA`hYb`Ui g[YghUhhYhž`X]Y`]b`Bch`U[Yb`j`cb
YbhgW\Y]XYbXYf`6YXYi hi b[`g]bX``; YfA`hY`k]Y`\mXfUi `]gW\ Y
F Y hhi b[ggW\ bY]XYf`i bX`GdfY]nYf`k i fXYb`j`cfVYfY]hYhž`i a `]b
_f]h]gW\Yb`G]hi Uh]cbYb`gcZcfh`Y]bgYhnYb`ni `_0bbYb"

≈a `9]bgUhnZU``nY][hY`g]W\`YfbYi hž`k]Y`k]W\h][`Y]bY`[i hY
5i gV]`Xi b[`i bX`gW\ bY``Y`?ca`a`i`b]_Uh]cb`]bbYf\U`V`XYf
9]bgUhn_fAžhY`g]bX``8]Y': Yi Yfk Y\`f`Yi hY`k UfYb`]b`XYf`@U[Yž`]\fY
D`AbY`Ubni dUggYb`i bX`gW\ bY``ni `UbbXY`bž`bUW\XYa `X]Y
j`Yf`Yhni b[gZfY]Y`6YZfY]i b[`XYf`DYfgcb`Ui g`XYa `: U\fnYi [`Xi fW\
X]Y`5b[Y\0f][Yb`Xi fW\ [YZ0\fh`k i fXY``8]YgY`gW\ bY``Y`F Y U_h]cb
XYf': Ua`]Y`\Uh`a`0[`]W\Yfk Y]gY`gW\`]a`a`YfY`J`Yf`Yhni b[Yb
j`Yf\]bXYfh"

< A`i Z][Y`B`chZU``g]hi Uh]cbYb`i bX`DfA`j`Ybh]cb

BchZÀ``Y`a]h`Y]b[YgW\`cggYbYb`DYfgcbYbž`k]Y`g]Y`\]Yf
VYgW\ f]YVYb`k YfXYbž`g]bX`b]W\h`X]Y`F Y[Y`ž`hfYhYb`YXcW\`A`i Z][Yf
Ui Z`U`g`j]Y`Y`XYb`_Yb``GhUh]gh]_Yb`nY][Ybž`XUgg`A`\f`]W\`HUi gYbXY
j`cb`A`YbgW\Yb`Xi fW\`i bhYfgW\]YX`]W\Y`i fgUW\Yb`]b`[YZÀ`\f`]W\Y
G]hi Uh]cbYb`[YfUHyb``C`Zhi]bX`i bni fY]W\YbXY
G]W\Yfi b[ga U» bU\ a Ybž`gdcbhUbY`i bZÀ``Y`cXYf`Yi hfYa`Y
K`YhhYfVYX]b[i b[Yb`5i g`0gYf`Z0f`XYfUfh][Y`J`cfZÀ``Y``@Ui h`XYf
8Yi hgW\Yb`: Yi Yfk Y\`f`GhUh]gh]gW\Yb`@UbXYgghY``Y`[UV`Yg]`a``U\`f`

&\$&&ØVYf'&\$"\$\$\$'9]bgÀhnYž'VY]'XYbYb'A YbgWXYb'VYZfY]h'k YfXYb
a i gghYb"

I a 'gc`WXYb'BchZÀ`Yb'j cfni VYi [Ybž']gh'Yg'k]W\h][ž'fY[Y'a À»][
GWXi 'i b[Yb'i bX'G]WXYf\Y]hgØVi b[Yb'Xi fW\ ni ZØ\ fYb"'8]Yg'ghÀf_h
b]W\h'bi f'X]Y': À\][_Y]hYb'XYf'9]bgUhn_fÀZhYž'gcbXYfb'gYbg]V']g]Yfh
Ui W\X]Y'6Yj Ò`_Yfi b['ZØf'X]Y'; YZU\ fYb'ja '5`hU["'Ni XYa
Ya dZ]Y\`h'Yg'g]W\ž']b'i ba]hhY`VUfYb'K c\bVYfY]WXYb'g]WXYfYfY
; UfU[Yb`Øgi b[Yb'ni ']bghU``YfYb'i bX'g]WXYfni ghY`Ybž'XUgg
; UfU[YbhcfY'fY[Y'a À»]['[Yk UfhYh'k YfXYbž'i a 'i b[Yk c`hY
I bZÀ`Y'ni 'j Yfa Y]XYb"

8YhU]`g

6Ygi WXYb'G]Y'i bg'Ui Z.'b!U["XY