

9f`YVYb`G]Y`? i bgh`ja`ÒZZYbh`]WXYb`FUi a` . Gma dcg]i a gUVgW`i gg`]b`K i`\\`Y]XY

9f`YVYb`G]Y`X]Y`ZUgn]b]YfYbXYb`9f[YVb]ggY`XYg`?ØbghYf!
Gma dcg]i a g`]b`XYf`K i`\\`Y]XY`Ua`%"`GYdhYa VYf`&\$&(`j cb
%(. \$\$`V]g`%*`.\$\$. `I` \f`"8]g_`i`h]YfYb`G]Y`a`]h`?ØbghYf]bbYb`i`bX
?ØbghYfb`ØVYf`?i bgh`ja`ÒZZYbh`]WXYb`FUi a` `i`bX`[`Yb]Y»Yb
G]Y`X]Y`?i bghdZUXZØ\fi b[`a`]h`?i bgh\]ghcf]_Yf`A`Ufh]b
GW`ÖbZY`X`"GY]Yb`G]Y`HY]`Y]bYg`_fYUhj]`Yb`8]U`c[`g`

8]Y`K i`\\`Y]XY`]b`6Yf`]b`j`Yfk`UbXY`h]g]W`]b`Y]bYb`GW`Ui`d`Uhn`XYf
?fYUh]j`]h`Ä`hi`bX`XYg`_ØbghYf]gW`Yb`8]U`c[`g`"5a`GcbbhU[`ž`XYa``%"`
GYdhYa VYf`&\$&(`ž`Z]bXYh`nk`]gW`Yb`%(`.\$\$. `i`bX`%*`.\$\$. `I` \f`Y]bY
VYgcbXYfY`?i bghdZUXZØ\fi b[`ghUhh`ž`X]Y`X]Y`9f[YVb]ggY`XYg
X]Yg`Ä`f][`Yb`?ØbghYf!Gma dcg]i a g`d`f`Ä`gYbh]Yfh`"8]YgY
J`Yf`UbghU`hi`b[`n]Y`h`X`Uf`Ui`Z`UV`ž`X]Y`J`YfV]b`Xi`b[`j`cb`?i bgh`i`bX
ÒZZYbh`]W`Ya` `F`Ui`a` `]b`Y]bYf`Y]bn][`Ufh][`Yb`l`a` [`YVi`b[`ni
VY`Yi`W`hYb`"

5bXf`Ä`;`f`Ua`a`Y`g`X`c`f`ZZ`X`Y`f`ghY`"j`Y`fh`f`Y`h`Y`b`XY
6Yn]f`_gV`Øf[`Y`fa`Y]ghYf`ž`\\`Y`V`h`X]Y`6YXY`i`hi`b[`XYg`Gma dcg]i a g
\\`Y`f`j`c`f`"8`Ug`H`Y`a`U`]gh`X]Y`?i bgh`ja`ÒZZYbh`]WXYb`FUi a`ž
]bgVYgcbXYfY`X`Ug`Ni`g`Ua`a`Y`bk`]f`_Yb`]b`Y]bYa`_ØbghYf]gW`i`bX
[`YgY`gW`U`Zh`gdc`h]gW`i`[`Y`df`Ä`h`Yb`B`Uhi`ff`Ui`a` `ž`Yf`_`Ä`fh`Y`f`i`bX
VY`hc`b`h`ž`X`Ugg`X]Y`HY]`b`Y`a`Y`b`XY`b`Y]b`Y`K`c`W`Y`"Ub[`]b`X]YgYa
9fZ`U`fi`b[`gf`Ui`a` `h`Ä`h][`k`Uf`Yb`"8`UVY]`\\`UVYb`g]Y`_fYUhj]`Y
5b`hk`c`fh`Y`b`Ui`Z`X]Y`;`Y[`Y`V`Y`b`\\`Y]h`Y`b`i`bX`X]Y`5`ha`cgd`\\`Ä`f`Y`b`X]YgYg
VYgcbXYfYb`C`fhYg`]b`XYf`K i`\\`Y]XY`Y`b`hk`]W`Y`h`"

9]b`8]U`c[`nk`]gWXYb`?i bgh`i`bX`B`Uhi`f`

8]Y`?i bghdZUXZØ\fi b[`V]Y`h`Y`h`i`b]W`h`i`bi`f`Y]b`Y`A`Ö[`]W`_Y]h`ž`X]Y`

k Å\fybX'XYg'Gma dcg]i a g'YbghU'X'YbYb'K Yf_Y'ni 'gY\Ybž
gcbXYfb'Ui W'X]Y'; Y'Y[Yb\Y]hž'X]fY_h'a]h'XYb'ØbghYf]bbYb'i bX
ØbghYfb']b'cbhU_h'ni 'hfYhYb''8]Y'6Ygi W'Yf'g]bX'Y]b[Y'UXYbž
: fU[Yb'ni 'ghY''Yb'i bX'g]W'j cb'XYb'_fYUh]j Yb'DfcN'YggYb
]bgd]f]YfYb'ni ''UggYb'' K]f'a ØW'hYb'Y]bYb'8]U'c['ZØfXYfb ž'gU[h
; fUa a Y'gXcfZZ' XYf'gck c\X]Y'_ØbghYf]gW'Yb'5bgÅh'Y'U'g'Ui W
X]Y'H\Ya Yb'XYg'Gma dcg]i a g'VY'Yi W'hYh"

8]Y'J YfU'bgU'hi b['k]fX'a U» [YV'W'j cb'XYa 'i bgh\]ghcf]_Yf
A Ufh]b'GW'ØbZY'X' [Y'Y]hYhž'XYf'gY]b': UW'k]ggYb']b'X]Y': Ø\fi b[
Y]bVf]b[h''; Ya Y]bgUa 'a]h'A]h['YXYfb'XYf'VYn]f_]W'Yb
?ca a]gg]cb'?i bgh]a 'ØZYbh]W'Yb'FUi a 'k]fX'Yf'X]Y
j YfgW']YXYbYb'GhU]cbYb'Yb'h'Ub['XYg'?i bghdZUXYg'Yf'_ÅfYb'i bX
]bhYfYggUb'hY'9]bV']W_Y']b'X]Y'Yk Y'] [Yb'K Yf_Y' [YVYb'' ?i bgh]a
ØZYbh]W'Yb'FUi a 'gd]Y'h'Y]bY'YbhgW'Y]X'YbXY'F c''Y'ZØf'XUg
; Ya Y]bgW'UZhg[YZØ\''i bX'X]Y'»XYbh]hÅh'Y]bYg'Cfhg ž'VYhcbh
GW'ØbZY'X'i bX'j Yfk Y]gh'Ui Z'X]Y'k Yfhj c''Y'F c''Yž'X]Y'gc'W'Y
»h]Uh]j Yb'ZØf'X]Y'GhUXh[YgY''gW'UZhg]gd]Y'Yb"

6Ygi W'Yf'_ØbbYb'g]W'Ui Z'Y]b'UVk YW'g'i b[gfY]W'Yg'Dfc[fUa a
ZfYi Ybž'XUg'X]Y'J]Y'ZU'h'XYf'_ØbghYf]gW'Yb'5bgÅh'Y'k]XYfgd]Y[Y'h'
K]f'Yfk UfhYb'Y]b'VfY]hYg'GdY_hfi a 'Ub'_ØbghYf]gW'Yb
5i gY]bUbXYfgYhni b[Ybž'X]Y'j cb'»ghU''Uh]cbYb'V]g'\]b'ni
]bhYfU_h]j Yf'; YghU'hi b['fY]W'Yb ž'ZØ\fh'GW'ØbZY'X'k Y]hYf'Ui g''8Yf
?i bghdZUX'V]YhYh'Y]bY'Y]ba U'] [Y'; Y'Y[Yb\Y]hž'?i bgh'b]W'h'bi f'ni
VYhfUW'hYbž'gcbXYfb'g]Y'Ui W'\Ui hbU\ 'ni 'Yf'YVYb'i bX'ni
j Yfgh\Yb"

Ni _ØbZh][Y'DYfgdY_h]j Yb

8]Y'?i bghdZUXZØ\fi b['Ua '%"GYdhYa VYf'gh'b]W'h'bi f'Y]bY
Y]ba U'] [Y'J YfU'bgU'hi b[ž'gcbXYfb'HY]'Y]bYf' [fØ» YfYb'»h]Uh]j Yž
X]Y'XUfUi Z'UVn]Y'hž'?i bgh]a 'ØZYbh]W'Yb'FUi a 'Ub[Zf]gh]['ni
ZØfXYfb''; fUa a Y'gXcfZZ'VYhcbh'X]Y'K]W'h][_Y]h'gc'W'Yf
J YfU'bgU'hi b[Yb.' G]Y'gW'UZZYb'6Yk i gghgY]b'i bX'ZØfXYfb'XUg
»hYfYggY'Ub'XYf'?i bghž'X]Y'i bg'i a []Vh''K]f'k c''Yb'X]Y'6Øf[Yf
Yfa i h][Ybž'g]W'a]h'?i bgh'Ui gY]bUbXYfni gYh'Yb'i bX'X]Y
A Ø['W'Y]hYb'XYg'_fYUh]j Yb'8]U'c[g'ni 'bi h'Yb"

8]Y`J YfUbgH`hi b[`Z]bXYh`ja : 9N`K i \`\Y]XY`ghUhh`Y]bYa
nYbhfU`Yb`C fh`Z0f`?i `hi f`z`6]Xi b[`i bX` : fY]nY]h]b`6Yf`]b"8]Y`@U[Y
]ba]hhYb`XYf`B Uhi f`i bX`X]Y`j cf\YffgWXYbXY
?fYUh]j]h`hgUha`cgd\`A fY`XYf`K i \`\Y]XY`a UWXYb`X]YgYb`C fh
VYgcbXYfg`[YY][bYh`Z0f`_0bgh`Yf]gWXY`6Y[Y[bi b[Yb"

0g[YgUa h`nY][h`XUg`?0bgh`Yf!Gma`dcg]i a`z`k]Y`k]W`h][`XYf
5i ghUi gW`nk]gWXYb`?i bgh`i bX` ; YgY`gW`UZh]gh"8]Y`K i \`\Y]XY
k]fX`b]W`h`bi f`ni f`?i `]ggY`Z0f`?i bgh`z`gcbXYfb`Ui W`ni a
5_]cbgZY`X`Z0f`[YgY`gW`UZh]WXY`8]g_i gg]cbYb`i bX`_fYUh]j Yg
GW`UZZYb" K]f`UXYb`U`Y`Y]b`z`a]h`i bg`Ui Z`9bhXYW_i b[gfY]gY`ni
[Y\Yb`i bX`X]Y`Gdi fYb`XYf`?i bgh]b`XYf`B Uhi f`ni `YbhXYW_Yb` z`gc
; fUa`a`Y`gXcfZZ`UVgW`]Y»YbX"

: 0f`0hYfYgg]YfhY`[]Vh`Yg`a`Y`f`0Zcfa`Uh]cbYb`Ui Z`XYf`K`YVg]hY`XYf
GhUXh`6Yf`]b`z`k`c`8YhU]`g`ni`f`?i`bghdZUXZ0\fi b[`i bX`k`Y]hYfYb
ni`_0bZh][Yb`J YfUbgH`hi b[Yb`ni`Z]bXYb`g]bX.
k`k`k`"VYf`]b"XY#V]`Xi b[!h`_"

J YfVcf[YbY`GW`AhnY`XYf`K i \`\Y]XY

8]Y`K i \`\Y]XY`z`Y]b`k`Y]h`Ai`Z][Yg`B`U`Y`f`c`i`b[g[YV]Yh]a`6Yf`]bYf
GhUXh`VYn]f`_`HfY`d`hc`k`!`?`0dYb]W`z`\`Uh`Y]bY`Ub[Y` ; YgW]W`hY`U`g`C`fh
_0bgh`Yf]gWXYf`i bX`_i`hi`fY`Y`f`J`YfUbgH`hi b[Yb"8]Y`@UbXgW`UZh
]gh]j`cb`Y]W`hYf`<0[Y`ghfi`_hi`f`i`bX`VYk`U`XYhYb` : `AWXYb`[YdfA[hz
k`Ug`g]Y`ni`Y]bYa`]XYU`Yb`GW`Ui`d`Uhn`Z0f`_0bgh`Yf]gWXY`Dfc`Y`_hY
a`UW`h"

6YgcbXYfg`VYa`Yf`_Ybgk`Yfh]gh`XUg`A`i`g]_!`i`bX` : fY]nY]hnYbhf`i`a
K`i`\`\Y]XY`z`XUg`gY]h`XYb`%-`)`\$Yf`J\`fYb`U`g`J`YfUbgH`hi b[gc`fh`Z0f
[fc»Y`?`cbnYfhY`i`bX` : Ygh]j`U`g`VY`_Ubbh]gh"8]Y`B`Uhi`f`gY`Vgh`k`]fX
\]Yf`c`Zh`U`g`HY]`XYf`?i`bgh]bgnYb]Yfh"6Y]`XYa`_VY`j`cfgh`Y`YbXYb
Gma`dcg]i`a`k`]fX`X]Y`K`YW`gY`k`]f_i`b[`nk`]gWXYb`?i`bgh`i`bX`B`Uhi`f
YfbYi`h`h`Ya`Uh]g]Yfh`i`bX`a`Y`fYfY`bYi`Y`_0bgh`Yf]gWXY`K`Yf`_Y`]b
XYf`i`a`[YVi`b[`XUg`@]W`h`XYf`K`Y`h`YfV`]W`Yb"

5_hi`Y`Y`_HfYbXg`]b`XYf`?i`bgh]a

ÖZZYb h`j]W\ Yb`F Ui a

⊕`XYb`YhnhYb`Δ\ fYb`U h`X]Y`? i bgh`ja`ÖZZYb h`j]W\ Yb`F Ui a`Ub
6YXYi hi b[`[Yk cbbYbž`XU`]a`a Yf`a`Y\ f`Gh`XhY`j`Yfgi`W\ Ybž`]\ fY
_i`hi`fY`Y`⊕`XYb h]h`h`Xi`fW`? i bgh`ni`gh`Ä`_Yb`"⊕`6Yf`]bž`Y]bYf`GhUXhž
X]Y`Z0f`]\ fY`j`j]Y`Z`Ä`h][`Y`i`bX`XmbUa`]gW\ Y`? i bghgnYbY`VY`Ubbh`]ghž
[`j]Vh`Yg`nU\`fY]W\ Y`Dfc`Y`_hYž`X]Y`X]Y`60f[`Yf`U`_h]j`Y]bVYn]Y\`Yb`i`bX
[`Y]W\ nY]h][`X]Y`i`fVUbYb`F`Ä`i`a`Y`VY`YVYb`"

@Ui`h`XYf`6Yf`]bYf`GYbUhg`_Ub`n`Y`]\`Uh`? i bgh`ja`ÖZZYb h`j]W\ Yb
F Ui a`b]W\ h`bi`f`Y]bY`Ä`gh`Y`h]gW\ Y`:`i`b`_h]cbž`gcbXYfb`Ui`W\`Y`]bY
gcn]U`Y`:`G]Y`Vf]b[`h`A`YbgW\ Yb`ni`gUa`a`Ybž`fY[`h`gcn]U`Y
⊕`hYfU`_h]cbYb`Ub`i`bX`_Ub`b`k`]W\ h][`Y`[`YgY`g`W\ UZh`]W\ Y`H\`Ya`Yb
UbgdfYW\ Yb`"8Ug`Gma`d cg]i`a`]b`XYf`K`i`\`Y]XY`]gh`Y]b`5i`gXfi`W_
X]YgYg`HfYbXg`i`bX`nY][`hž`k`]Y`k`]W\ h][`X`Yf`8]U`c[`nk`]gW\ Yb
?0bgh`Yfb`i`bX`XYf`²`ZZYb h`j]W\`_Y]h`]gh`"

F Ybca`a`j]YfhY`?`0bgh`Yf`i`bX`]\`fY`K`Yf`_Y

8Ug`Gma`d cg]i`a`k`]fX`Y]bY`D`Uhhž`c`fa`Z0f`gck`c`\`Y`hUV`]YfhY`U`g
Ui`W\`Ui`ZghfYVYbXY`?`0bgh`Yf`V]YhYb`"8]Y`hY]`bY\`a`YbXYb`?`0bgh`Yf
\`UVYb`VYfY]hg`]b`XYf`J`Yf[`Ub[`Yb\`Y]h`VYa`Yf`_Ybgk`YfhY`Dfc`Y`_hY`]a
ÖZZYb h`j]W\ Yb`F Ui a`fYU`]g]Yfh`i`bX`Vf]b[`Yb`j`j]Y`Z`Ä`h][`Y`DYfgdY`_h]j`Yb
a`]h`i`b`hYf`]\`bYb`Z]bXYb`g]W\`?`0bgh`Yfž`X]Y`a`]h`A`UhYf]U`]Yb`k`]Y
A`cgU]_Ybž`GhU\`ž`<`c`n`i`bX`X][`]hU`Yb`A`YX]Yb`UfVY]hYb`"

9]b`6Y]gd]Y`Z0f`Y]bY`YfZc`[`fY]W\ Y`_0bgh`Yf]gW\ Y`⊕`hYfj`Yb]cb`]a
ÖZZYb h`j]W\ Yb`F Ui a`]gh`X]Y`9Ugh`G]XY`:`U`Yfm`ž`Y]b`,`VYffYgh`XYf
6Yf`]bYf`A`Ui`Yfž`XYf`j`cb`?`0bgh`Yfb`Ui`g`XYf`[`Ub`nYb`K`Y`h`VYa`U`h
k`i`fXY`"8]YgYg`Dfc`Y`_h`U`h`b]W\ h`bi`f`X]Y`_fYUh]j`Y`GnYbYf]Y`6Yf`]bg
[`YdfÄ[`hž`gcbXYfb`Ui`W\`k`]W\ h][`Y`\]ghc`f]gW\ Y`i`bX`[`YgY`g`W\ UZh`]W\ Y
H\`Ya`Yb`VY\`UbXY`h`"8Ug`VYj`c`fgh\`YbXY`Gma`d cg]i`a`n]Y`h`XUfUi`Z
UVž`Ä`\`b`]W\ Y`VYXYi`hi`b[`gj`c`Y`8]U`c[`Y`ni`Z0fXYfb`i`bX`X]Y
K`i`\`Y]XY`U`g`C`fh`XYf`_fYUh]j`Yb`5i`gY]bUbXYfgYhmi`b[`k`Y]hYf`ni
YhUV`]YfYb`"

8]Y`F`c`Y`XYf`²`ZZYb h`j]W\`_Y]h`]b`XYf`?`i`bgh

8]Y'9]bVYn]Y\i b['XYf'2 ZZYbh]W_X]h]b'_ØbghYf]gWXY'Dfc'Y_hY']gh
Y]b'k UW_XgYbXYf'HfYbX''8i fW_X'J YfUbgH'hi b[Yb'k]Y'XUg
Gma dcg]i a 'k]fX'Y]b'FUi a '[YgW_XZZYbž]b'XYa '6Øf[Yf'X]fY_h'a]h
?ØbghYfb']bhYfU[]YfYbž': fU[Yb'ghY''Yb'i bX'≠YYb'Ui ghUi gW_Xb
_ØbbYb''8]Yg'ZØfXYfh'b]W_Xh'bi f'X]Y'K YfhgW_Xhni b['ZØf'?i bghž
gcbXYfb'Ui W_X'Y]b'; YZØ\''XYf'; Ya Y]bgW_XZh'i bX'≠Ybh]hÀh"

NU\`fY]W_XY'Ghi X]Yb'VY'Y[Ybž'XUgg'X]Y'U_h]j Y'HY]'bU\`a Y'Ub
_i`hi fY''Yb'J YfUbgH'hi b[Yb'XUg'K c\`VYZ]bXYb'i bX'X]Y
@YVYbgei U]hÀh'XYf'A YbgW_Xb'ghY][Yfb'_Ubb''8]Y
6i bXYgj YfY]b][i b['Gcn]c_i`hi fY''Yf'NYbhYb']b'8Yi hgW_X`UbX'\`YVh
\Yfj cfž'XUgg'?i bghdfc'Y_hY']a 'ØZZYbh]W_XYb'FUi a 'dcg]h]j Y'gcn]U`Y
5i gk]f_i b[Yb'\UVYb'i bX'ni f'≠hY[fUh]cb'j YfgW_X]YXYbYf
6Yj Ò`_Yfi b[g[fi ddYb'VY]hfU[Yb'_ØbbYb''8]Yg'Ybhgdf]W_Xh'XYa
5bgUhn'XYg'Gma dcg]i a gž'ØZZYbh]W_XY'F`Ài a Y'ZØf'8]U`c['i bX
5i ghUi gW_X'ni 'YfØZZbYb"

8YhU]`g

6Ygi W_XYb'G]Y'i bg'Ui Z.'a Y]b!VYf`]b"bYh