

=b_`i g]cb`Ui Z`XYa `5fVY]hga Uf_h

8]Y`@UbXYg!6Y\]bXYfhYbVYUi ZhfU[hY`G]a cbY` :]gWXYf`\Uh
XUg`l bhYfbY\`a Yb`5Z6`8Yi hgW\`UbX`]b`9hh`]b[Yb`VYgi W\h" ()
DfcnYbh`XYf`fi bX`* \$\$`6YgW\`ÀZh][hYb`XYf`5Z6`\UVYb`Y]bY
6Y\]bXYfi b["5a`%+"5i [i gh&\$&&`VYgi W\hY`X]Y`@UbXYg!
6Y\]bXYfhYbVYUi ZhfU[hY`G]a cbY` :]gWXYf`[Ya Y]bgUa`a`]h
l`f]_Y`K YfbYfhž?ca a i bU`Y`6YUi ZhfU[hY`XYf`GhUXh
?Uf`gfi \Y`i bX`FY]a Uf`BYi a Ubbž?ca a i bU`Yf`6YUi ZhfU[hYf
XYg`@UbX_fY]gYg?Uf`gfi \Y`XUg`l bhYfbY\`a Yb`5Z6
8Yi hgW\`UbX`]b`9hh`]b[Yb"8]Y`5Z6`[; a V<`]gh`XUg`[fO» hY
[Ya Y]bbØhn][Y`≠!I bhYfbY\`a Yb`]b`9i fcdU`i bX`\Uh]\fYb
<Y]a Uh!`i bX`GhUa a g]hn`]b`6UXYb!K ØfhYa VYf["8i fW\`
nYfh]Z]n]YfhYg`≠!F Ya Uf_Yh]b[`hfÀ[h`5Z6`XUni`VY]ž
l a k Y`hfYggci fW\`b`Y]bni gdUfYb"5b`&\$`GhUbXcfhYb`]b
8Yi hgW\`UbXž² ghYffY]W\ž: fUb_fY]W\žXYf`GW\k Y]n`i bX`XYf
G`ck U_Y]`VYgW\`ÀZh][h`5Z6`fi bX`* \$\$`A]hUfVY]hYbXYžXUj cb
/ Ua d^Y``d/

8]Y`@UbXYg!6Y\]bXYfhYbVYUi ZhfU[hY`G]a cbY` :]gWXYf`\Uh
XUg`l bhYfbY\`a Yb`5Z6`8Yi hgW\`UbX`]b`9hh`]b[Yb`VYgi W\h"
()`DfcnYbh`XYf`fi bX`* \$\$`6YgW\`ÀZh][hYb`XYf`5Z6`\UVYb
Y]bY`6Y\]bXYfi b["5

5a`%+"5i [i gh&\$&&`VYgi W\hY`X]Y`@UbXYg!
6Y\]bXYfhYbVYUi ZhfU[hY`G]a cbY` :]gWXYf`[Ya Y]bgUa`a`]h`l`f]_Y
K YfbYfhž?ca a i bU`Y`6YUi ZhfU[hY`XYf`GhUXh?Uf`gfi \Y`i bX
FY]a Uf`BYi a Ubbž?ca a i bU`Yf`6YUi ZhfU[hYf`XYg`@UbX_fY]gYg
?Uf`gfi \Y`XUg`l bhYfbY\`a Yb`5Z6`8Yi hgW\`UbX`]b`9hh`]b[Yb"

8]Y`5Z6`[; a V<`]gh`XUg`[fO» hY`[Ya Y]bbØhn][Y`≠!I bhYfbY\`a Yb
]b`9i fcdU`i bX`\Uh]\fYb`<Y]a Uh!`i bX`GhUa a g]hn`]b`6UXYb!
K ØfhYa VYf["8i fW\`nYfh]Z]n]YfhYg`≠!F Ya Uf_Yh]b[`hfÀ[h`5Z6`XUni

VY]žl a k Y`hfYggci fW`b`Y]bni gdUfYb"5b`&\$`GhUbXcfhYb`]b
8Yi hgW`UbXž`2 ghYffY]W`ž: fUb_fY]W`ž`XYf`GW`k`Y]n`i`bX`XYf`
G`ck`U`_Y]`VYgW`ÀZh][`h`5Z6`fi`bX`*`\$\$`A`]hUfVY]hYbXYž`XUj`cb`(`)
DfcnYbh`a`]h`6Y`\\]bXYfi`b[`"5Z6`V]YhYh`VY]gd]Y`\\UZh
gcn]U`j`Yfg]W`Yfi`b[`gdZ]W`h][`Y`6YgW`ÀZh][`i`b[`Ui`Z`XYa
U`[`Ya`Y]bYb`5fVY]hga`Uf`h`

⇒b`_`i`g]cb`Ui`Z`XYa`5fVY]hga`Uf`h`

6Y]Y]bYf: Ø\fi`b[`Xi`fW`X]Y`DfcXi`_]cb`Yf\]Y`h`X]Y`@UbXYg!
6YUi`ZhFU[`hY`j`]Y`Z`À`h][`Y`9]bV`]W`_Y`i`bX`gdfUW`a`]h`XYb
A`]hUfVY]hYbXYb`XUfØVYfž`k`Ug`j`\bYb`VY]`XYf`⇒b`_`i`g]cb`Ua
5fVY]hga`Uf`h`i`bhYf`XYb`B`À[`Y`b`VfYbb`h`Gc`]gh`Yg`ni`a`6Y]gd]Y`
j`cb`6Y`Ub[`ž`Y]bY`YW`hY`7`\\UbW`ni`Yf\U`hYbž`X]Y`5fVY]hgghY`Y`a`]h
XYa`2`ZZYbh]W`Yb`DYfgcbYbbU`j`Yf`_Y`f`VUff]YfY`ZfY]`YffY]W`Yb`ni
_ØbbYbž`k`Y]`j`]Y`Y`g]W`i`a`k`Y`hVYk`i`ggh`Zc`fhVYk`Y[`Yb`k`c`Yb`c`XYf`
_Y]bYb: Ø\fyfgW`Y]b`\\UVYb"8]Y`A`]hUfVY]hYbXYb`VYf]W`hYhYb`j`cb
j`]Y`ni`Ub[`Yb`6YUfVY]hi`b[`gnY]hYb`VY]a`5bhFU[`Ui`Z`XYb`
GW`k`YfVY`\\]bXYfhYbUi`gk`Y]gž`XYf`ZØf`X]Y`6Yk`j`][`i`b[`j`cb
BUW`hY]`gUi`g[`Y]W`Yb`i`bX: ØfXYfa`]hY`Y]bY`nYbhFU`Y`F`c`Y`gd]Y`h`

5Z6`nY][`hž`k`]Y`Yg`ni`gW`UZZYb`]ghž: UW`_f`À`ZhY`a`]h`6Y`\\]bXYfi`b[`Yb
ni`[`Yk`]bbYb"9]b`Xi`fW`XUW`hYg`?`cbnYdhž`XUg`?`bck`!<`ck`ØVYf`
: ØfXYf!A`Ø[`]W`_Y]hYb`ZØf`XUg`i`bhYfbY`a`Yb`i`bX`Y]bY`DYfgcbž`X]Y
g]W`i`a`6Yhf]YV`XUfi`a`gck`]Y`i`a`X]Y`6Y`Ub[`Y`XYf`A`]hUfVY]hYbXYb
X]fY`_h`_Øa`a`Yfhž`g]bX`XUg`5`i`bX`C`"

⇒a`;`Ygdf`ÀW`i`]b[`Yg`Ui`W`i`a`X]Y`≠!F`Ya`Uf`_Yh]b[`ei`chYž`X]Y
GW`k`YfVY`\\]bXYfhYbei`chY`j`cb`5Z6ž`\\fY`F`c`Y`U`g
5i`gV]`Xi`b[`gVYhf]YV`gck`]Y`X]Y`j`Yfgh`Àf`_hY: UW`_f`À`ZhYgi`W`Y"5Z6
gi`W`h`XYi`hgW`UbXk`Y]h`Ub`a`Y`fYfYb`GhUbXcfhYb`bUW`bYi`Yb
A`]hUfVY]hYbXYb`i`bX`gU[`h`6Y]i`bg`ghY`h`XYf`A`YbgW`a`]h`gY]bYb
: `À`][`_Y]hYb`i`bX`A`Ø[`]W`_Y]hYb`i`a`i`c`_i`g`"

8]Y`6YUi`ZhFU[`hY`XYf`@UbXYgfY[`]Yfi`b[`]ZØf`X]Y`6Y`Ub[`]Y`j`cb
A`YbgW`Yb`a`]h`6Y`\\]bXYfi`b[`]Yb`

5Z6 '[; a V<

8 Ug ; YgWÅZnga cXY`XYg`#!FYZi fV]g\Yfg`VUg]Yfh`Ui Z
`Ub [Zf]gh][Yb`DUfhbYfgWUZhYb`a]h`a Y\`f`U`g`%`* \$\$`I bhYfbY\`a Ybž
6Ub_Ybž`J Yfg]WYfi b[Yb`i bX`ÖZYbh]WYb`9]bf]W`hi b[Yb`"5Z6
ØVYfb]a a h`gY]h`&\$\$(`XYfYb`b]W`h`a Y\`f`VYb`Øh][hY`#!`i bX
A cV][Yf`ÅhY`ž`ÖgW`hi bk]XYffi Z]W`X]Y`Ybh`U`hYbYb`8 UhYbž`fØghYh
X]Y ; Yf`ÅhY`Ui Z`]bghU`Y]Yfh`bYi Y`GcZk UfY`i bX`j Yf`Ui Zh]Y`a]h
a]bXYghYbg`%&`A cbUhYb` ; UfUbh]Y`\Ui dhgÅW`]W`Ub
Df]j UhdYfgcbYbž`[Ya Y]bbØh][Y`C f[Ub]gUh]cbYb`i bX`GW`i `Yb`"

: Øf`X]YgYg ; fYYb!#!?cbnYdhk i fXY`5Z6`i bhYf`UbXYfYa`a]h`XYa`
#`8]ghf]`5k UfX`FYzi fV]g\]b[/`FYa Uf`Yh]b[`&\$\$&ž`a]h
XYa`8Yi hgW`Yb`B UW`U`h][_Y]hgd`fY]g`&\$\$%`i bX`U`g`@YUX]b [
9a d`c mYf`&\$\$&`Ui g[YnY]W`bYh`5Z6`]gh`[YdfØZh`i bX`nYfh]Z]n]Yfh
j ca`H, J`GØX`f`GC`- \$\$%ž`GC`%(\$\$%ž`GC`&+\$\$%ž`U`g
9bhgc f[i b[gZUW`VYhf]YV`i bX`U`g`A]WfcgcZi`5i h\`cf]nYX
FYZi fV]g\Yf`"

⊖gd]f]Yfhj cb`@UbXYgfY[]Yfi b[`6K

8YhU]`g

6Ygi W`Yb`G]Y`i bg`Ui Z.`b!U["XY