

I bZU``Ub`? fYi ni b[]b` : Øfh\ .
NYi [YbUi Zfi Z`ni f`5a dY`gW\ U`hi b[

J Yf_Y\fgi bZU``]b` : Øfh\ . NYi [Yb`[Ygi W`h`K Yf`UhhY` ; fØb
]a` ?fYi ni b[gVYfY]W`GW`k UVUW`Yf
GhfU» Y#H\YfYg]YbghfU» Y3`<]bk Y]gY`Yfk ØbgW`h"

5a`GcbbhU[j cfa`]hhU[ž[YbUi Yf`[YgU[h`Ua``%, ''5i [i gh&\$&(& ž
YfY][bYhY`g]W`Y]b`J Yf_Y\fgi bZU``]a` ?fYi ni b[gVYfY]W`XYf
GW`k UVUW`Yf`GhfU» Y`i bX`XYf`H\YfYg]YbghfU» Y`]b` : Øfh`''8 Yf
J cfZU``[YgW`U\` [Y[Yb`%%.\$\$`I` \fž`U`g`XYf` : U\Yf`Y]bYg`J K`]b
F`]W`hi b[`GhUXhnYbhfi a``i bhYfk Y[g`k Uf`i bX`VY]a``5VV]Y[Yb`Ui Z
Y]b`UbXYfYg` : U\fnYi [`gh]Y» ""`#X]YgYa`` : U``\UbXY`hY`Yg`g]W`i a
Y]bYb`A`]hgi V]g\]ž`XYf`]b`X]Y`Ybh[Y[Yb[YgY`hnY`F`]W`hi b[`Z` \f"
6Y]XY` : U\fnYi [Y`Yf`]hhYb`Yf`YV`]W`Y`GW`ÅXYbž`i bX`X]Y`Dc`]nY]
gi W`h`U`_hi Y``bUW`NYi [Ybž`X]Y`a` Ò[`]W`Yfk Y]gY`b`Å`YfY
#Zcfa` Uh]cbYb`ØVYf`XUg` ; YgW`Y`Yb`[YVYb`_ØbbYb"

9g`ZUbXYb`g]W`[`ØW`_]W`Yfk Y]gY`_Y]bY`gW`k Yf`j Yf`Y`hnYb
DYfgcbYb`i bhYf`XYb`6YhY`][hYbž`XYb`bcW`Yf`]hhYb`U`Y`XfY]
#gUggYb`XYf`]bj`c`j`]YfhYb`5i`hcg`Y]W`hY`J Yf`Y`hni b[Yb`''8]Y
[YbUi Y`< Ò\Y`XYg`GUW`gW`UXYbg`k`i`fXY`Ui`Za`]bXYghYbg`%\$"\$\$\$
9i`fc`[YgW`Åmhž`k`Ug`X]Y`Z]bUbn]Y`Y`6YXYi`hi`b[`X]YgYg`I`bZU`g
i`bhYfghfY]W`h"

NYi [Ybgi W`Y`XYf`Dc`]nY]

5i`Z[fi`bX`k`]XYfgdfØW`]W`Yf`5i`ggU[Yb`ni`f`5a`dY`gW`U`hi`b[`ni`a
NY]hdi`b`_h`XYg`I`bZU`g`k`i`fXY`X]Y`J`Yf_Y\fgdc`]nY]` : Øfh`U`_h]j``i`bX
ZcfXYfh`bi`b`NYi [Yb`Ui`Z`g]W`ni`a`Y`XYb`" #gVYgcbXYfY`DYfgcbYbž
X]Y`XYb`J`cfZU``VYcVUW`hYh`UVYb`cXYf`?Yb`hb]ggY`ØVYf`X]Y
5a`dY`gW`U`hi`b[`VYg]hYbž`g]bX`[YZfU[h`Gc`W`Y`5b[UVYb`_ØbbYb

YbhgWXY]XYbX'gY]bži a 'X]Y' l bZU`i fgUWXY'ni ' _`ÀfYb'i bX'k Y]hYfY
fYWXh]WXY'GWXf]hY'Y]bni 'Y]hYb"

8]Y'J Yf_Y\fgdc`nY]'V]hYhž'YbhgdFYWXYbXY'<]bk Y]gY'i bhYf'XYf
HY'YZcbbi a a Yf'\$- %%# + ' - - +!%) 'ni 'ØVYfa]hY'b"8]Yg]'gh'Y]bY
k]WXh][Y'A U»bU\ a Yži a 'XYb' [YbUi Yb'5V`Ui ZXYg'l bZU`g'ni
fY_cbgfhi]YfYbž'XU'X]Y' l bg]WXYf\Y]hYb'\]bg]WXh]WXYf
5a dY'gWU'hi b ['X]Y'9fa]h'i b [Yb'YfgWk YfYb"

8]Y'5bk c\ bYf'i bX'fY [Y'a À»][Yb': U\ fYf'Ub'X]YgYf'?fYi ni b ['g]bX
VYgcbXYfg'VYhfcZZYb'j cb'gc`WX'Y]bYa 'J cfZU`"C Zha U`g'k YfXYb
J Yf_Y\fgd`ÀbY'i bX'X]Y'_c fY_hY': i b_h]cbU`]hÀh'j cb'5a dY'b'Yfgh
Xi fW'gc`WXY' l bZÀ`Y']bg'6Yk i gghgY]b' [Yfi ZYb" ' ð j]Y'Yb
6YfY]WXYb'gY\Yb'J Yf_Y\ fghY]'bY\ a Yf'Y]b'Yf\ Ò\ hYg'F]g]_cž'k Ug
X]Y'J Yf_Y\fgg]WXYf\Y]h'UbVY`Ub [h"8 U\ Yf']gh'Yg'ZØf'X]Y'Dc`nY]
i bYf`Àgg]W'ž'gc`WXY': À`Y' i a ZUggYbX'ni 'i bhYf'gi WXYb"

6YXYi hi b ['i bX'5i gV`]W_

8]Y'FY'Yj Ubn'Y]bYg'gc`WXYb'J Yf_Y\fgj cfZU`g'YfghfYW_h'g]W'ØVYf
X]Y'i ba]hY'VUFYb'?cbgYei YbnYb'ZØf'X]Y'6YhY'] [hYb'\]bUi g"
J Yf_Y\fgi bZÀ`Y'g]bX'cZha U`g' ðX]_Uhc fYb'ZØf'k Y]hYfZØ\ fYbXY
DfcV'Ya Y'ja 'J Yf_Y\fga UbU [Ya Ybh'Y]bYf'GhUXh'8]Yg'_ØbbhY']b
Ni _i bZhiUi W'ni 'Y]bYa 'l a XYb_Yb']b'XYf'D`Ubi b ['XYf
5a dY'gWU'hi b [Yb'i bX'J Yf_Y\fgg]WXYf\Y]hgghfUHY []Yb'ZØ\ fYb"

8]Y'Dc`nY]'k]fX'g]W'k Y]hYf\]b'i a 'Y]bY'nØ [] [Y'5i Z_`Àfi b ['XYg
J cfZU`g'VYa Ø\Yb"9]bY'gWbY`Y'9fa]h'i b ['XYf' l bZU`i fgUWXY']gh
b]W'h'bi f']b'X]YgYa 'gdYn]Y`Yb': U`k]WXh][ž'gcbXYfb'hfÀ [h'Ui W
XUni 'VY]ž'dfÀj Ybh]j Y'A U»bU\ a Yb'ni 'Ybhk]W_Y'bži a 'À\ b`]WXY
l bZÀ`Y']b'XYf'Ni _i bZhi' j Yfa Y]XYb"5b'X]YgYf'GhY`Y']gh'ni
\cZZYbž'XUgg'X]Y'VYhfcZZYbYb': U\ fYf'gWbY`k]YXYf'a cV]'k YfXYb
i bX'X]Y'HYWb]_XYf'J Yf_Y\fg'Y]hgmghYa Y'_cbh]bi]Yf]W
j YfVYggYfh'k]fX"G]WXYf\Y]h'ja 'GhfU»Ybj Yf_Y\ f'gc`hY'ghYhg'Ub
cVYfghYf'GhY`Y'ghY\Yb"

J Yf_Y\fgi bZÀ`Y']b'8Yi hgW`UbX

J Yf_Y\ fgi bZ\`Y`g]bX`j]b`8 Yi hgW\`UbX`Y]b`YfbghYg`H\Ya U`z`XUg
b]W`h`bi`f`Yf\`YV`]W`Y`GUW`gW`AXYb`z`gcbXYfb`Ui`W`
`VYVbgVYXfc`\`]W`Y`J`Yf`Ymi`b`[`Yb`i`bX`HcXYgZ\`Y`ni`f`i`c`[`Y`\`UVYb
_Ubb"@Ui`h`XYf`GhUh]gh]gW`Yb`6i`bXYgUa`h`[`UV`Yg`]a``f\`f`&`\$`%
ØVYf`&`ž``A`j`]cbYb`fY`[`]ghf]YfhY`J`Yf_Y\`fgi`bZ\`Y`ž`k`cVY`]`Yhk`U`&`+`\$`\$
A`YbgW`Yb`]f`@VYb`j`Yf`c`fYb`" `a``J`Yf`[`Y]W`ni`X`Yb`J`c`f`U`fYb
nY`[`h`g]W`ž`XUgg`X]Y`NU\`Yb`j]b`XYb`Y`hnhYb`f\`fYb`hYbXYbn]Y`
fØW`Äi`Z`[`g]bX`ž`k`Ug`Ui`Z`j`YfVY`ggY`fhY`G]W`Yf\`Y]hgghUbXUfXg`j]b
:`U\`fnYi`[`Yb`i`bX`f`ZfUghfi`_hi`f`ni`fØW`[`YZØ\`fh`k`YfXYb`_Ubb"

8]Y`i`fØbXY`ZØf`J`Yf_Y\`fgi`bZ\`Y`g]bX`j`j]Y`Z\`h`[`" `B`YVYb
a`YbgW`\]W`Ya`J`YfgU`[`Yb`ž`k`j]Y`j`c`f`Ui`ggW`Ui`YbXYg`:`U\`fYb`i`bX
5V`[`Y`Yb`_h\`Y]h`Xi`fW`A`cV`]h`Y`ZcbY`ž`gd]Y`Yb`Ui`W`:`U`_hc`fYb`k`j]Y
K`YhhY`fVYX]b`[`i`b`[`Yb`i`bX`XYf`Ni`ghUbX`XYf`GhfU`»`Yb`Y]bY`F`c`Y`" `8]Y
J`Yf_Y\`fgg]W`Yf\`Y]h`V`Y]Vh`Y]b`nYbhfU`Yg`5b`j]Y`[`Yb`j`cb`Dc`h]h`_i`bX
;`YgY`gW`UZh"

F`Y`Y`j`Ub`hY`f`Y`W`h`]W`Y`5`gd`Y`_`hY`

6Y`J`Yf_Y\`fgi`bZ\`Y`b`g]bX`fY`W`h`]W`Y`:`fU`[`Yb`c`Zi`_ca`d`YI`i`bX
j`j]Y`gW`]W`h`[`" `f`8`Yi`hgW`\`UbX`[`]h`X]Y`GhfU`»`Ybj`Yf_Y\`fgc`fXbi`b`[
fGhJ`C`ž`X]Y`ZØf`U`Y`J`Yf_Y\`fghY`]bY`a`Yf`j`YfV]bX`]W`Y`F`Y`[`Y`b
Ui`ZghY`h`ž`Y]bgW`]Y`»`]W`X`Yf`6`YXYi`hi`b`[`X`Yf`5a`dY`gW`U`hi`b`[`Yb`
6Y`]Y]bYa`i`bZU`ž`XYf`Xi`fW`Y]bY`A`j]ggUW`hi`b`[`X]YgYf`F`Y`[`Y`b
j`Yfi`fgUW`h`k`i`fXY`ž`_ØbbYb`j`YfgW`]YXYbY`<`UZhi`b`[`gUb`gd`fØW`Y
Yb`hg`h\`Yb"

Ni`gÄ`h`]W`g`Y`Yb`X]Y`XYi`hgW`Yb`i`YgY`hnY`j`c`f`ž`XUgg`X]Y`Dc`]nY`]VY`
Y]bYa`i`bZU`X`Yb`GUW`j`Yf`U`h`Ui`Z`_Ä`fh`ž`]bgVY`gcbXYfY`k`Ybb`Yg
i`a`X]Y`:`YghghY`i`b`[`j`cb`GW`i`X`c`XYf`HY`]gW`i`X`[`Y`h`" `6Y`
k`X]Yfgd`fØW`]W`Yb`5i`ggU`[`Yb`ž`k`j]Y`g]Y`]a`U`_hi`Y`Yb`:`U`Ui`Zh`fY`hY`b`ž
]gh`X]Y`NYi`[`Yb`VY`ZfU`[`i`b`[`j`cb`VY`gcbXYfYf`6`YXYi`hi`b`["`NYi`[`Yb`ž
X]Y`X]Y`5a`dY`gW`U`hi`b`[`c`XYf`XYb`J`Yf_Y\`f`VY`c`VUW`hYb`_c`bb`hY`b`ž
_ØbbYb`Yb`hg`W`Y]XYbXY`6`Yk`Y]gY`ni`f`?`Äfi`b`[`X`Yg`i`bZU`g`]YZYfb"

8]Y`5`fVY]h`X`Y`f`J`Y`f`_`Y`\`fgd`c`]nY`

8]Y`J`Yf_Y\`fgd`c`]nY`]gd]Y`h`Y]bY`k`YgYb`h]W`Y`F`c`Y`VY`]XYf`

5i Z_Àfi b[j cb J Yf_Y\fgi bZÀ`Yb" Æf'5i Z[UVYbVYfY]W`i a ZUggh
b]W`h'bi f`X]Y`i bhYfgi W`i b[j cb J Yf_Y\fgghÒfi b[Ybž'gcbXYfb
Ui W`X]Y`DfÀj Ybh]cb'j cb`k Y]hYfYb`J cfZÀ`Yb`Xi fW`5i Z_Àfi b[
i bX`² ZZYbh]W`_Y]hgUfVY]h"8]Y`6i bXYgdc`nY]i bX`c_U`Y
Dc`nY]X]YbghghY`Yb`UfVY]hYb`Yb[`ni gUa a Ybž'i a
GhfU» Ybj Yf_Y\fgi bZÀ`Y`ni `Xc_i a Ybh]YfYb`i bX`A i ghYf`ni
Yf_YbbYbž`X]Y`ni f`J YfVYggYfi b[`XYf`J Yf_Y\fgg]W`Yf\Y]h
VY]hfU[Yb`_ÒbbYb"

⇒ a : U`Y`XYg`l bZU`g`]b : Øfh\`]gh`X]Y`Gi W`Y`bUW`NYi [Yb
YbhgW`Y]XYbXž'i a `X]Y`[YbUi Yb`l a ghÀbXY`XYg`J cfZU`g`ni `_`ÀfYb"
Gc`W`Y`9fa]hhi b[Yb`_ÒbbYb`Ui W`XUni `VY]hfU[Ybž
J Yf_Y\fgnY]W`Yb`i bX`5a dY`Ub`U[Yb`[Y[YVYbYbZU`g`Ubni dUggYbž
i a `ni _ØbZh][Y`l bZÀ`Y`ni `j Yfa Y]XYb"

8YhU]`g

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