9bYf[]Yk YbXY`]a `F \Y]b!9fZh! ? fY]g.
Dfc`Y\_hY`Z0f`Y]bY`[f0bY`Ni _i bZh

BFK !K]fhgWk UZhga]b]ghYf]b`BYi VUi f`VYgi Wk h`]bbcj Uh]j Y
?`]a U!Dfc`Y_hY`]b`6YXVi f[ž`9fZhghUXhi bX`K YggY`]b[ `ni f
9bYf[]Yk YbXY"

J Yf0ZZYbh`]Wk h`8cbbYfghU[ž`%) "\$, "&\$&( `%&.&\$

⇒a `F \Y]b!9fZh! ? fY]g]j c``n]Y\`hg]Wk `Y]b`VYa Yf\_Ybgk YfhYf`GWk f]hh`]b
F]Wk hi b[`Y]bYf`bUWk \U`h][ YfYb`9bYf[]Yni _i bZh`8Yf
Ghfi _hi fk UbXY`gh`]b`j c``Ya `; Ub[ Yž`i bX`XfY]`VYXYi hYbXY
Dfc`Y\_hY`]b`6YXVi f[ ž`9fZhghUXhi bX`K YggY`]b[`ghY\`Yb`]a
A]hhY`di b\_h`X]YgYf`9bhk ]W`_i b[Yb`"8]YgY`b]h]Uh]j Yb`nY][ Ybž`k]Y
k]Wk h][``c_U`Y`A U» bU\`a Yb`ni f`l a gYhni b[ `XYf`9bYf[]Yk YbXY
g]bX`i bX`k]Y`g]Y`XUg; Ya Y]bgWk UZhg[YZ0\`XYf`5bk c\`bYf
gh`f`_Yb"

8 fY]`Dfc`Y_hY`Z0f`Y]bY`[ f0bY`Ni _i bZh

8]Y`Dfc`Y_hY`]a `F \Y]b!9fZh! ? fY]g`g]bX`b]Wk h`bi f`Y]b`NY]Wk Yb`Z0f
XYb` : cfhgWk f]hh`]b`XYf`9bYf[]Y[Yk]bbi b[ž`gcbXYfb`g]Y`Z0fXYfb
Ui Wk`XUg`9b[U[Ya Ybh`XYf`60f[Yf``6YgcbXYfg`\Yf] cfni \YVYb`]ghž
XUgg`X]Y`5bk c\`bYf`U_h]j `]b`X]Y`Dfc`Y_hY`]bj c`j]Yfh`g]bX`i bX`gca]h
j cb`XYb`dcg]h]j Yb`9ZZY\_hYb`XYf`[ f0bYb`9bYf[]YdfcXi _h]cb
dfc]h]YfYb`"8]Y`BFK !K]fhgWk UZhga]b]ghYf]b`A cbU`BYi VUi f
VYgi Wk hY`\_0fn`]Wk`X]Y`GhUbXcfhYž`i a `g]Wk`Y]b`6]`X]j cb`XYb
: cfhgWk f]hhYb`ni `a UWk Yb"

⇒bbcj Uh]j Yf`K ]bXdUf`_]b`9fZhghUXh

9]b`GWk`0ggY`dfc`Y_h]gh`XYf`K]bXdUf`\_]b`9fZhghUXh! : f]Yg\`Y]a ž`XYf

]b`Ni gUa a YbUfVY]h'a ]h`c_U`Yb`K]bXYbYf[]Y!9bhk]W`Yfb
YbhghY`h"A ]h]bg[ YgUa h`%&`K ]bXf`AXYfb`k ]fX`Yfk UfhYhž`XUgg`XYf
K]bXdUf`\_`A`f`W` ) \*"\$\$\$`HcbbYb`7C `Y]bgdUfYb`_Ubb"9]b
VYXYi hYbXYg`A Yf\_a U`X]YgYg`Dfc`Y`hg`]gh`X]Y`6Øf[YfVYhY`]] [i b [.
8]Y`9]bk c`bYf`\_ØbbYb`XYb`YfnYi [ hYb`Ghfca `bi hnyb`i bX`Ua
k]fhgW`UZh]W`Yb`9fZc`[`XYg`K]bXdUf`\_g`hY`]\UVYb" `Gc`ZØfXYfb`X]Y
6Øf[Yf`b]W`h`bi f`X]Y`[ fØbY`9bYf[]Yž`gcbXYfb`dfcZ]h]YfYb`Ui W`
Z]bUbn]Y``j cb`XYf`5b`U[Y"

5 [f]!D\chcj c`hU]\_`]b`6YXVi f[

æ`6YXVi f[ `k]fX`Y]b`k Y]hYfYg`ni \_i bZhkg Y]gYbXYg`?cbnYdh
YfdfcVh`Y]bY`5 [f]!D\chcj c`hU]\_!5b`U[Yž`X]Y`X]Y`[ `Y]W`nY]h][Y
Bi hni b[`j cb`_UbXk]fhgW`UZh]W`Ya `6cXYb`i bX`Gc`UfYbYf[]Y
Yfa Ø[`]W`h`<]Yf`k YfXYb`<]a VYYfYb`Ub[YdZUbnhž`k A`fYbX`Y]bY
D\chcj c`hU]\_Ub`U[Y`a ]h`Yhk U`\*"\$\$\$`A`cXi `Yb`[ `Y]W`nY]h][ `ØVYf
%"\$\$\$`<Ui g`U`hY`a]h`[ fØbYa `Ghfca `j Yfgcf[ h`8]YgYg`]bbcj Uh]j Y
Jcf\UVYb`k ]fX`k]ggYbgW`UZh]W`j ca `: cfgW`i b[gnYbhfi a `>Ø]W`
i bX`XYa `: fUi b`cZYf!ægh]hi h`ZØf`Gc`UfY`9bYf[]YgmghYa Y
VY[`Y]hYhž`k A`fYbX`XUg`@JbX`B`F`K `X]Y`æ]h]Uh]j Y`a ]h`ØVYf`*) "\$\$\$
9i fc`i bhYfghØmh"

F c`Y`XYg`K UggYfghc ZZg`]b`K YggY`]b [

æ`G\Y``9bYf[m/`7\Ya ]W]g`DUf`\_`F`Y]b`UbX`]b`K YggY`]b [ `k i fXY
XYf`; fi bXghY]b`ZØf`Y]bY`; fc»dfcXi _h]cb`j cb`[fØbYa `K UggYfghc ZZ
[Y`Y[ h`9]b`%\$!A Y[ Uk Uhh!K UggYfghc ZZ`Y`\_hfc`mgYi f`k ]fX`UV`&\$&+
hÀ[`]W`V]g`ni `(("\$\$\$`?)`c[fUa a `YfbYi YfVUfYb`K UggYfghc ZZ
dfcXi n]YfYb"8]YgY`9bhk ]W`i b[`]gh`YbhgW`Y]XYbX`ZØf`X]Y
HfUbgZcfa Uh]cb`XYf`æXi ghf]Y`]b`B`cfXf\Y]b!K YghZU`Ybž
]bgVYgcbXYfY`ZØf`X]Y`7\Ya ]YVfUbW`Y"BYi VUi f`VYhcbh`X]Y
6YXYi hi b[`X]YgYg`Dfc`Y`hg`ZØf`XYb`\_`]a UbYi hfU`Yb`l a VUi `XYf
F UZZ]bYf]Yb"8i fW`X]YgY`æj Ygh]h]cbYb`k ]fX`b]W`h`bi f`XYf
Ø_c`c[ ]gW`Y`i »UVXfi W`_j Yff]b[Yfhž`gcbXYfb`Ui W`X`Yf`GhUbXcfh
B`F`K `ZØf`]bXi ghf]Y``Y`5bg]YX`i b[Yb`UhhfU`_h]j Yf`[ Ya UW`h"

6YXYi hi b[`X]YgYf`Dfc`Y`_hY`ZØf`X]Y

; Ya Y]bgWU Zh

8]Y' ð]h]Uh]j Yb']b'6YXVi f[ž'9fZghUXhi bX'K YggY`b['ghc» Yb'Ui Z
[fc» Yg' ðhYfYggY' i bX'Ni gh]a a i b[']b'XYf'6Yj Ò`_Yfi b["'8]Y
?ca V]bUh]cb'Ui g'Ò_c`c[]gWU Yb' J cfhY]'Yb' i bX'k]fhgWU Zh]'WU Yb
7\UbW' b'nY][hž'k]Y'Y]bY' bUWU\U'h][Y'9b'hk]W`i b['Ui WU'dcg]h]j Y
5i gk]f_ i b[Yb'Ui ZX]Y'`c`_U`Y`K]fhgWU Zh'i bX'XUg
; Ya Y]bgWU Zhg[YZØ\`'\UVYb' _Ubb"'8]Y' i bhYfbY\ a Yb' i bX'X]Y
FY[]Yfi b['ghY\Yb' [Ya Y]bgUa ' j cf'XYf' < YfUi gZcfXYfi b[ž'X]Y
9bYf[]Yk YbXY'YfZc` [fY]WU'ni ' [YghU'hYb' i bX' ['Y]WU'nY]h]['X]Y
6YXØfZb]ggY'XYf'6Øf[Yf'ni 'VYfØW`g]WU'h][Yb"

8]YgY'Dfc`Y`_hY'j YfXYi h]WU Ybž'XUgg'XYf'K Y['ni 'Y]bYf
bUWU\U'h][Yb'Ni _i bZh'bi f'Xi fWU'Ni gUa a YbUfVY]h' i bX
9][Ybj YfUbhk cfhi b['U`Yf'5`_hYi fY'VYgWU f]hhYb'k YfXYb' _Ubb"'8Yf
Ghfi _hi fk UbXY`ja 'F\Y]b!9fZh!fY]g'k]fX'XUa]h'b]WU'h'bi f'ni a
A cXY`'ZØf'UbXYfY'FY[]cbYbž'gcbXYfb'Ui WU'ni 'Y]bYa
9l dYf]a Ybh]YfZY`X'ZØf']bbcj Uh]j Y'@Øgi b[Yb']b'XYf
9bYf[]Y[Yk]bbi b["

8YhU]`g

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