

K Y`WX Y`GdfUWX Y`Yfbh'a Ub`Ua`VYghYb3

K]f`ZfU[Ybž`k Y`WX Y`GdfUWX Y`Ua`VYghYb`ni`YfbYb`]ghž
VUg]YfYbX`Ui`Z`ZU`hYbVUg]YfhYb`?f]hYf]Ybž`i`a`bYb`VY]`XYf`
5i`gk`U`X`Yf`f]WX`h][Yb`GdfUWX Y`ni`Y`ZYb`b`XYb`YhnhYb`
nk`Y]`X`fYb`UVY`]WX`Y]b][Y`NY]h`XUa`]h]`YfvfUWX`hž`GdUb]gWX`
ni`YfbYb`"8Yf`:`cfhgWX`f]hh`k`Uf`Ub[`gUa`ž`UVYf`ghYh][`"WX`
UVY`Y]bYb`%\$!k`ÖWX][Yb`5VYbX`_i`fg`Ua`7YbhfY`Zcf`
@Ub[`i`U[Yg`XYf`!`7@VYgi`WX`hž`X]Y`Ghi`ZYb`%!'`j`cb`F`cgYhhU`
GhcbY`UV[YgWX`cggYb`i`bX`XYb`8i`c`]b[`c!6Ui`a`VYYbXYhž`
k`Ug`VYXYi`hYhž`XUgg`]WX`Y]bY`5fh`?`cbj`YfgUh]cb`ZØ`fYb`_Ubbž`
UVYf`]a`a`Yf`[Ygd]W`h'a`]h:`Y`Yfb`i`bX`DUi`gYb`"K`Ybb`]WX`
a`]WX`a`]h:`Y`Yfb`VYggYf`UbZfYi`bXYb`_Ubbž`k`YfXY`]WX`a`]WX`
`cZZYbh]WX`]b`XYb`b`ÅWX`ghYb`gYWX`g`A`cbUhYb`Ui`Z`
/`Ua`d^Y`d/`

K]f`ZfU[Ybž`k Y`WX Y`GdfUWX Y`Ua`VYghYb`ni`YfbYb`]ghž`VUg]YfYbX`
Ui`Z`ZU`hYbVUg]YfhYb`?f]hYf]Ybž`i`a`bYb`VY]`XYf`5i`gk`U`X`Yf`
f]WX`h][Yb`GdfUWX Y`ni`Y`ZYb`

b`XYb`YhnhYb`nk`Y]`X`fYb`UVY`]WX`Y]b][Y`NY]h`XUa`]h]`YfvfUWX`hž`
GdUb]gWX`ni`YfbYb`"8Yf`:`cfhgWX`f]hh`k`Uf`Ub[`gUa`ž`UVYf`ghYh][`"

WX`UVY`Y]bYb`%\$!k`ÖWX][Yb`5VYbX`_i`fg`Ua`7YbhfY`Zcf`
@Ub[`i`U[Yg`XYf`!`7@VYgi`WX`hž`X]Y`Ghi`ZYb`%!'`j`cb`F`cgYhhU`GhcbY`
UV[YgWX`cggYb`i`bX`XYb`8i`c`]b[`c!6Ui`a`VYYbXYhž`k`Ug`VYXYi`hYhž`
XUgg`]WX`Y]bY`5fh`?`cbj`YfgUh]cb`ZØ`fYb`_Ubbž`UVYf`]a`a`Yf`[Ygd]W`h`
a`]h:`Y`Yfb`i`bX`DUi`gYb`"

K`Ybb`]WX`a`]WX`a`]h:`Y`Yfb`VYggYf`UbZfYi`bXYb`_Ubbž`k`YfXY`]WX`
a`]WX``cZZYbh]WX`]b`XYb`b`ÅWX`ghYb`gYWX`g`A`cbUhYb`Ui`Z`i`bgYfYf`
F`Y]gY`Xi`fWX`GØXUa`Yf]_U`Yf`YV`]WX`j`YfvYggYfb`"

DYhYf'a ÒW hY'i bVYX]b[h'Y]bY'nk Y]hY'GdfUWXY'YfbYbž]gh'g]W
UVYf'bcW' b]W'h'g]W'Yfž'k Y'W'Y'X]Y'VYghY']gh''9g']gh'Y]b'8]'Ya a Už
a]h'XYa 'j]Y'Y'dchYbn]Y''Y'@YfbYbXY'_cbZfcbh]Yfh'g]bXž'i bX'Yg
V'cW_]Yfh'cZi'\fY'6Ya Ø\i b[Yb']bg[YgUa h'

K Ug']ghž'k Ybb']W' X Ug' ZU' gW' Y' k À\ Y3

⇒ : c' [YbXYb'k YfZYb'k]f'Y]bYb'6']W' _'Ui Z'X]Y'VYghY'GdfUWXY'ni a
@YfbYb'VUg]YfYbX'Ui Z'j YfgW']YXYbYb'? f]hYf]Ybž'V]YhYb'J c'fgW'À[Y
ZØf'YXY'? UhY[c'f]Y'i bX'dfØZYbž'cV'YXYg'? f]hYf]i a' hUhgÀW']W
Y]bY' [i hY'A Yh\cXY']ghž'i a' ni' YbhgW'Y]XYbž'k Y'W'Y'GdfUWXY'G]Y
'YfbYb'gc''hYb"

%''5a 'k Y]hYghYb'j YfVfY]hYhY'GdfUWXY

A UbXUf]b.' -) 'A]c''GdfYW'Yf'GdUb]gW'. '(\$) 'A]c''9b[']gW'. '' * \$
A]c''<]bX]. '' %\$'A]c''5fUV]gW'. '&-) 'A]c''fE i Y''Y.
B Uh]cbU'YbWm'_cdYX]bŁ

5a 'k Y]hYghYb'j YfVfY]hYh']gh'Y]b'U'' [Ya Y]bYf
9bhgW'Y]Xi b[gZU_hc fž'UVYf'Yg']gh'Ui W'Y]b'V]ggW'Yb']ffYZØ\ fYbX"
9g'XYi hYh'XUfUi Z'\]bž'XUgg'X]Y'GdfUWXY']b' [fc» Yb'HY]Yb'XYf'K Y'h
[YgdfcW'Yb'k]fXž'cV'k c'\ 'hUhgÀW']W'Y]b][Y'XYf'Hcd'%'\$'Ui Z'Y]b
Yb[Yg'; YV]Yh'VYgW'fÀb_h'g]bX'i bX'g]W'bi f'Ui Z[fi bX'XYf' [fc» Yb
6Yj Ò'_Yfi b[']b']\fYb' B Uh]cbU'ghUUhYb'ei U']Z]n]YfYb"

BY\ a Yb'G]Y'XUg'6]X'i bhYb'' ⇒bYf\U'V'X]YgYg'? fY]gYg''YVYb'a Y\ f
A YbgW'Yb'U'g'Ui » Yf\U'V''K Ybb'G]Y'7\]bYg]gW'Y'YfbYb'k ØfXYbž'
_ØbbhYb'G]Y'a]h'' +i' XYf'K Y'hVYj Ò'_Yfi b['gdYfW'Ybž'UVYf''Ui h
XYa '7=5'K c'f'X': UWVcc'_nÀ\Yb'bi f'XfY]'@ÀbXYf'A UbXUf]b'U'g
@UbXYggdfUWXY"

⇒ : Y[YbgUhn'XUni']gh': fUbnØg]gW']b'i b[YZÀ\ f'&- '@ÀbXYfb'Ui Z
XYf' [UbnYb'K Y'h'Y]bY'@UbXYggdfUWXY''K]fX'A UbXUf]b'k]f'_]W
k Y]hYf' [YgdfcW'Yb'3'K Ybb'G]Y'b]W'h'j c'f\UVYbž'j]Y''NY]h']b
7\]bU'i bX'gY]bYb''ÀbX']W'Yb'; YV]YhYb'ni' j YfVf]b[Ybž'_Ubb
X]YgYf'; fi bX'Y]b'5V'Yb'_i b[ga UbØj Yf'gY]b"

U`h1 2 : U]fY`Bi hni b[

9g[]Vh`Ui W`XUg`5f[i a Ybhž`XUgg`A UbXUf]b`9b[`]gW`U`g`@]b[i U : fUbWU`XYf`K Y`h`Ub`g]W`fY]» Yb`k]fX""8]YgY`6YZ0fW`hi b[Yb`g]bX k Y]h[Y`YbX`i bVY[f0bXYhž`gU[h`8 f""æ`b`A W`k `cfhYfž`5i hcf`i bX @]b[i]gh`Ub`XYf`7c`i a V]U`I b]j Yfg]hm"

æ`gY]bYa`6i W`H`Y`@Ub[i U[Y`<cU`Yf`_`Àfh`Yfž`XUgg`A UbXUf]b 0VYf`X]Y`?]bX`Y]h`]\bUi`g`Ài » Yfgh`gW`k Yf`ni`YfbYb`]gh`i bX`XUgg X]Y`k U`fY`6Y`YffgW`i b[`XYg`GW`f]ZhgmghYa`g`]b`dfU`_h]gW`Yf <]bg]W`h`YfZc`fXYfž`XUZ0f`[YVcfYb`ni`k`YfXYb"

8]Y`Ni [`Àb[`]W`_Y]h`XYg`9b[`]gW`Ybž`gU[h`Yfž`U`h`gY]bY`Dcg]h]cb`U`g K`Y`hgd`fUW`Y`[Yg]W`Yfž`i bX`k`Ybb`7`\]bU`fY[]Yfž`k`]fX`Yg`Ui`Z 9b[`]gW`fY[]YfYbž`gc`k`]Y`Y]bgh`X]Y`A`cb[c`Yb`i bX`A`UbXgW`i 7`\]bU`fY[]YfhYbž`c`bY`]\fY`Y][YbY`GdfUW`Y`ni`j`YfVfY]hYb"

K`Ybb`G]Y`Y]bY`GdfUW`Y`bi`f`Ui`g`5b[YVYfY]`YfbYb`k`c`Ybž`XUbb YbhgW`Y]XYb`G]Y`g]W`Z0f`A`UbXUf]b""5bgcbghYb`YgYb`G]Y`k`Y]hYf"

&"`6YghY`GdfUW`Y`ni`a`9f`YfbYb`XYf ; YgW`ÀZhggd`fUW`Y

9b[`]gW`fI`G5.`%+`-`*`,`6`Ð`i`bX`I`?`.'`"\$`-`6`Ð`Ł`A`UbXUf]b`f7`\]bU. %%"` ,) Ł`JdUb]gW`fŁ`JdUb.`("%%*`Ł8Yi`hgW`fB`Yi`hgW`U`bX. '``&) Ł`fUbn0g]gW`fI`fUb`_fY]W`.`&`(%`ŁfE`i`Y`Y.`K`cf`X`9W`bca`]W @YU[i Y`HUV`Y`&\$%*`Ł

9]b`k`Y]hYfYg`VY`YVhYg`?`f]hYf]i`a`Z0f`X]Y`K`U`\`Y]bYf`GdfUW`Y`g]bX X]Y`dchYbn]Y`Yb`?`Uff]YfYj`cfhY]Yž`X]Y`g]Y`V]YhYb`_0bbhY""8]Y 6Y[f0bXi`b[``Ui`hYh`K`Ybb`G]Y`g]W`]b`XYf`GdfUW`Y`XYf`gh`Àf`_ghYb J`c`_gk`]fhgW`UZhYb`XYf`K`Y`h`i`bhYf`U`hYb`_0bbYbž`g]bX`G]Y`Z0f 6YgW`ÀZh][i b[`i`bX`5i`Zgh]Y[`VYggYf`Ui`Z[YghY`h"

I`bhYf`X]YgYa`?`f]hYf]i`a`]gh`A`UbXUf]b`YfbYi`h`X]Y`VYghY`GdfUW`Y`ž X]Y`a`Ub`U`g`9b[`]gW`gd`fYW`Yf`YfbYb`_Ubb""9g`gY]`YXcW`bcW` Y]ba`U`XUfUi`Z`\]b[Yk`]YgYbž`XUgg`A`UbXUf]b`Ui`Z[fi`bX`gY]bYf ?`ca`d`YI`]h`À`h`k`U`f`gW`Y]b`]W`b]W`h`ni`f`Gh`Ub`XUf`X`gd`fUW`Y`Z0f

I bhYfbY\ a Yb`k YfXYb`k]fX" HUHgÅW`W`]gh`Yg`ZØf`9]b [YVcfYbY
gWk Yf` [Ybi ["

BY\ a Yb`G]Y`X]YgY`5bY_XchY`XYg`G]bc`c [Yb`8Uj]X`A cgYf. `≠
gY]bYa `9ggUmK \m`g`7\]bYgY`Gc`8Ua b`< UfX`gW`fY]Vh`Yfž`XUgg`Yf
Y]ba U`XfY`8c`_hcfUbXYb`XYf`DY_]b [!! b]j Yfg]hÅh` [YZfU[h`\UVYž
k]Y`a Ub`XUg`Yei]j U`Ybh`j cb` B]YgYb`gW`fY]Vh" ?Y]bYf`j cb`] \bYb
_cbbhY`X]Y`7\UfU_hYfY`f]W`h][`XUfghY`Yb"

A cgYf`Yf`_Åfhž`XUgg`X]Y`DY_]b [!! b]j Yfg]hÅh`U`g` < Ufj UfX`7\]bUg
[]`h`i bX`ZfU[h` ?ØbbYb`G]Y`g]W`j c fghY`Ybž`XUgg`XfY]
8c`_hcfUbXYb`]b`9b [`]gW`]b`< Ufj UfX`j Yf [YggYbž`k]Y`a Ub`XUg
Yb [`]gW`Y`K c`f`h` gbYYnY`gW`fY]Vh3

K Ybb`G]Y`≠fY`6YgW`ÅZh][i b [gUi gg]W`hYb`j YfVYggYfb`a` ÒW`hYbž
]bXYa`G]Y`Y]bY`GdfUW`Y`k]f`_]W`VY\YffgW`Yb`fUbghUh`g]Y`Y]bZUW
]b`≠fYa`@YVYbg`Ui Z`U`g` ; fi bXghi ZY` \]bni ni ZØ [Ybłž`n]Y\Yb`G]Y
Y]bY`XYf`GdfUW`Yb`k Y]hYf`i bhYb`]b`XYb`Hcd`) `]b`6YhfUW`h"

: fUbnØg]gW`ni a`6Y]gd]Y`]gh`b]W`h`bi f` [i h`ZØfg` ; YgW`ÅZhž`Yg`k]fX
gc [Uf`Ui Z`XYf` [UbnYb`K Y`h` [YgdfcW`Yb`fX` \]b`a Y`f`U`g`Y]bYf
< UbXj c`@ÅbXYfbŁ"

' `@Y]W`h][_Y]h`XYg`@YfbYbg

Gcfh]Yfh]j cb`XYb`a Y]ghYb`GdfYW`Yfb`ni`XYb`k Yb][ghYb`GdfYW`Yfb
.GdUb]gW`Dcfhi []Yg]gW` : fUbnØg]gW`≠U`Yb]gW`Fi a`Åb]gW`B]YXYf`Å
bX]gW`GW`k YX]gW`5Zf]_UUbgBcfk Y []gW`fE i Y`Y. : cfY][b`GYfj]W`
≠gh]hi hYž`I G`8YdUfha Yb`h`cZ`GhUhYŁ

K Ybb`G]Y`Y]bY`GdfUW`Y`bi f`Ui g`U`UXYa]gW`Yb` ; fØbXYb`YfbYb
a` ÒW`hYb`fX` \ `i a`≠fY`@Yfba`i g`Y`b`ni`hfU]b]YfYb`cXYf`Y]bZUW`bi f
U`g`< cVVmłž`XUbb`]gh`X]Y`GW`k]Yf][_Y]hgghi ZY`Y]bY`j c`_ca`a Yb
U`nYdhUV`Y`K U`"

@Ui h`XYa` : cfY][b`GYfj]W`≠gh]hi hY`XYg`I G!5i »Yba]b]ghYf]i a`g
_ØbbYb`9b [`]gW`gdfUW`][Y`fY`Uh]j`Y]W`h`UW`h`Yi fcdÅ]gW`Y
GdfUW`Yb`gck]Y`5Zf]_UUbg`YfbYb`fa]h`* \$\$`I bhYff]W`hgghi bXYb

dfc`GdfUWX`Y`U`gcL"8]Y`Zc`[YbXY` ; fUZ]_`nY][h`Ui`W`UbXYfY
[`Ab [] [Y`GdfUWX`Yb`]b`ghY][YbXYa` `GWk`]Yf][_Y]hg[fUX"

8]Y`Y]bZUWX`Y`K`U`\\`Y]bYf`GdfUWX`Y`_`Ubb`gWk`bY``GY`Vghj`YfhfUi`Yb
Ui`ZVUi`Yb`i`bX`≡`bYb`X]Y`A`ch]j`Uh]cb`[YVYbž`k`Y]hYf`Z]Y»`YbX`ni
gdfYWX`Yb"

`U`h1` VYghY!gdfUWX`Y!ni`!`YfbYb"db[`2: U]fY`Bi`hni`b[

@YgYb`G]Y`a`Y`f`ØVYf`X]Y`Ua` `gWk`]Yf][ghYb`ni` ``YfbYbXYb
GdfUWX`Yb"

("`GWk`Øb`\\`Y]h

: fUbnØg]gWk`GdUb]gWk`≠U`]Yb]gWk`Dc`fhi` []Yg]gWk`Fi`a` `Ab]gWk`

@Y]XYf`[]Vh`Yg`_Y]bY`A`Ø[`]Wk`_Y]hž`X]Y`GWk`Øb`\\`Y]h]j`cb`GdfUWX`Yb
gi`V`Y`_h]j` `ni` `a`YggYb"K`Ybb`G]Y`Y`Xc`Wk`ZY`gh`Yb`hgWk`c`ggYb`g]bXž
Y]b`a`c`XYfb`Yf`8`cb`ž`Ub`ni` `k`YfXYbž`k`ØfXYb`bi`f`k`Yb][Y`[Y`[Yb`X]Y
cVYb`Ui`Z`[YZØ`fhYb`fca`Ub]gWk`Yb`GdfUWX`Yb`Uf[i`a`Ybh]YfYb"

K`]Y`Y]bY` :] [i`f`Ui`g`H`\\`Y`A`Uhf]i` `Yg`Ui`gXfØW`_hž`]gh`gc`[Uf`XUg
: `i`Wk`Yb`Ui`Z: fUbnØg]gWk` `k`]Y`g]Wk`XYb`5fgWk`a`]h`GY]XY
UVni`k`]gWk`Yb` "`8Ya` `_Ubb`a`Ub`b]Wk`h`k`]XYfgdfYWX`Yb"

) "`?`i` `hi`f

GWk`]Y»` `]Wk`_`ca`a`Yb`k`]f`ni` `XYa` `k`U`fgWk`Y]b`]Wk`VYghYb`?`f]hYf]i`a
ZØf`X]Y`K`U`\\`XYf`VYghYb`GdfUWX`Y`ni`a` `@YfbYb"

≠`k`Y`Wk`Ya` `@UbX`c`XYf`]b`k`Y`Wk`Yb`@`AbXYfb`gY`\\`Yb`G]Y`g]Wk`U`g
NY]hj`Yfa`]h`Yf3`K`]Y`gY`f`a`U[gh`Xi` `X]Y`9]b`\\`Y]a`]gWk`Yb3`K`Y`Wk`Y
@]hYfUhi`f`a` ØWk`hYb`G]Y`]b`XYf`C`f][]bU`gdfUWX`Y`YgYb3`K`Y`Wk`Y
:]`a`Y`k`ØfXYb`G]Y`[YfbY`j`YfghY`\\`Yb3

K`Ybb`G]Y`Y]b`Y`Wk`hYg`≠`hYfYggY`i`bX`Y]bY`@Y]XYbgWk`UZh`ZØf`Y]bY
GdfUWX`Y`i`bX`X]Y`?`i` `hi`f`XU`\\]bhYf`\\UVYbž`k`YfXYb`G]Y`Y`\\`Yf
Xi`fWk`\\U`hYbž`k`Ybb`G]Y`Ub`Y]bY`K`UbX`ghc»`Yb"

≠W`j]YVY`GdUb]Yb`i bX`X]Y`GdUb]Yf`i bX`k c`hY`gW`cb`]a` a` Yf`
i bVYX]b[h`bUW`GØXUa`Yf]_U"≠W`k ØfXY` ; UVf]Y` ; UfW`U`A` ½fei`Yn`
[YfbY`]b`gY]bYf`C`f][]bU`gdfUW`Y`Y`gYb`i bX`5`a` cX`I`j`Uf`]b`gY]bYf`
gY`Yb"

5i`g`X]YgYb` ; fØbXYb`_Ubb`]W`Xi`fW`U`hYb`ž`k`Ybb`]W`XUg` ; YZØ`
\UVYž`XUgg`]W`]a`Y`h`hYb`]d`f`_Y]bY`[fc»Yb` ; c`fhgW`f]h`hY`[Ya`UW`h`
\UVYž`cXYf`k`Ybb`a`]f`XYf`I`b`hYfgW`]YX`nk`]gW`Yb`DUfh]n]d`Df`ÅgYbg`
i bX` ; Yfi`bX]i`a`Y`fbgh`UZh`Ui`Z`X]Y`B`Yfj`Yb`[Y`h"

K`Ybb`]W`A`UbXUf]b`Y`fbYb`k`ØfXYž`i`a`XUa`]h`Ubni`[YVYb`cXYf`
6YgW`ÅZh][i`b[gUi`gg]W`hYb`ni` \UVYb`ž`V]b`]W`a`]f`b]W`h`g]W`Yf`ž`c`V`
]W`XUVY]`V`Y]VYb`k`ØfXY"

5ba`Yf`_i`b[`XYf`F`YXU`_h]cb.`I`bgYf`@Y]hZUXYb`ž`k`]Y`G]Y`a`Y`f`j`cb`
XYf`K`Y`h`gY`Yb`_ØbbYb`ž`Yb`h`Å`h`Y]b`[Ubnyg`?`Ud]hY`ni`a`
GdfUW`Yb`Y`fbYb`ž`Y]bgW`Y`Y»`]W`9I`dYfhYb`fUhgW`Å[Yb`j`cb`gYW`g`
Dc`m[`chYb`f]`cb`XYbYb`Y]bYf`bYi`b`GdfUW`Yb`gdf]W`h`Ł"

VYghY`GdfUW`Y`ni`a`@YfbYb.`I`fhY]`

K`Ybb`]W`Y]bYb`j`Ø`][`c`V`Y`_h]j`Yb`GhUbXdi`b`_h`Y]bbY`a`Yb`k`ØfXYž`
k`ØfXY`]W`j`c`fgW`U[Yb`ž`XUgg` : fUbnØg]gW`X]Y`GdfUW`Y`]ghž`X]Y`
a`Ub`Y`fbYb`gc`h`Y"

9g`YfZØ`h`U`Y`?`f]hYf]Yb`"9g`]ghj`]Y`Y]W`h`b]W`h`X]Y`Ua`k`Y]hYghYb`
j`YfVfY]hYhY`GdfUW`Y`ž`UVYf`gY]bY`F`Y]W`k`Y]hY`[Y`h`j`]Y`k`Y]hYf`U`g`
A`UbXUf]b`i`bX`gY]bY`K`]fhgW`UZh`]Y[h`bi`f`\]b`hYf`7`]\bUž`d`Ub`i`bX`
8Yi`hgW`UbX`]b`6Yni`[`Ui`Z`b]W`h`Yb[`]gW`gdfUW`][Y`@`Å`b`XYf"

8UfØVYf`\]bUi`g`]gh` : fUbnØg]gW`fY`Uh]j`Y]bZUW`ž`_]b[h`gW`Øb`i`bX`
\Uh`c`VYb`XfY]b`Y]bY`fY]W`Y`i`bX`Vi`b`hY`?`i`h`i`f"

5`gc`ž`c`V`k`c`\`]W`GdUb]gW`U`g`a`Y]bY`Xf]h`hY`GdfUW`Y`Y`fbY`ž`k`ØfXY`
]W`]bg[YgUa`h` : fUbnØg]gW`U`g`X]Y`VYghY`GdfUW`Y`ni`a`@YfbYb`
Ya`dZY`\`Yb"

@Y]hV]`X. '8fYUa gh]a Y

.

8 YhU]`g

6Ygi W\ Yb `G]Y `i bg `Ui Z. `Y]bY!fY]gY"XY