

K Ufi a ; fYhU`H\i bVYf[`i bg`gc i bVY\U[`]W\`a UW\`h

; fYhU`H\i bVYf[žY]bY`?`]a UU_hj]gh]b`]a `gW\i `dZ]W\h][Yb 5`hYfž`\Uh`i bg`a]h`Y]b][Yb`\UfhYb`K U\ f\Y]hYb`_cbZfcbh]Yfh
; fYhU`H\i bVYf[`]gh`Y]bY`6YXfc\i b["G]Y`]gh`Y]bY`6YXfc\i b[ZØf`X]Y`a]`]UfXYbgW\k YfY`J]Y\k]fhgW\UZh`i bX`X]Y`a ÅW\h][Y @cVVmZØf`Zcgg]Y`6fYbbghcZY" HUhgÅW\`]W\`]gh`g]Y`Y]bY 6YXfc\i b[`ZØf`i bgYfY`@VYbYgk Y]gY"G]Y`ghY``h`X]Y`ÆYY`]b : fU[Yž`XUgg`k]f` `U`g`ZFY]k]`][Yž`gY`VghVYgh]a a hY`ÆX]j]Xi Yb `XUg`FYW\h`\UVYb`gc``hYbž`gc`j]Y`ni `cbgi a]YfYbž`k]Y`k]f k c``Ybž`gY]`Yg`FY]gYbž`9ggYb`cXYf` : fY]nY]h" ; fYhU`H\i bVYf[ghY``h`X]Y`ÆYY`]b : fU[Yž`XUgg`Yg`]b`CfXbi b[`]ghž`]a `?Ua dZ [Y[Yb`XYb`?`]a Uk UbXY`XUg`ni `hi bž`k Ug`a Ub`_Ubbž`UbghUh U``Ygž`k Ug`a Ub`/ Ua d^Y``]d/

; fYhU`H\i bVYf[žY]bY`?`]a UU_hj]gh]b`]a `gW\i `dZ]W\h][Yb`5`hYfž`\Uh`i bg`a]h`Y]b][Yb`\UfhYb`K U\ f\Y]hYb`_cbZfcbh]Yfh

; fYhU`H\i bVYf[`]gh`Y]bY`6YXfc\i b["G]Y`]gh`Y]bY`6YXfc\i b[`ZØf`X]Y`a]`]UfXYbgW\k YfY`J]Y\k]fhgW\UZh`i bX`X]Y`a ÅW\h][Y`@cVVmZØf`Zcgg]Y`6fYbbghcZY"

HUhgÅW\`]W\`]gh`g]Y`Y]bY`6YXfc\i b[`ZØf`i bgYfY`@VYbYgk Y]gY"G]Y`ghY``h`X]Y`ÆYY`]b : fU[Yž`XUgg`k]f` `U`g`ZFY]k]`][Yž`gY`VghVYgh]a a hY`ÆX]j]Xi Yb `XUg`FYW\h`\UVYb`gc``hYbž`gc`j]Y`ni `cbgi a]YfYbž`k]Y`k]f`k c``Ybž`gY]`Yg`FY]gYbž`9ggYb`cXYf` : fY]nY]h"

; fYhU`H\i bVYf[`]ghY``h`X]Y`ÆYY`]b : fU[Yž`XUgg`Yg`]b`CfXbi b[`]ghž`]a `?Ua dZ[Y[Yb`XYb`?`]a Uk UbXY`XUg`ni `hi bž`k Ug`a Ub`_Ubbž`UbghUh`U``Ygž`k Ug`a Ub`_Ubbž`k Yg\U`V`g]Y`i bg` `i bX`gc`j]Y`Yb UbXYfYb` `Y]b`i bVY\U[`]W\`Yg; YZØ\``VYfY]h`h"

B]Ya UbX'a U['Ygž'U'g'gWk UW 'cXYf\Yi W 'Yf]gW 'VYnY]WbYhini
k YfXYb"A ÒW hY[Yfb!l a k Y'hgW ØhnYf'k YfXYb'j]Y''Y]W h
J Y[YhUf]Yfž'Z]Y[Yb'k Yb][Yf'i bX'fYWmW'b'a Y\ fž'UVYf'k Ybb'k]f
gY\Ybž'k]Y'; fYhU'H\i bVYf[']\fY', VYfnYi [i b[Yb'ghUbX\UžYf
'YVhž'ghY''hXUg'i bgYf'9b[U[Ya Ybh]b': fU[Y"

'U'h1 ; fYhU'H\i bVYf['\Uh'Y]bY'k Y'hk Y]hY'GW i 'ghfY]_VYk Y[i b[
]bg'@VYb' [Yfi ZYb 2 @j 'CY]Ub#G\i hYfghcW_'; fYhU'H\i bVYf['ØVYf
]\fYb'GW i 'ghfY]_

K]f'VY]'5h'Ug/ '6cchg'gYhnYb'i bg'\Ài Z]['ZØf'l a k Y'hVY'Ub[Y'Y]b"
K]f'\UVYb'X]Y'HUhgUWY'VY_'U[hž'XUgg'X]Y'K Y'h'b]W h'VYggYf'k]fXž
\UVYb'Y]bZUWY'K Y[Y' [YhY]'hž'i a k Y'hžfYi bX'W'ni 'fY]gYbž'i bX
\UVYb' [Y[Yb': 'Y]gW_cbg i a ž', VYfVYj Ò'_Yfi b[ž'c] Yfhci f]ga 'i bX
5i gghYfVYhci f]ga i g'j cf[Y[Ub[Yb"

K]f'\UVYb'GWf]hY'i bhYfbca a Ybž'i a 'i bgYfYb'7C&! : i » UVXfi W_
Ui gni ['Y]WYbž'i bX'G]Y'k YfXYb'i bg'b]Ya U'g'a]h'XYf'5bnU\''XYf
' : 'Ø[Y'dfU\ 'Yb'gY\Ybž'X]Y'k]f'X]YgYg'X\fi bhYfbca a Yb'\UVYbž'
k]Y'Yg'a UbWY'hi b"

K]f'j Yfgi WYbž'?i fnfY]gYb'k]Y'X]Y'ni 'XYb': ÀfØYf! ðbgY'b'i bX
'?UhU'cb]Yb'ni 'j Yfa Y]XYbž'i bX'VYj cfni [Yb'Àb[YfY'F Y]gYbž'VY]
XYbYb'nk Y]: 'Ø[Y'VYXYi hYb'_ØbbhYbž'XUgg'k]f'a cbUhY'Ub['ja
' ; Y[YbgUhn'ni 'bi f'HU[Yb'i bhYfk Y[g'g]bX'"GY]h'a Y]bYa '%' "
'@VYb'g'U\ f'YggY']W '_Y]b': 'Y]gW'a Y\ f'i bX'DYhYf']gh'Ui W
fk Y]h[Y\YbX'J Y[YhUf]Yf"

I bX'XcW'Z]Y[Yb'k]f'ja a Yf'bcW' i bX'k]f'g]bX'_Y]bY'J Y[UbYfž
k Yg\U'V'Yg'YfgW'fYW_YbX'k Uf'ni '\ØfYbž'k]Y'<ck UfX'@ma Ubž
Y\Ya U'] [Yf'J]Y\ nØW hYf'i bX'Yhnh?']a UU_h]j]ghž']b'7ck gd]fUWn
gU[hYž'XUgg'a Ub'Y]bZUW'_Y]b'l a k Y'hgW ØhnYf'gY]b'i bX'h]Yf]gWY
DfcXi _hY'YggYb'_Ubb"

8 Ug'\Uh'i bg'[YbUi gc'j Yfi bg]WYfh'k]Y'; fYhU'H\i bVYf["'8]YgY
GW i 'a ÀXWYb!5_h]j]gh]b'j Yf_ØfdYfh'\UfhY'8]b[Yž'j cb'XYbYb'k]f
k]ggYbž'XUgg'g]Y'k U\ f'g]bXž'X]Y'k]f'UVYf'][bcf]YfYbž']b'XYf
<cZbi b[ž'XUgg'Ya UbX'UbXYfYg'XUg'DfcV'Ya 'VY\YVYb'k]fX"

; fYhU`H\i bVYf[

5`g; fYhU`]a `5i [i gh`&\$%, `Y]bYb`Gc`c!`?`]a UdfchYghj cf`XYa
gWk YX]gWYb`DUf`Ua Ybhg[YV`Ai XY`ghUfhYhY`z`U\`bhY`b]Ya UbXž
XUgg`X]Yg`Y]bY`[`cVU`Y`6Yk Y[i b[`Ui g`OgYb`k ØfXYž]b`XYf`Y]bY
A]`cb`GWØYf`]b`%&) `@`AbXYfb`GWi`ghfY`_g`cf[Ub]g]YfhYb`i bX`]\f
Y]bY`Bca]b]Yfi b[`ZØf`XYb`:]f]YXYbgbcvY`dfY]g`Y]bVfUW`hYb"; fYhU
\Uh[YnY][hž`XUgg`a Ub`U`Yg`hi b`a i ggž`k Ug`a Ub`_Ubbž`k Yg\U`V
g]Y`X]Y`A`ÅW`h][Yb`gc`j Yf`Åf[Yfh"

⇒a `5i [i gh`&\$%- `VYnY]W`bYhY`A`c\`Ua`a`YX`6Uf`_]bXcž
; YbYfU`gY`_fYh`Åf`XYf`C`f[Ub]gUh]cb`YfX`O`YI`dcfh]YfYbXYf`@`AbXYfž
; fYhU`i bX`UbXYfY`5`_h]j]ghYb`U`g` [fO`»`hY`6YXfc\`i b[`ZØf`X]Y
⇒Xi ghf]Y`Zcgg]Yf`6fYbbghcZY"

`U`h1 ; fYhU`H\i bVYf[`gY[Y`h`ni`a`i`B!`?`]a U[]dZY`ØVYf`XYb
5h`Ubh]_`2: U]fY`Bi`hmi`b[`; fYhU`H\i bVYf[`gY[Y`h`ni`a`i`B!
?`]a U[]dZY`ØVYf`XYb`5h`Ubh]_

Dc`]h]_Yf`i bX`9I`dYfhYb`k`UfYb`Ui`hghUf`_i bX`VYnY]W`bYhYb`g]Y`U`g
gY`hgUa` ž`YfgW`fYW`_YbX`ž`XYb`ni`h]Y`Zghj`Yfgh`ØfhYb`A`Ygg]Ug`XYf
[`cVU`Yb`9fk`Åfa`i b[gVYk`Y[i b[`ž`Y]bYb`Udc`_U`mdh]gW`Yb`; i`fi`ž
i b\Y]a`_]W`Y]bZi`ggfY]W`i bX`Ya`UbXYbž`XYf`ni bY`a`YbX`gc
Ui`gg]Y\`h`i bX`_]b[h`k`]Y`Y]b`GY`_hYba`]h[`]YX`"

; fYhUž`X]Y`J`Y[UbYf]b`]gh`i bX`XUg`:`]Y[Yb`Ui`Z[Y[YVYb`\`Uhž]gh
Y]bY`6YXfc\`i b[ž`k`Y]`g]Y`i bg`XUni`nk`]b[hž`i bg`a`]h`DfcV`Ya`Yb
Ui`gY]bUbXYfni`gYhnYbž`X]Y`k`]f`]YVYf`j`Yfa`Y]XYb`k`ØfXYb`"G]Y`]gh
b]W`h`dYfZY`_h`i bX`k`]f`gc`hYb`Yg`Ui`W`b]W`h`j`cb`_]f`Yfk`UfhYbž`UVYf
g]Y`]gh`Y`ZY`_h]j`XUf]bž`Y]b][Y`\`UfhY`K`U`\`f\Y]hYb`\`Yfj`cfni`\`VYb`"

Ni a`J`Y[UbYf`k`YfXYb

@Ui`h`XYa`i`B!`6Yf]W`h`HUW`_]b[`7`]a`UhY`7`\`Ub[Y`H\`fci`[`\
@]`Yg`hc`W`_]gh`X]Y`H]Yf\`U`hi`b[`ZØf`Y]bYb`[fO`»`YfYb`5bhY]`XYf
[`cVU`Yb`HfY]V\`Ui`g[UgYa`]gg]cbYb`j`YfUbhk`cfh]W`U`g`XYf
[YgUa`hY`HfUbgdcfh`Y]bgW`]Y`»`]W`:`i`[fY]gYb`f%(`V]g`%,`i
[Y[YbØVYf`%`ž`i`Ł"

U`h1 9]bY`j Y[UbY`9fbÅ\fi b[`]gh`k U\fgWXY]b`]WX`XYf`VYghY`K Y[ž
i a `ÀfY`5i gk]f_i b[Yb`Ui ZXYb`D`UbYhYb`9fXY`ni
fYXi n]YfYb 2 ž `]U`; f][cfYk U#G\i hhYfgbcW_`9]bY`j Y[UbY
9fbÅ\fi b[`[`]h`U`g`XYf`VYghY`K Y[ž i a `X]Y`5i gk]f_i b[Yb`Ui ZXYb
D`UbYhYb`ni `fYXi n]YfYb

: c fgWXYf`XYf`i b]j Yfg]hm`c Z`C I Zc fX`ZUbXYb`\YfUi gž`XUgg`Y]bY
j Y[UbY`9fbÅ\fi b[`i bgYfYb`7C &!; i » UVXfi W_`Xi fW `@YVYbga]hhY`
i a `V]g`ni `+` `i `fYXi n]YfYb`_ÖbbhY"

ægYd\`DccfYž`i a k Y`hZc fgWXYf`Ub`XYf`i b]j Yfg]hÅhž`gU[h.`9]bY
j Y[UbY`9fbÅ\fi b[`]gh`k U\fgWXY]b`]WX`XYf`[fÖ» hY`K Y[ž i a `ÀfY
5i gk]f_i b[Yb`Ui ZXYb`D`UbYhYb`9fXY`ni `j Yff]b[Yfb` `G]Y`]gh
k Y]hUi g[fÖ» Yf`U`g`X]Y`fYXi n]Yfi b[`ÀfYf`: `Ø[Y`cXYf`XYf`?Ui Z
Y]bYg`9`Y`_hfcUi hcg"

K Yb][Yf`?]bXYf`\ UVYb

8]Yg`]gh`Ui g`a Y\`fYfYb`; fØbXYb`i a ghf]hhYb``8 Ug`F YW`h`Ui Z
F YdfcXi _h]cb`k]fX`k Y]h`b`U`g`[fi bX`Y[YbXYg`A YbgW`Yb`fYW`h
Ub[YgY\`Yb``6Ya Ø\i b[Ybž`X]Y`F YdfcXi _h]cbgfUhY`Y]bni XÅa a Ybž
k YfXYb`k U\fgWXY]b`]WX`U`g`XfU`_cb]gW`Ub[YgY\`Ybž`k Ug`Yf`_`ÀfYb
_ÖbbhYž`k Ufi a `Dc`h]_Yf`g]W`Y]bZUW`k Y][Yfbž`XUfØVYf`ni
X]g_i h]YfYb"

9]b][Y`Uf[i a Ybh]YfYbž`XUgg`Yg`b]W`h`XUfUi Z`Ub`_ca a hž`k]Y`j]Y`Y
A YbgW`Yb`Yg`[]Vhž`gcbXYfb`k]Y`j]Y`g]Y`_cbgi a]YfYb``9]b
5a Yf]_UbYf`dfcXi n]Yfh`(\$!a U`a Y\`f`9a]gg]cbYb`U`g`Y]b
6Ub[`UXYgW`Yfž`U`gc`[Y\`h`Yg`b]W`h`bi f`XUfi a ž`k]Y`j]Y`Y`?]bXYf
a Ub`\`Uhž`gcbXYfb`Ui W`k`c`i bX`k Yf`a Ub`]gh"

K Yb][Yf`fY]gYb

9]b`hfUb`gUh`Ubh]gW`Yf`<]b!`i bX`F`ØW`Zi [`]_Ubb`fi bX`%ž` `HcbbYb
7C &`ZFY]gYhnYbž`ZUgh`gc`j]Y`k]Y`X]Y`Xi fW`gW`b]h`]W`Yb``Å`f`]W`Yb
9a]gg]cbYb`Y]bYf`DYfgcb`]b``bX]Yb"

U`h1 Bi hnYb`G]Y`bUW`A`Ö[`]W`_Y]h`U`hYfbUh]j Y

J Yf_Y\fga]hhY` 2 D\chcb7UhWYf#G\i hhYfghcW_`Bi hnYb`G]Y`bUW
A Ò[`]W_X]h`U`hYfbUh]j Y`J Yf_Y\fga]hhY`

K Ybb`≡f`9]b_ca a Yb`Ub`FY]gYb`[YVi bXYb`]gh`k]Y`VY`]i bg`ž
XUbb`Yb hgWY]XYb`G]Y`g]W`ZØf`k Yb][Yfž`Àb[YfY`FY]gYb`ghUhh
nU`fY]WYf`?i fnfY]gYb`"Bi hnYb`G]Y`bUW`A Ò[`]W_X]h`U`hYfbUh]j Y
J Yf_Y\fga]hhY`"9g`gh]a a hž`XUgg`k]f`b]W`h`U`Y`gc`UfVYhf]YVYbY
MUW`hYb`ZØf`i bgYfY`5h`Ubh]_ØVYfei Yfi b[`W`UfhYfb`_ØbbYbž`UVYf
k]f`_ØbbYb`NØ[Y`i bX`: `À`fYb`i bX`bUW`U`h][YfY`HfUbgdcfha]hhY`
bY`a Yb"

;]V` : Ugh` : Ug\]cb`Ui Z

8Yf`6Y`_Y]Xi b[ggY`hcf`]gh`ZØf`fi bX`" i `XYf`k Y`hk Y]hYb
7C`&!9a]gg]cbYb`j YfUbhk`cfh]W`"8 Ug`HYa`dc`XYf` : Ugh` : Ug\]cb
hf`À[h`ni`X]YgYf`NU`VY]ž`XU`a]bXYfk`Yfh][Y`?`Y]Xi b[`[Y`_Ui`Zhi bX
bUW`gY`f`[Yf]b[Ya` ; YVfUi`W`k Y[[Yk`cfZYb`k]fX"

9g`]gh`k]W`h][ž`]b`VYggYfYž`Ub[`YV][YfY`?`Y]Xi b[`ni`]bj`Ygh]YfYb`
9bhgWY]XYb`G]Y`g]W`ZØf`B`Uhi`fZUgYfb`[Y[Yb`ØVYf`gmb`h`Yh]gWYb
A`Uhf]U`]Ybž`j`cb`XYbYb`Y`h`hYfY`<`i`bXYf`h`Ui`gYbXY`j`cb
?`i`bghg`c`Za]_fcZUgYfb`dfc`K`ÀgWY`ZfY]gYh`Ybž`j`cb`XYbYb`X]Y
a`Y]ghYb`]b`i`bgYfYb`C`nYUbYb`UbXYb"

GU[`XY]bYb` : fYi bXYb

K]ggYbgW`UZh`Yf`\UVYb`\YfUi`g[YZ`bXYbž`XUggž`k`Ybb`Y]bY`DYfgcb
Y]bY`gc`n]U`VYk`i`gghY`9bhgWY]Xi b[`hf]Zž`UbXYfY`A`YbgWYb
]\fYa`6Y]gd]Y`Zc`[Yb`"Ni`a`6Y]gd]Y`VYghY`hYb`?i`bXYb`]b`Y]bYa
7UZ`]b`XYb`i`G5ž`XYbYb`[YgU[h`k`i`fXYž`XUgg`\$`i`XYf
5a`Yf]_UbYf`VY[cbbYb`À`hYbž`k`Yb][Yf` : `Y]gW`ni`YggYbž`XcddY`h
gc`Ài`Z][`Y]b`ZY]gW`c`gYg`A]hU[YggYb`"b`?`U]Zc`fb]Yb`]bghU`]YfhYb
<`Ui`g`U`hY`Y`Yf`Gc`bbYb`c`Y`_hcfYb`]b`GhUX`hY]`Ybž`]b`XYbYb`g]Y
VYfY]hg`j`cf`UbXYb`g]bX"

`U`h1` ; fYhUg`Gc`c!DfchYgh`ÒghY`Y]bY`[`cVU`Y`6Yk`Y[i`b[
Ui`g`2`@Ui`h` ; fi`bX]hn`#G\i`hhYfghcW_` ; fYhUg`Gc`c!DfchYgh`ÒghY`Y]bY
[`cVU`Y`6Yk`Y[i`b[`Ui`g

8]YgYf'8ca]bcZZY_h]ghj]Y`Y]W\h'XYf'; fi bXž'k Ufi a 'X]Y
A YbgW\Yb'gc'ghUf_'Ui Z; fYhU'H\i bVYf['fYU[]Yfh'\UVYb" 'G]Y'gYhnh
Y]b'6Y]gd]Y'ž'XUg'gW\k Yf'ni '][bcf]YfYb']gh" 'ΔfY' < UbX'i b[Yb
nk]b[Yb'i bg'XUni ž'i bg'Ub[Yg]W\hg'XYf['fÒ» hYb'?'f]gY'i bgYfYf'NY]h
i bgYfYf'; 'Y]W\ [Ø'h][_Y]h'i bX'5dUh\]Yž'i bgYfYf'HfÀ[\Y]h'i bX
<Yi W\Y'Y]ni 'ghY''Yb"

K c'g]bX'X]Y'9fk UW\gYbYb3 '\Uh'g]Y'Ui Z'HK]hYf' [YZfU[h''8]Y
5b'hk c'fh]ghž'XUgg'k]f'ØVYfU''g]bXž'UVYf'k]f'g]bX'ni 'gY\ f'XUa]h
VYgW\ÀZh][hž'XYb'GW\k UfnYb'DYhYf'k Y]hYfni [YVYb"

'U'h1 ; fYhU'H\i bVYf['D]bhYfYgh'D]b 2

⇒ '5i [i gh'&\$%, 'VYgW\`cgg'X]Y'%) !'À\ f][Y; fYhU'H\i bVYf[ž'Y]bYg
HU[Yg'b]W\h'ni f'GW\i 'Y'ni '[Y\Yb" 'ΔfY'5_h]cbYb''ÒghYb'Y]bY
k Y'hk Y]hY'5_h]cbgVYk Y[i b['[Y[Yb'X]Y?'`a U_f]gY'Ui g'i bX
VfUW\hYb']\f'Y]bY'Bca]b]Yfi b['ZØf'XYb': f]YXYbgb'cVY'dfY]g'Y]b"
B]Ya UbX']gh'ni '_Y]bž'i a 'Y]bYb'l bhYfgW\]YX'ni 'a UW\Ybž'Vf]b[h
X]f'; fYhU'ni a 'YfghYb'A U''b']\fYb'Y][YbYb'K c'fhYb"

<Ui dhV]X.'5bhcbY''c'A UfUb[]#G\i hhYfghcW_

8YhU]`g

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