

# NYi [ Yba Y`Xi b[ ` [ Ygi W\h. `GW\ `À [ YfY ] `]b B Yi ggYf `GW\ bY]XYfY ]

GW\ `À [ YfY ] `]b `B Yi ggYf `GW\ bY]XYfY]. `Dc `]nY ] `gi W\h `NYi [ Yb  
bUW\ ; Yk U`hj cfZU``< ]bk Y]gY `V]hhY `i bhYf`\$&% `%' \$!\$  
a Y`XYb"

*B Yi gg` `5a `gd`hYb `A cbhU [ bUW\ a ]hhU [ ž`XYa `%- ``5i [ i ghž  
YfY] [ bYhY `g]W\ `Y]b [ Yk U`hgUa Yf`J cfZU``]b `Y]bYf`GW\ bY]XYfY ] `]b  
XYf`B]YXYfk U``ghfU» Yž`U`g`Y]b`i bVY`\_UbbhYf`A Ubb`X]Y  
F`Ài a `]W\ \_Y]hYb `VYhfUhž`i a `gY]bY`?`Y]Xi b [ `UVni `c`Yb``8cW\ `X]Y  
G]hi Uh]cb`bU\ a `gW\ bY``Y]bY`k ØhYbXY`K YbXi b [ ž`U`g`Yf`X]Y  
NU\ `i b [ `j Yfk Y] [ YfhY `i bX`XYb`A ]hUfVY]hYf`a ]h`Y]bYa `GW\ `U [ `]bg  
; Yg]W\ h`ni `6cXYb `VfUW\ hY``8]YgY`5i gY]bUbXYfgYhni b [ `k i fXY`j cb  
Y]bYa `k Y]hYfYb`A Ubb`i bhYfghØhnhž`XYf`YVYbZU``g`]b`X]Y  
GW\ bY]XYfY ] \_Ua `i bX`Ui Z`XYb`Ua `6cXYb``]Y [ YbXYb`5b [ YghY``hYb  
Y]bdfØ [ Y`hY"*

9]bY`VYa Yf`\_Ybgk YfhY`N]j ]`Wci fU [ Y`nY] [ hY`Y]bY`NYi [ ]bž`X]Y  
j Yfgi W\hYž`XYb`5b [ fY]ZYf`j cb`gY]bYa `CdZYf`k Y [ ni n]Y\Yb``8cW\  
]\f`J cf\UVYb`V`]YV`YfZc` [ `cgž`i bX`g]Y`f]YZ`Ui hi a `<`]ZY``9]bY  
À`hYfY`8Ua Yž`X]Y`ni Z`À`` [ `j cf`XYf`GW\ bY]XYfY ]`k Ufž`fYU [ ]YfhY  
YVYbZU``g`i bX`f]YZYhk Ugž`k Ug`X]Y`5b [ fY]ZYf`gW\ `]Y» `]W\ `ni f`i W\h  
VYk Y [ hY``8UVY]` \]bhYf`]Y» Yb`X]Y`A`ÀbbYf`Y]bY`Gdi f`XYf  
J Yfk Øghi b [ `i bX`VYgW\`ÀX] [ hYb`i]b`XYf`9]Y`gc [ Uf`Y]bY  
B`À\ a UgW\ ]bY ]b`XYa `; YgW\`ÀZn"

## 8 YhU]`g`ni f`HUh

8 Yf`<Ui dhUb [ fY]ZYf`k ]fX`U`g`Yhk U`%\* ) `V]g`%+) `NYbh]a YhYf` [ fc»  
VYgW\ f]YVYbž`\Uh`Y]bYb`gW\ k UfnYb`GW\ bi ffVUfh`i bX`hfÀ [ h`Xi b`\_Y  
?`Y]Xi b [ ``GY]b`?`ØfdYfVUi `k ]fX`U`g`\_cfdi `Ybh`Y]b [ Yghi Zhž`k Ug`Ui Z

Y]bYb`A Ubb`a ]hh`YfYb`5`hYfg`\\bXYi hYh`8Yf`nk Y]hY`J YfXÅW h][ Y  
k Uf`[ f0» Yf`U`g`XYf`YfghYž`\\UhY]bY`X0bbY`GhUhi f`i bX`hfÅ[ h`Y]bY  
6f)`Y`"9f`k ]fX`YVYbZU`g`i a `X]Y`A ]hhY`(\$`[ YgWÅ`hnh`"

8]Y`Vfi hU`Yb`GnYbYb`\\UVYb`b]W`h`bi f`XYb`A ]hUfVY]hYf`gW`cW\_]Yfhž  
XYf`k U`fgW`Y]b`]W`h`fUi a Uh]g]Yfh`Ui g`X]YgYa`J cfZU```\\Yfj cf[ Y`Yb  
k ]fXž`gcbXYfb`Ui W`X]Y`[ YgUa hY`; Ya`Y]bgW`UZh`]b`BYi ggž`X]Y  
fY[ Y`a`Å`][ `]b`c`\_`U`Y`; YgWÅ`Zn`Y`]b`\_`Ui`Zhi bX`g]W`i`b`X]YgY  
I a [ YVi b[ `VY[ ]Vh``ϕ`Y]bYa`I a Z`Xž`XUg`bcfa U`Yfk Y]gY`j cb  
BUW`VUfgW`UZh`gZfYi bX`]W`\_`Y]h`[ YdfÅ[ h`]ghž`YfnYi [ h`gc`W`Y]bY  
; Yk U`hXUfghY`i b[ `j`Yfgh`Å`bX`]W`Yfk Y]gY`6Ygcf[ b]g`"

8]Y`Dc`nY`]gh`bi b`U`\_`h]j` `Ui Z`XYf`Gi W`Y`bUW`k Y]hYfYb`NYi [ Ybž  
i a `X]Y`HUh`Ui Zni `Å`fYb`"6Ya Yf`\_`Ybgk Yfh`]ghž`XUgg`gc`W`Y`J cfZÅ`Yž  
cVkc`c`g]Y`i b[ `0W`\_]W`Yfk Y]gY`]a a Yf`k ]YXYf`[ YgW`Y`Ybž`X]Y  
G]W`Yf`Y]hgk U`fbY`a i b[ `]b`XYf`[ Ya`Y]bgW`UZh`]W`Yb`I a [ YVi b[  
VYY]bZi ggYb`\_`0bbYb`"8Yf`J cfZU```]gh`b]W`h`bi f`Y]bY`5b[ Y`Y[ Yb`Y]h  
Z0f`X]Y`GhfUž`YfZc`[ i b[ ž`gcbXYfb`k ]fZhi`Ui W`X]Y`; fU[ Y`Ui Zž`k ]Y  
60f[ Yf`a ]hY]bUbXYf`]bhYfU[ ]YfYb`i bX`g]W`i`[ Y[ YbgY]h][  
i bhYfgh0hnYb`\_`0bbYbž`VYgcbXYfg`]b`?f]gYbg]hi Uh]cbYb`"

## 5i Zfi Z`ni f`A ]h\ ]`ZY

ϕ`Y]bYf`DfYggYa ]hhY`]i b[ `k i fXY`XUfi a`[ YVYhYbž`XUgg`DYfgcbYbž  
X]Y`a`0[ `]W`Yfk Y]gY`ϕ`Zcfa Uh]cbYb`ni`XYb`HÅhYfb`cXYf`XYa  
J cfZU`g`Y`Vgh`\\UVYbž`g]W`i bhYf`XYf`HY`YZcbbi a a Yf`\$`&`%`%` \$`!`\$  
Ub`X]Y`Dc`nY`]b`BYi gg`k YbXYb`"8]Y`9fa ]h`i b[ Yb`k YfXYb`j`ca  
?f]a ]bU`\_`ca a ]ggUf]Uh`&&`[ Y`Y]hYhž`XUg`]bhYbg]j`Ub`XYf`5i Z`Åfi b[  
XYg`J cfZU`g`UfVY]hYh`8]Y`?ccdYfUh]cb`XYf`2`ZYbh`]W`\_`Y]h]gh  
YbhgW`Y]XYbXž`i a `X]YgY`[ Yk U`hgUa Yb`HUhYb`ni`a ]b]a ]YfYb`i bX  
XYb`HÅhYfb`XUg`<UbXk Yf`\_`ni`Y`Y`Yb`"

ϕ`NY]hYbž`]b`XYbYb`X]Y`G]W`Yf`Y]h`XYf`60f[ Yf`]a a Yf`k ]YXYf`]b  
XYb`A ]hhY`di b`\_`hf0W`hž`]gh`Yg`k ]W`h][ ž`XUgg`X]Y`A YbgW`Yb  
ni`gUa a YbghY`Yb`i bX`g]W`i`[ Y[ YbgY]h][ `i bhYfgh0hnYb`"X`XYf  
<]bk Y]g`nÅ`hž`i bX`c`Zha U`g`\_`0bbYb`\_`Y]bghY`ϕ`Zcfa Uh]cbYb`j ]Y`  
VYk Y[ Yb`"

< ]b hYf[ fi bX]b Zc fa Uh]c bYb`ni f  
? f]a ]b U`]hÀhgYb hk ]W\_`i b[ `]b`B Yi gg

8]Y`GhUXh`B Yi gg`Y[ h`]a `6i bXYg`UbX`B cfXf\Y]b!K YghZU`Yb`i bX  
\Uh]b`XYb`YhmhYb`š\`fYb`Y]bY`VYa Yf\_Ybgk YfhY  
? f]a ]b U`]hÀhgYb hk ]W\_`i b[ `Yf`YVh"@Ui h`XYf`dc`]nY`]W`Yb  
? f]a ]b U`ghUh]gh]\_`fD? GŁ`&\$&&`[ UV`Yg`Y]bYb`Y]W`hYb`F ØW\_ [ Ub[ `XYf  
; YgUa hmU\`XYf`GhfUZhUhYb`]a `J Yf[ `Y]W`ni a `J cf`U\`f`6YgcbXYfg  
]b`XYb`6YfY]W`Yb`9][ Ybhi a gXY`\_hY`i bX; Yk U`hXY`\_hY`nY][ hY`g]W`  
Y]b`[ YgdU`hYbYg`6]X`K À\`fYbX`9][ Ybhi a gXY`\_hY`hYbXYbn]Y`  
UVbU\`a Ybžgh]Y[ Yb; Yk U`hXY`\_hY`]b`VYgh]a a hYb`6YfY]W`Yb`Ub"  
8]YgYf`HfYbX`gd]Y[ Y`h`g]W`Ui W`]b`XYf`6Yf]W`hYfghUhi b[ `ØVYf  
[ Yk U`hÀh][ Y`\_ VYf[ f]ZY`]b`XYf`2 ZYb`h]W`\_Y]h`k ]XYfž`k cVY]  
]bgVYgcbXYfY`GW`À[ YfY]Yb`]b`ØZYb`h]W`Yb`6YfY]W`Yb`i bX  
; YgW`ÀZhYb`\`Ài Z][ Yf`ni f`GdfUW`Y`\_ca a Yb"

8]Y`Dc`]nY`]B Yi gg`UfVY]hYh`\_cbh]bi ]Yf`]W`XUfUbž`Xi fW`  
DfÀj Ybh]cbga U» bU\`a Yb`i bX`Yf\`Ò\`hY`DfÀgYbn`]b`F ]g]\_c[ YV]YhYb  
[ Y[ Yb`X]Y`ghY][ YbXY; Yk U`h\_f]a ]b U`]hÀh`j cfni [ Y\`Yb`"9g`k YfXYb  
Dfc[ fUa a Y`ni f; Yk U`hd`fÀj Ybh]cb`]bg`@YVYb`[ Yfi ZYb`ž`i a `X]Y  
N]j`][ YgY`gW`UZh`ni`gh`f`\_Yb`i bX`?cbZ]\_hY`ZfØ\`nY]h][ `ni`Yf`\_YbbYb  
i bX`ni`"ØgYb"

GhUh]gh]\_Yb`ni f; Yk U`h\_f]a ]b U`]hÀh`]b  
B c fXf\Y]b!K YghZU`Yb

8]Y; Yk U`h\_f]a ]b U`]hÀh`]gh`Y]b`Yfbghni bY\`a YbXYg`H\`Ya Už`XUg  
b]W`h`bi`f`X]Y`GhUXh`B Yi gg`VYhf]Zhž`gcbXYfb`[ Ubn`B cfXf\Y]b!  
K YghZU`Yb`"@Ui h`Y]bYa`6Yf]W`h`XYg`@UbXYg\_f]a ]b U`Ua hg`BFK`Ui g  
XYa`š\`f`&\$&&`k i fXYb`]b`B cfXf\Y]b!K YghZU`Yb`]bg[ YgUa h`Yhk U  
%&&`\$\$\$`: À`Y`j`cb; Yk U`h\_f]a ]b U`]hÀh`fY[ ]ghf]Yfhž`k Ug`Y]bY  
GhY][ Yfi b[ `j`cb`"ž`i`]a`J Yf[ `Y]W`ni a`J cf`U\`f`VYXYi hYh"  
=bYf\`U`V`X]YgYf`?UhY[ cf]Y`g]bX`GW`À[ YfY]Ybž`FUi VØVYfZÀ`Y`i bX  
?ØfdYfj Yf`Yhni b[ Yb`\`Ài Z][ `j`YfhfYhYb"

=a`š\`f`&\$&&`k i fXYb`Vi bXYgk Y]h`%ž\*`+`A`j`]cbYb`GhfUZhUhYb  
j YfnY]W`bYhž`Ui h`D?G`]gh`Y]b`Y]W`hYf`5bgh]Y[ `]a`6YfY]W`XYf

; Yk U`hXY`\_]\_hY`ZYghni ghY``Yb"8 ]YgY`GhUh]gh]\_Yb`i bhYfghfY]WXYb`X]Y  
Bchk YbX][ \_Y]hj cb`[ Yn]Y`hYb`A U»bU\ a Yb`ni f  
J YfVfYWXYbgVY\_`Aa dZ b[ ž`gck c\``Ui Z`c\_U`Yf`U`g`Ui W`Ui Z  
`UbXYgk Y]hYf`9VYbY" fA Y`f`ϕZcfa Uh]cbYb`Z]bXYb`g]W`Ui Z`XYf  
K YVg]hY`XYg`@UbXYg\_f]a ]bU`Ua hg`B F K ɛ"

ϕ`BYi gg`]gh`X]Y`Dc`]nY]`XYg\U`V`b]W`h`bi f`Ui Z`XYf`Gi W`Y`bUW  
NYi [ Yb`ZØf`gdYn]Z]gW`Y`J cfZ`Y`ž`gcbXYfb`Ui W`U`\_hj` ]b`XYf  
DfAj Ybh]cbgUfVY]h"8 ]YgY`ϕ]h]Uh]j Yb`g]bX`YbHgW`Y]XYbX`ži a`XUg  
G]W`Yf\Y]hg[ YZØ\`XYf`6Øf[ Yf`ni`gh`f`\_Yb`i bX`dchYbn]Y``Y`H`hYf  
UVni gW`fYW`\_Yb"

8 YhU]`g

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