



J i ` \_Ub `U`g`Y]bYb`J i ` \_Ubž`XYf`]b`XYb`YhnhYb`%\$"\$\$\$`>\fYb  
U i g[ YVfcWYb`]gh"B UWX`X]YgYf`8YZ]b]h]cb`[ ]Vh`Yg`\Yi`hY`%) \$\$  
U\_h]j`Y`J i ` \_UbY`Ui`ZXYf`K`Y`hž`j`cb`XYbYb`g]W`+) `i`Yb`h`Ub[ `XYg  
Y]bXfi`W\_gj`c``VYbUb`bhYb`DU`n]Z]gW`Yb`:`Yi`Yff]b[ `g`VY]bXYb`"  
B U`hØf`]W`VfYW`Yb`Y]b][`Y`U\_h]j`Y`J i ` \_UbY`j`]Y``\`Åi`Z][`Yf`Ui`gž`U`g`X]Y  
8YZ]b]h]cb`j`Yfa`i`hYb`"Åggh"

? `Ui`YU`Ui`Z`<`Uk`U]]`]gh`XYfnY]h`XYf`U\_h]j`ghY`J i ` \_Ub`XYf`K`Y`hž  
[`Y`Zc`[`h]j`ca`Y`hbU`]b`#U`]Yb`i`bX`XYa`D]hcb`XY`U`:`ci`fbU]gY`Ui`Z`@U  
F`Åi`b]cb`"8`UbUW`Y]gh`Y]b`F`Ub\_]b[ `gi`V`Y`\_h]j`ž`UVYf`X]Y`Zc`[`YbXY  
@]ghY`\_ca`a`h`XYa`b`U`Y`"

>XYf`9]bhfU[ ` \U`h`Y]bYb`ni`[`YcfXbYhYb`J`c`WU]b]W9I`d`c`g]j`]hm`#XYI`ž  
Y]bY`F`Ub[ `]ghY`XYf`[`fØ`»`hYb`J i ` \_UbYI`d`c`g]cbYb`]b`XYf`Øb[`YfYb  
[`Yc`c`[`]gW`Yb`:`YgW`]W`hY`fk`cVY`]`+`X]Y`\`ØW`ghY`]gh`"

## 5\_h]j`ghY`J i ` \_UbY`

? `Ui`YU`

C`fh`<`Uk`U]]`žI`G5?`cbh]bi`]Yf`]W`Y`9fi`dh]cb`.`5V  
%`-`,`9I`d`c`g]j`]h`Åhg]bXYI`.`(

`U`h1`<`Uk`U]]`2`

6]X.`#`Ub`J`hcf`cj`ž`77`6M`G5`"``\$`

? `Ui`YU`]gh`XYf`Øb[`ghY`J i ` \_Ub`Ui`Z`<`Uk`U]]g`6][`#`g`UbX`"9f`VY]bXYh  
g]W`Ua`gØXØgh`]W`Yb`<`Ub[ `XYg`VYbUW`VUfhYb`A`Ui`bU`@U`i`bX  
[`U`h]j`]Y`Y`>\fY`Y`Yf`U`g`GUhY``]h`U`g`U`g`Y][`Ybgh`ÅbX][`Yf`J i ` \_Ub`"

I`bhYfgi`W`i`b[`Yb`\UVYb`Y`XcW`[`YnY][`hž`XUgg`?`Ui`YU`ØVYf`Y]b  
Y][`YbYg`F`c`\f`Y]hi`b[`ggmghYa`j`YfZØ[`hž`XUg`A`U[`a`U`Ui`g`a`Y`\f`U`g`  
\*`\$`\_a`H]YZ`Y`Ub`X]Y`C`VYfZ`ÅW`Y`VY`ZØfXYfh`5i`»`YfXYa`Y`Y[`h`XYf`  
;`]dZY`Ui`ZY]bYf`FY]\Y`j`cb`J i ` \_UbYbž`ni`XYbYb`A`Ui`bU`?`YU`i`bX  
?`c`U`U`[`Y`\ØfYbž`UVYf`b]W`h`A`Ui`bU`@U`"

8]Y`9fi`dh]cbYb`j`cb`?`Ui`YU`\UVYb`HY]Y`XYf`5i`hc`VU`\bYbž`

F Y [ Ybk À`XYfž`< Ài gYf`i bX`gc [ Uf`A YbgW\Yb`YVYb`XYf` ðgY`  
nYfghÒfh" `8 ]Y`9]b\Y]a ]gW\Yb`\]bhYf`UggYb`@Y]g`U`g`C dZYf[ UVYb`ZØf  
X]Y` : Yi Yf[ Òhh]b`DY`Yž`j cb`XYf`Ub[ Ybca a Yb`k ]fXž`XUgg`g]Y`]b`XYb  
@Uj UgYYb`XYg`< U`Ya U i a U i !? fUhYfg`YVh"

## 8 Yf`ÿ`hb U

C fh`G]n`]Ybž` ðU`]Yb? cbh]bi ]Yf`]W\Y`9fi dh]cb.`' ") \$\$  
>\fY9I d`cg]j ]hÀhg]bXYI . .)

`U`h1` ÿ`hbU` 2

6]`X.`77`6MG5`' "\$

8 Yf`ÿ`hbU`]gh`XYf`[ fÒ» hY`XYf`U\_h]j ghYb`J i`\_UbY`9i fcdUg``9f`VfUW  
Yfgha U`g`j cf`Yhk U`) \$\$\$\$>\fYb`Ui g`i bX`hi h`X]Yg`gY]h' ") \$\$  
>\fYb`i bi bhYfVfcW\Yb"

8 Yf`ÿ`hbU``]Y[ h`Ub`XYf` ; fYbnY`nk ]gW\Yb`XYf`UZf`\_Ub]gW\Yb`i bX`XYf`  
Yi fUg]gW\Yb`D`UhY`i bX`\UhY]bYb`6Ug]gi a Zub[ `j cb  
i b[ `Ui V`]W\Yb`%( \$`\_a ``9f`]gh`VY]`k Y]hYa`XYf`[ fÒ» hY`XYf`XfY]  
U\_h]j Yb`J i`\_UbY` ðU`]Ybgž`X]Y`UbXYfYb`g]bX`Ghfca`Vc`]i bX`XYf`  
J Ygi j "

ð`XYf`[ f]YW\]gW\Yb`A mh\c`c[ ]Y`\Uh`NYi g`XUg`hÒX`]W\Y  
%\$\$\_ÒdZ[ Y`A cbghYf`Hmd\cb`i bhYf`XYa`6Yf[ `[ YZUb[ Ybž`XUg`]b  
gY]bYf`K i h` : Yi YfZØggY` \Yfj c fghfÒa Yb`Àggh"

## D]hcb`XY`U` : ci fbU]gY

C fh` ðgY``@U`F Ài b]cb`fl fUbnÒg]gW\? cbh]bi ]Yf`]W\Y`9fi dh]cb.`5V  
%- &\$9I d`cg]j ]hÀhg]bXYI . .)

`U`h1` : Y`g\U\_Yb` 2

6]`X.`77!6MG5!&"\$! : F

D]hcb`XY`U` : ci fbU]gY`fl ; ]dZY`XYg`<cW\cZYbg`Égdi W\_higY]h`a Y\`f

U`g`Y]bYf`\U`VYb`A ]``cb`đ\`fYb`VUgU`h]gWXY`@Uj U`Ui`g``8Yf`Ji``\_Ub  
`]Y[ h`Ui`ZXYf`C`ghgY]hY`j`cb`F`Åi`b]cb`i`bX`\`Uh`Y]bY`,`\_a`f)`A`Y]`Ybł  
VfY]hY`7U`XYfU`ž`X]Y`hY]`k`Y]gY`j`ca`A`YYf`Xi`fW`Vfc`WYb`k`]fX`i`bX  
g]W`i]b`XYf`5bZUb[gd\`UgY`XYg`J`YfgU[`Ybg`VYZ]bXYh"

≠[`YbXk`Ubb`k`]fX`X]Y`7U`XYfU`j`cb`9bWcg`:`ci`ei`Å`]b`XYb``đX]gWYb  
C`nYUb`Y]bgh`ØfnYb`i`bX`ž`k`]Y`a`UbW`Y`gU[`Yb`ž`Y]bYb`A`Y[`Uhgi`bUa`]  
j`Yfi`fgUW`Yb"

Gc`k`]Y`Yg`Ui`gg]Y`\`hž`j`Yfi`fgUW`Yb`9fi`dh]cbYb`]b`XYf`7U`XYfU`bi`f  
VY[`fYb`nhYb`G`W`UXYb`ž`XU`Yg`]b`XYf`:`Y[`YbX`bi`f`k`Yb][  
`đ`ž`Ughfi`\_`hi`f`[`]Vh`9fi`dh]cbYb`Ui`»`Yf`\`U`V`XYf`7U`XYfU`ghY`Yb`Y]bY  
Yfbgh`\`U`ž`YfY`6YXfc`\`i`b[`\`XUf`ž`g]bX`UVYf`gY`hYb`ž`XU`bi`f`gY`W`g  
Ui`Z[`YnY]W`bYh`k`i`fXYb`ž`X]Y`Y`hnhY`]a`đ\`f`%`-`,`\*`"

## Ghfca Vc`]

C`fh`Ghfca`Vc`]ž`≠U`]Yb?`cbh]bi`]Yf`]W`Y`9fi`dh]cb.`&`\$\$\$  
đ\`fY`9i`d`cg]j`]h`Åhg]bXYI`."

`U`h1`Ghfca`Vc`]ž`X]Y`U`\_h]j`ghYb`Ji`\_UbY`2`

Ghfca`Vc`]`]gh`VY`\_Ubbh`ž`Øf`gY]bY`\`Y`Zh[`Yb`5i`gVf`ØW`Y`j`cb  
[`YgW`a`c`nYbYf`@Uj`U`ž`5gW`Y`i`bX`:`YghY]b`ž`k`Ug`XYb`6Y[`f]ZZ  
Ghfca`Vc`]UbYf`]b`gd]f]YfhY`ž`i`a`j`Yf[`\`Y]W`VUfY`5`\_h]j`]h`ÅhYb`Ub  
UbXYfYb`C`fhYb`ni`VYgW`fY]VYb"

8]Y`9fi`dh]cbYb`XYg`Ghfca`Vc`]`g]bX`k`Y]h\]b`g]W`hVUf`i`bX`XU`\Yf  
Ui`W`U`g`@Yi`W`hhi`fa`XYg`A`]hY`a`YYfg`VY`\_Ubbh`9g`h\`fcb`h`Ui`Z  
XYf`đ`gY`Ghfca`Vc`]ž`XYa`:`]dZY`Y]bYg`[`fc»`Yb  
I`bhYfk`UggYfj`i`\_Ub`gž`XYf`ØVYf`%`\$\$\$`A`YhYf`i`bhYf`XYf  
A`YYfYgc`VYfZ`ÅW`Y`VY[`]bbh"

@Ui`h`XYa`:`Y`Y`\`fhYb`7`mXY`G`"?`]Vm]XYbh]Z]n]YfhY`XYf`5i`hc`f`đ`F  
Hc`\_]Yb`gY]bYb`Z]\_h]j`Yb`Ji`\_Ub`A`ci`bh`8cca`a`]h`Ghfca`Vc`]`8Yf  
Ji`\_Ub`\_ca`a`h`Ui`W`Ua`9bXY`j`cb`đ`Yg`J`YfbYg`F`ca`Ub`FY]gY  
ni`a`A`]hY`di`b`\_h`XYf`9fXY`j`cf"

## 6Yf[ 'MUgi f

C fh' ðgY`HUbbUž`J Ubi Uhi ?cbh]bi ]Yf`]WXY`9fi dh]cb.` , \$\$  
\fY9I d`cg]j ]hÅhg]bXYI ."

8Yf'6Yf[ 'MUgi f`b]a a h`U`g`FY]gYYf`YVb]g`Bi a a Yf`Y]bg`Y]bYb  
VYgcbXYfYb`D`Uhn`b`i bgYfYb`<YfnYb`Y]b"MUgi f`]Y[ h`Ui Z`XYf  
UV[ Y`Y[ YbYb`DUn]Z\_]bgY`HUbbU`i bX`]gh`VYfØ`a h`ZØf`gY]bY  
ghfca Vc`]Ub]gWXYb`9fi dh]cbYb"

8Ug`@Yi W`hYb`XYg`J i ` \_Ubg`]gh`k Y]h\]b`g]W`hVUf`i bX`k Uf  
UbgWXY]bYbX`XUgž`k Ug`?Ud]hÅb`Ja Yg`7cc`\_%+ +( `Ui Z`XYf`YfghYb  
Yi fcdÅ]gWXYb`FY]gY`Ui Z`X]Y`ðgY`Ubnc[ "

<Yi hY`]gh`Yf`Y]bYf`XYf`Ua ``Y]W`hYghYb`ni [ Åb[ `]WXYb`U\_hj] Yb  
J i ` \_UbY`XYf`K Y`hž`\Uh`g]W`YXcW`U`g`ZUhU`ZØf`gcf[ `cgY`Hci f]ghYb  
Yfk ]YgYbž`X]Y`g]W`]b`XUg`i bhYfY`F`UbX[ YV]Yh`k U[ Yb"

## 5a Vfma

C fh' ðgY`5a Vfma ž`J Ubi Uhi ?cbh]bi ]Yf`]WXY`9fi dh]cb.`5V  
%- ' ) 9I d`cg]j ]hÅhg]bXYI .`\* Ž

`U`h1 Ua Vfmbž`X]Y`U\_hj] ghYb`J i ` \_UbY`2

6]`X.`; Ya Y]bZFY]

5a Vfma `]gh`Y]b`[ fc»Yf`6UgU`hj i ` \_Ub`a ]h`Y]bYf`%&`\_a `fł`ž( `A Y]`YbŁ  
VfY]hYb`7U`XYfUž`XUg`9f[ YVb]g`Y]bYf`[ Yk U`h][ Yb`9I d`cg]cbž`X]Y  
i a `) \$`b"7`f"ghUhhZUbX"

5a Vfmbg`9fi dh]cbg\_fUZh`k ]fX`a ]h`\* `VYk YfhYhž`XYf`nk Y]h\ØW`ghYb  
]a `Jc`WUb]W9I d`cg]j ]hm`ðXYI "

A Y`fa U`g]a `\f`i bXYfh] Yfi fgUWXYb`9fi dh]cbYb`j cb`5a Vfma  
NYfghØfi b[ `Ui Z`XYf`ðgY``8Yf`A ci bh`6YbVc`k ž`Y]bYf`XYf`VY]XYb  
U\_hj] Yb`J i ` \_Ub`\_Y[ Y`j cb`5a Vfmbž`VfUW`%- %` `Ui g`i bX  
j YfUb`Uggh`Y`X]Y`9j U`i ]Yfi b[ `XYf`6Yj Ø`\_Yfi b[ `bUW`A Y`Y`Ui Z`XYf

< Ui dh]bgY`9ZUHy"

## 6Yf[ 'A YfUd ]

C fh` ðXcbYg]Yb?cbh]bi ]Yf`]WXY`9fi dh]cb.`5V  
%- \* +9l d`cg]j ]hÀhg]bXYI .`(`

`U`h1 A YfUd]žX]Y`U\_hj] ghYb`Ji`\_UbY 2

6]X.`Fi XmhUb`b [ ž'8fYUa gh]a Y

A ci bh'A YfUd]ž]b`XYf`BÀ\Y`XYg`NYbhfi a g`j cb`đj U`[ Y`Y[ Ybž`]gh  
XYf`U\_hj] ghY`XYf`%` \$`U\_hj] Yb`Ji`\_UbY` ðXcbYg]Ybg" , VYf` \$ \$  
HU[ Y`ja` `đ\`f`c`h`FUi W`j cb`XYf`6Yf[ gd]hnY`i bX`ZUgh`X]Y`<`À`ZhY  
gY]bYf`9fi dh]cbYb`k ]fX`j cb`dmfc`\_Ugh]gWXYb`Ghf`Oa Yb`fK`c`\_Yb  
Ui g`ØVYf\]hnhYb` ; UgYb`i bX`[ `Ø\YbXYb`ZYghYb`DUfh]\_Y`bŁ  
VY[ `Y]hYh"

A Y\fyfY`9fi dh]cbYb`j cb`A YfUd]` \UVYb`HcXYgcdZYf`[ YZcfXYfh"  
%- - ( `k i fXYb`\* ( `A YbgWXYb`[ Yh`ØhYhž`i bX`VY]`Y]bYf`FY]\Y`j cb  
9fi dh]cbYb`ja` `đ\`f`&\$%\$\_Ua Yb`nU`\fY]WXY`A YbgWXYb`i a g  
@VYbž'8i hnYbXY`k i fXYb`j Yf`Yhnh`i bX`NY`\bhUi gYbXY`ni f  
9j U\_i ]Yfi b[ `[ Ynk i b[ Yb"

## 9fhU`5`Y`

C fh`ÿh\]cd]Yb?cbh]bi ]Yf`]WXY`9fi dh]cb.`5V  
%- \* +9l d`cg]j ]hÀhg]bXYI .`:%

`U`h1 YfhU`U`Yž`X]Y`U\_hj] ghYb`Ji`\_UbY 2 HfUi a nY]h

9fhU`5`Y`Y`[ h]b`XYf`5ZUf!GYb`\_Y`ja` `BcfXcghYb`ÿh\]cd]Ybg`i bX`\À`h  
XYb`FY`\_cfX`ZØf`XYb`Ua` `Àb[ ghYb`YI ]gh]YfYbXYb`@Uj UgYYž`XYf`gY]h  
%- \$`\* `VYghY\h" `Ji`\_UbY`a` ]h`@Uj UgYYb`g]bX`gY\`f`gY`hYb`/Bi f  
? `Ui YUž`5a Vfmb`i bX`9fYVi g`Ui g`X]YgYf`@]ghY`gck ]Y`Bm]fU[ cb[ c  
]b`XYf`8Ya`c`\_fUh]gWXYb`FYdi`V`\_`?cb[ c`\UVYb`XUi Yf\UZhY`cXYf  
bU\Yni`XUi Yf\UZhY`@Uj UgYYb"

9fhU'5`Yž'k Ug ]b`XYf`c\_U`Yb`5ZUf!GdfUWXY` fUi WXYbXYf`6Yf[  
VYXYi hYhž]gh'a ]h`HYa dYfUhi fYb`j cb`V]g`ni` ( +`..7`f%`%` ,`...`Ł`Y]bYf  
XYf`hfcW\_YbghYbž`b]YXf][ ghYb`i bX`\\Y]» YghYb`C fhY`XYf`9fXY"

8Yf`J i`\_Ub`V]YhYh`Y]b][ Y`UhYa VYfUi VYbXY`5i gV`]W\_Yž`UVYf`Yg  
[ UV`6Yf]WXY`ØVYf`; Yk U`h[ Y[ Yb`Hci f]ghYbž`XUfi bhYf`Y]bY`F`Y]\Y  
j cb`HcXYgZ`Ybž`XU`Yf`]gh`J c`fg]WXY`h[ YV`chYb"

## DUWmU

C fh` ; i UhYa U`U?cbh]bi ]Yf`]WXY`9fi dh]cb.`5V  
%- \*) 9l d`cg]j ]h`hg]bXYI .`"

`U`h1 DUWmUž`X]Y`U`\_hj ghYb`J i`\_UbY` 2

DUWmU`U[ `a ]bXYghYbg`Y]b`X\`f`i bXYfh`Ub[ `]bU`\_hj ž`VYj c`f`Yg  
%- \*) `ni`Y]bYa` \\YZh][ Yb`5i gVfi WXY`\_Ua` "9]b` ; fc» hY]`gY]bYf  
5`\_hj ]h`h`]gh`ghfca` Vc`]Ub]gWXY`ž`i a ZUggh`UVYf`Ui WXY`5gWXYUi gVf`ØWXY  
i bX`@Uj Ughf`Øa` Y"

⇒ `A U]`&\$\$`VfUWXY`DUWmU`\\YZh][ `Ui`g`i bX`gWXY`Yi XYfhY`Hf`Øa` a` Yf  
i bX`5gWXYg`Äi`Yb`V]g`ni`%) \$\$`A`YhYf`f( "`-`&\$`:`i`»`Ł`\\c`WXY`"5gWXY  
fY[ bYhY`Ui`ZY]bY`F`Y]\Y`j cb`Gh`XhYbž`XUfi bhYf`X]Y`<`Ui`dhghUXh  
; i UhYa U`U!GhUXh"

8]Y`bUh]cb`U`Y`? UhUghfcd`Yb`gWXY` hnVY`\`ØfXY`7`C`B`F`98`f]YZ  
5`Ufa`ghi`ZY`F`ch`Ui`g`i bX`Ya`dZU`\`X]Y`9j`U`\_i ]Yfi b[ `XYf  
i`a` `]Y[ YbXYb` ; Ya`Y]bXYb`"8Yf`5i gVfi WXY`VYgWXY`ÄX][ hY`<`i bXYfhY  
j cb`<`Äi`gYfb`i bX`h`ØhYh`a`Y`fYfY`A`Yb`gWXYbž`XUfi bhYf`XYb  
`c\_U`Yb`B`UWXYf]WXY`hYb`fY`dc`fhYf`5b]VU`5`fWXY`Už`XYf`j`cb  
J i`\_Ub`hf`Øa` a` Yfb`[ Yhfc`ZY`b`k`i`fXY"

## 6Yf[ `9fYVi`g

C fh`5bhUf`\_h]g?cbh]bi ]Yf`]WXY`9fi dh]cb.`5V  
%- +&9l d`cg]j ]h`hg]bXYI .`(`

`U`h1` 9fYVi`gž`X]Y`U`\_hj ghYb`J i`\_UbY` 2`HfUi`a`nY]h

8Yf'A ci bh'9fYVi g']gh'XYf'gØX`]W ghY'XYf'U\_hj] Yb'J i`\_UbY'XYf  
K Y'h"5i ZF cgg'g`UbX'[ Y'Y[ Ybž`Uh'Yg'Y]bY'; ]dZY`\\Ò\Y'j cb'' "+- (  
A YhYfb'f%&"( , : i » Łi bX'VY\YfVYf[ h'Y]bYb'XYf'k Yb][ Yb  
VYghÅbX][ Yb'@Uj UgYYb'XYf'K Y'h"

9fYVi g']gh'VYa Yf\_Ybgk Yfhž'XU'gY]bY'[ Yf]b[ Yž'UVYf'Ub\U'hYbXY  
5\_hj] ]hÅh'Yg'J i`\_Ubc`c[ Yb'Yfa Ò[ `]W hž'XUg'ghfca Vc`]Ub]gWXY  
9fi dh]cbggmgHya`gY\fbU\Y'Ub'XYb'U\_hj] Yb'GW`chYb'fk i bXYfhY  
j cb'A YhYfbŁ'ni`i bhYfgi WXYb"

9fYVi g']gh'Ui W`ZØf'gY]bY': i a Ufc`Yb'VY\_Ubbh`² Zzbi b[ Yb']b'XYf  
9fX\_fi ghYž'X]Y'8Ua dZi bX'; UgY'Ui g'J i`\_UbYb'Ybtk Y]WXYb  
'UggYb"GcVU'X'XYf'8Ua dZ'Y]bY'X]YgYf'² Zzbi b[ Yb'j Yf'Àgghž  
[ YZf]Yfh'Yf'i bX'V]`XYhgW`Y»`]W`a Ugg]j Y'GWbYY\_Ua ]bY"

'U`h1 2

J]c`Ybh'9Ufh`']gh'Y]bY'gdY\_hU\_i`ÀfY'j ]gi Y`Y'9f\_i bXi b[ 'XYf  
VYY]bXfi W\_YbXghYb'i bX'XfUa Uh]gWghYb'BUhi fYfY][ b]ggY.  
9fXVYVYbž'9fi dh]cbYbž'GW`Ua a`Uk ]bYbž'Hgi bUa ]g'i bX'a Y`f"

Ni gÅhn`]WY': chc[ fUZ]Y.'8fYUa gh]a Y

8YhU]`g

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