

## 5bfY]gY`bUW\`5bgY`A Uffcbž`ϑgY``@U 8][ i Yž`GYmW\Y``Yb

9]b`\_i fnYf`F Y]gYZØ\ fYfž`XYf`VYgW\ fY]Vhž`k ]Y`G]Y`bUW\`5bgY`  
A Uffcb`Ui ZXYf`ϑgY``@U`8][ i Y`Ui ZXYb`GYmW\Y``Yb  
[ Y`Ub[ Yb``5bgY`A Uffcb`\ Uh'g]W\`Ui Z[ fi bX`gY]bYg  
VYa Yf\_Ybgk Yfh`V`Ui Yb`K UggYfg`i bX`gY]bYf`Y]bn][ Ufh][ Yb  
; fUb]hZY`gZcfa Uh]cbYb`gW\ bY``ni `Y]bYa `XYf`VYfØ\ a hYghYb  
GhfÅbXY`Ui Z@U`8][ i Y`Ybhk ]W\_Y`h`K Ug`G]Y`YXcW\`j ]Y``Y]W\`h  
b]W\`h`k ]ggYbž`]ghž`XUgg`X]Yg`Y]bYf`XYf`UV[ Y`Y[ YbghYb  
GhfÅbXY`XYf`ϑgY``]gh"i a `]\Yf\Yf`ni `[ Y`Ub[ Ybž`a ØggYb`G]Y  
XU\Yf`Y]bY`\_i fnY`K UbXYfi b[ `cXYf`Y]bY`6cchgZU\fh  
i bhYfbY\ a Yb``HUhgÅW\`]W\`k ]fX`XYf`5bgY`A Uffcb`K U`\_  
U``[ Ya Y]b`U`g`Y]bYf`XYf`VYghYb`B Uhi fdZUXY`XYf`ϑgY`  
VYnY]W\`bYh" ϑ`X]YgYf`? i fnUb`Y]hi b[ `k YfXY`]W\`g\_]nn]YfYbž  
k ]Y`G]Y`ni f`5bgY`A Uffcb`Ui ZXYf`/ Ua`d^Y``]d/

9]b`\_i fnYf`F Y]gYZØ\ fYfž`XYf`VYgW\ fY]Vhž`k ]Y`G]Y`bUW\`5bgY`A Uffcb  
Ui ZXYf`ϑgY``@U`8][ i Y`Ui ZXYb`GYmW\Y``Yb`[ Y`Ub[ Yb``

5bgY`A Uffcb`\ Uh'g]W\`Ui Z[ fi bX`gY]bYg`VYa Yf\_Ybgk Yfh`V`Ui Yb  
K UggYfg`i bX`gY]bYf`Y]bn][ Ufh][ Yb`; fUb]hZY`gZcfa Uh]cbYb`gW\ bY``  
ni `Y]bYa `XYf`VYfØ\ a hYghYb`GhfÅbXY`Ui Z@U`8][ i Y`Ybhk ]W\_Y`h`

K Ug`G]Y`YXcW\`j ]Y``Y]W\`h`b]W\`h`k ]ggYbž`]ghž`XUgg`X]Yg`Y]bYf`XYf  
UV[ Y`Y[ YbghYb`GhfÅbXY`XYf`ϑgY``]gh"i a `]\Yf\Yf`ni `[ Y`Ub[ Ybž  
a ØggYb`G]Y`XU\Yf`Y]bY`\_i fnY`K UbXYfi b[ `cXYf`Y]bY`6cchgZU\fh  
i bhYfbY\ a Yb``HUhgÅW\`]W\`k ]fX`XYf`5bgY`A Uffcb`K U`\_U``[ Ya Y]b  
U`g`Y]bYf`XYf`VYghYb`B Uhi fdZUXY`XYf`ϑgY``VYnY]W\`bYh"

ϑ`X]YgYf`? i fnUb`Y]hi b[ `k YfXY`]W\`g\_]nn]YfYbž`k ]Y`G]Y`ni f`5bgY  
A Uffcb`Ui ZXYf`ϑgY``@U`8][ i Y`[ Y`Ub[ Ybž`XUa`]h`G]Y`X]YgYb  
i b[ `Ui`V`]W\`Yb`dUfUX]Yg]gW\Yb`C`fh`[ Yb]Y» Yb`\_ØbbYb"

ᄃgY`ZØ\ fYf. '5\_hj ]hAhYb`Ui Z@U'8][ i Y

### K c`]gh'5bgY`A Uffcb 3

5bgY`A Uffcb`Y[ h'Ub`XYf`GØXgd]hnY`XYf`ᄃgY`@U'8][ i Y`Ui Z`XYb  
GYmWY`Yb`"9g`]gh`Y]b`UV[ Y`Y[ YbYf`GhfUbXž`XYf`UVgY]hg`XYf`cZh  
ØVYfZØ`hYb`CfhY`k ]Y`5bgY`Gci fW`8 5f[ Ybh`cXYf`; fUbX`5bgY  
`Y[ h"

U`h1 8fc`bYbZchc`XYf`ᄃgY`@U'8][ i Yž`GYmWY`Yb 2 5bgY`A Uffcb  
Ub`XYf`GØX`ØghY`j cb`@U'8][ i Y

I bhYb`UVY`]W`XYb`[ YbUi Yb`GhUbXc`fh`ZØf`5bgY`A Uffcb  
Ub[ Y`YZhYhž`XYf`[ YbUi`]gh`K ]Y`G]Y`YXcW`gY`Yb`k YfXYbž`ZØ\ fYb  
\_Y]bY`GhfU»Yb`ni a`GhfUbX`G]Y`a ØggYb`k Y]hYf`YgYbž`i a`X]Y  
VYghY`Cdh]cb`ni`Z]bXYbž`i a`Yf\Yf`ni`[ Y`Ub[ Yb"

H]dd.`K Ybb`G]Y`A fYb`6Ygi W`Ui Z@U'8][ i Y`bcW`d`UbYbž`YgYb`G]Y  
i bVYX]b[ h'a Y]bYb`bØh`]W`Yb`@Y]hZUXYb`a ]h`XYb`XfY]VYghYb  
A Ø[ `]W`\_Y]hYbž`i a`j cb`A U\Y`fXYf`<Ui dh]bgY`Ł`Yf\Yf`ni  
[ Y`Ub[ Yb`GW`Ui Yb`G]Y`g]W`Ui W`i bVYX]b[ h'a Y]bYb`F Y]gYZØ\ fYf  
ni f`BUW`VUf]bgY`DfUg`]b`Ub`

### K ]Y`\_ca a h'a Ub`ni f`5bgY`A Uffcb`Ui Z@U'8][ i Y 3

@Y]XYf`Ya dZY`Yb`X]Y`6Y\ØfXYb`XYf`BUh]cbU`dUf`\_g`i bX`X]Y  
`c`\_U`Yb` : Ø\Yfž`X]Y`Ui Z`XYf`ᄃgY`@U'8][ i Y`UfVY]hYbž`XYb  
Hci f]ghYb`b]W`hž`XYb`5i gZi [ `Y]Yf\Yf`U`Y]bY`ni`a UW`Yb`"8Ug`]Y[ h  
XUfUbž`XUgg`a ]f`[ YgU[ h`k i fXYž`XUgg`Hci f]ghYb`gh`AbX][ `YfYhhYh  
k YfXYbž`bUW`XYa`g]Y`g]W`Ui Z`XYb`K Y[ Yb`j Yf]ffh`\UVYb`"8]Y  
K Y[ Y`g]bX`Ui W`a ]h`GW`]XYfb`[ YgdYffh`G]Y`k ØfXYb`U`gc`[ Y[ Yb  
XUg`; YgYhn`j Yfghc»Ybž`k Ybb`G]Y`j Yfgi W`Yb`k ØfXYbž`gY`Vgh  
\Yf\Yf`ni`\_ca a Yb"

8U\Yf`k i fXY`a ]f`[ YgU[ hž`XUgg`]W`\_Y]bY`X]fY`\_hYb`5bk Y]gi b[ Yb  
[ YVYb`\_Ubbž`k ]Y`]W`Yf\Yf`\_ca a Y"

8]Y`[ i hY`BUW`f]W`h]gh`YXcW`ž`XUgg`Yg`a Ø[ `]W`]ghž`a ]h`Y]bYa  
: Ø\Yf`ni f`5bgY`A Uffcb`ni`[ Y`Ub[ Yb"

HUhgÅW`jW`]ghX]YgY`VYgcbXYfY`F Y]gY`bUW`5bgY`A Uffcb`Y]bY`XYf`  
a Y]gh[ YVi W`hYb`i bX`Ua` VYghYb`VYk YfhYhYb`Hci fYb`Ui ZXYf`ϕgY`  
@U`8][ i Y`9g`Uh)``GhYfbY`Ui Z`J ]Uhc f` Y]bYf`XYf`k Y`hVYghYb`  
6i W`i b[ gk YVg]hYgž`a ]h`Y]bYa`6UX[ Y`cZ`9I W`YbW`Ui Z`  
Hf]dUXj ]gc f`8 Ug`6YghY`XUfUb`]ghž`XUgg`Yg`bi f`Yhk U`(\$`ZØf`Y]bYb`  
[ UbnYb`HU[ `\_cghYh`

8]Y`F Y]gY`VY[ ]bbh`Ua`@I b]cb`9ghUhY`i bX`VY]b`U`hYh`Y]bY`  
[ YZØ`fY`Hci f`a ]h`Y]bYa`Ua`GhfUbX`gYfj ]YfhYb`A ]hU[ YggYb`  
K Ybb`G]Y`Y]bYb`nYbn]YfhYb` : Ø`fYf`a ]hbY`a Ybž`k YfXYb`G]Y`Ui W`  
ØVYf`U`Y`YbXYa ]gW`Yb`H]Yf!`i bX`DZ`UbnYb`UfhYb`XYf`ϕgY`  
]bZcfa ]Yfh`

6YghVYk YfhYhYf`5bgY`A Uffcb`Hf]d.`< ]\_Y!]b` ; i ]XYX`Hci f`

`U`h1` 5bgY`A Uffcb`GYmW`Y`Yb` 2`

`U`h1` GYmW`Y`Yb!DU`a Ybgd]bbY` 2`

U`h1` 9bXYa ]gW`Yf`J`c[ Y`XYf`GYmW`Y`Yb` 2`

U`h1` K`UbXYfZØ`fYf`?UZZYdZ`UbnY`GYmW`Y`Yb` 2`

8]Y`i`h]a`Uh]j`Y`F Y]gYfYggci`fW`ZØf`X]Y`GYmW`Y`Yb`

5i ZXYf`Gi W`Y`bUW`a`Y`f`GYmW`Y`Yb!F Y]gYZØ`fYfb`i bX`  
ϕgd]fUh]cb3`B`UW`Zc`[ YbX`Z]bXYb`G]Y`a`Y]bY`i`a`ZUggYbXghYb`  
F Y]gYZØ`fYfž`X]Y`Δ`bYb`U`g`[ fc» Ufh][ Y`F Yggci`fW`ZØf`Δ`fY`F Y]gY`  
X]YbYb`k`YfXYb`

`)`\$`5\_h]j`]h`hYb`Ui Z`XYb`GYmW`Y`Yb` `GYmW`Y`Yb!`  
I`bhYf`\_i`b`ZhgZØ`fYf``%`,`VYghY`Ghf`ÅbXY`Ui Z`XYb`GYmW`Y`Yb``%\$`  
VYghY`ϕgY`b`Ui Z`XYb`GYmW`Y`Yb``%)`VYghY`K`UbXYfi`b[ Yb`Ui Z`  
XYb`GYmW`Y`Yb`

K`Ug`G]Y`]b`5bgY`A Uffcb`Yfk`UfhYh`

5bgY`A Uffcb`]gh`a`]h`5VghUbX`Y]bYf`XYf`gW`ØbghYb`Ghf`ÅbXYž`X]Y`]W`  
Y`[ YgY`Yb`UVY`"GUbZhYgž`hØf\_]gZUfVYbYg`K`UggYf`i`a`gdØ`h`X]Y`  
k`Y]»`Yb`GUbXghf`ÅbXY`i`bX`[ fc»`Y` ;`fUb]hZY`gYb`V]`XYb`Y]b`

[ YgWk ØhnhYgž' bUhØf' ]Wk Yg' GWk k ]a a VYW\_Yb"  
U'h1 5bgY 'A Uffcb' @U'8 ][ i Y' ð' UbX 2  
5bgY 'A Uffcb' ]gh'Y ]bYf' XYf' VYghYb' Ghf' ÅbXY' ni a 'GWk k ]a a Yb' " ð  
I ZYfb' Å\Y' ]gh'Yf' n]Ya ' ]Wk ' [ YgWk Øhnhž' UVYf' k Ybb' a Ub' k Y]h' \ ]bUi g  
gWk k ]a a hž' \_Ubb' Yg' fUi' k YfXYb' " K Ybb' Yg' NY]h' ni a '9bhgdUbbYb  
]ghž' ]gh' XYf' 6' ]W' \_Ui ZXUg' YbX' c' gY' A Yf' XU\ ]bhYf' UhYa VYfUi VYbX"  
=Wk \ UVY' X]YgYb' C fh' ni a 'GcbbYbi bhYf[ Ub[ ' VYgi Wk h' i bX' ]Wk ' \_Ubb  
=bYb' gU[ Ybž' Yg' k Uf' ZUbhUgh]gWk °

5i Z[ fi bX' XYf' UV[ Y' Y[ YbYb' @U[ Y' ]gh' X]YgYf' Gdch' a Y]gh' gY\ f' fi \ ][ "  
K Ybb' G]Y' Yg' \ ]Yf' \ Yf' gWk UZYbž' \_ØbbYb' G]Y' gU[ Ybž' XUgg' G]Y  
XYZ]b]h]j ' UVgY]hg' XYg' fY[ i ' ÅfYb' Hci f]ghYbfi a a Y' g' ]Y[ Yb' k YfXYb"  
U'h1 ? ØghY' j cb' 5bgY 'A Uffcb' i bX' @U'8 ]ei Yž' GYmWk Y' Yb 2  
U'h1 5bgY 'A Uffcb' Ui ZX' Yf' ðgY' @U'8 ][ i Yž' GYmWk Y' Yb 2  
U'h1 GhfUbX' 5bgY 'A Uffcb' Ui ZX' Yf' ðgY' @U'8 ][ i Yž' GYmWk Y' Yb 2

## 5 VYfbUWk hYb' Ui Z' @U'8 ][ i Y

@U'8 ][ i Y' ]gh' Y]bY' n]Ya ' ]Wk ' \_Y]bY' ðgY' i bX' G]Y' \_ØbbYb' ]bbYf' \ U' V  
j cb' &\$!' \$' A ]bi hYb' a ]h' XYa ' : U\ ffUX' ØVYfU' \ ]b\_ ca a Yb' " G]Y  
Z]bXYb' j ]Y' Y' < chY' g' Ui ZX' Yf' K YghgY]hY' XYf' ðgY' ]b' XYf' B' Å\Y' XYf  
5b' Y[ YghY' Yž' UVYf' bi f' k Yb][ Y' Ybh' Ub[ ' XYf' gWk a U' Yb  
? ØghY' bghfU» Y' Ui ZX' Yf' a Y]gh' VYk c\ bhYb' C ghgY]hY"

5i Z' @U'8 ][ i Y' [ ]Vh' Yg' Y]bY' [ fc» Y' 5i gk U\ ' Ub' < chY' !' i bX  
F Ygc' fhUb[ YVchYbž' X]Y' j cb' fY' Uh]j ' Vi X[ YhZfYi bX' ]Wk Yb  
GY' Vghj Yfgcf[ Yf! @cX[ Yg' V]g' \ ]b' ni ' i b[ ' Ui V' ]Wk Yb' @ I i gfYgc' fhg  
fY]Wk Yb"

B UWk Zc' [ YbX' Z]bXYb' G]Y' Y]bY' \_i fnY' Ni gUa a YbZUggi b[ ' XYf  
VYghYb' H]ddg"

A Y\ f. '8 ]Y' - ' VYghYb' i bhYf' \_ØbZhYž' F Ygc' fhg/ ' < chY' g' Ui Z' @U'8 ][ i Y"

9fghUi b' ]Wk Yg' 7\ UhYUi . ' < chY' 7\ UhYUi ' Gh' 7' ci X' fA ]hY' \_' UggY' È' ð  
7\ UhYUi ' Gh' 7' ci X' \ UVY' ]Wk ' Ui Z' @U'8 ][ i Y' ØVYfbUWk hYh' i bX' ]Wk  
\_Ubb' Yg' dYfgØb' ]Wk ' U' g' Y]bY' XYf' VYghYb' i bhYf' \_i bZhga Ø[ ' ]Wk \_Y]hYb  
Ui ZX' Yf' ðgY' Ya dZY' \ Yb' " 8 ]YgYg' 8 fY]! GhYfbY! < chY' ]gh' dYfZY' \_h' U' g

A ]hY`\_UggY!C dh]cbžXU`X]Y`@U[ Y`Yl nY`Ybh]gh`bi f`Y]b`k Yb][  
Ui »Yf\U`V`XYg`<Ui dhj ]YfhY`g]b`Y]bYf`fi` \][ Yb`GhfU»Yž`X]Y`gck c\`  
ni`XYb`i b[ `Ui V`]WXYb`Ghf`AbXYb`]a`GØXk YghYb`U`g`Ui W`ni a  
<UZYb`bU\`[ Ybi`[ ]gh"8]Y`5b[ YghY`hYb`g]bX`U`Y`gY\`f  
ni j cf\_ca a YbX`i bX`XUg`: fØ\ghØW\_gVi ZYh]gh[ fc»Ufh][ "8]Y  
N]a a Yf`g]bX`gY\`f`[ Yf`Ài a ][ `i bX`XUg`<chY`U`h`gc[ Uf`Y]bYb`Dcc`  
i bX`Y]bY`6Uf"

U`h1 2

<chY`Ua`K UggYf.`@Y`BUi h]ei Y`fk][ \!9bXŁ`5`g`Y]bY`XYf`VYghYb  
l bhYf\_ØbžhY`Ua`K UggYf`Ui Z`@U`8][ i Y`VYk YfhYhž]gh`@Y`BUi h]ei Y  
Y]b`i l i f]ØgYg`5b[ YVchž`XUg`hfUX]h]cbY`Y`\_fYc`]gWXY`5fW]hY`\_hi f  
a ]h`a cXYfbYa`?ca Zcfh`k ]Y`? ]b[ g]nY!6YhhYb`i bX`FY[ YbXi gWXYb  
j YfV]bXYh`<]Yf`Yb`hXYW\_Yb`G]Y`Ui W`Y]b`ZUbhUgh]gWXYg`FYghUi fUbh  
]a`: fY]Yb`i bX`Y]bY`k i bXYfgW`ØbY`; UfhYbi a [ YVi b[ "

U`h1 @Y`BUi h]ei Y`GYmWXY`Yb 2

GY`Vghj YfdZY[ i b[ .8fYUa`<c`]XUm`f`bi X[ YhŁ`8fYUa`<c`]XUm`GY`Z  
7UhYf]b[ `VYZ]bXYh`g]WXY`Ua`bØfX`]WXYb`9bXY`XYf`gY`ž[ Ubni]b`XYf  
BÀ\Y`XYg`: À\fhYfa`]bU`g"8]YgY`@U[ Y`]gh[ fc»Ufh][ ž`XU`G]Y`]b`XYf  
BÀ\Y`j cb`: U\ffUXj Yf`Y]\Ybž`GbUW`ÀXYb`i bX`gc[ Uf  
Gi dYfa`Àf`\_hYb`Ui Z`XYf`<Ui dhghfU»Y`j cb`@U`8][ i Y`g]bX"8fYUa  
<c`]XUm`V]YhYh`E i YYb!N]a a Yf`a`]h`?`]a UUb`U[ Yž`HJ`ž`Y][ YbYa`6UX  
i bX`gc[ Uf`Y]bYa`6U`\_cb"8]Yg`]gh`Y]bY`[ fc»Ufh][ Y`C dh]cbž`k Ybb  
G]Y`@U`8][ i Y`a`]h`\_Y]bYa`6i X[ Yh`VYgi WXYbž`k À\fybX`?ca Zcfh  
i bX`@U[ Y`ZØf`G]Y`]a a Yf`bcW`Df]cf]h`h`UVYb"

U`h1 HfUi a i f`Ui V`@U`8][ i Y`g`UbX`GYmWXY`Yb 2

## 5i Z`XYf`Gi WXY`bUW`a Y\`f`FY]gY]bgd]fUh]cb ZØf`X]Y`GYmWXY`Yb 3

WXY`cZY`Ui Zf]WXYh][ ž`XUgg`X]YgY`?i fnUb`Y]hi b[ `ni a`6Ygi WXYg  
GhfUbXYg`5bgY`A Uffcb`Ui ZXYf`gY`@U`8][ i Y`Ui ZXYb`GYmWXY`Yb  
G]Y`XUni`]bgd]f]Yfh`\Uhž`g]WXY`X]YgYg`?ØghYbk i bXYf`Ubni gY`Yb"  
K À\fybX`G]Y`\]Yf`Ui Z`a`Y]bYa`6`c[ `g]bXž`gc`hYb`G]Y`g]WXY`Ui WXY  
Y]b][ Y`a`Y]bYf`UbXYfYb`5fh`\_Y`Ubgy`Yb" WXY`UVY`j ]Y`Y`bØm`]WXY  
g\`U`hY`ZØf`X]Y`GYmWXY`Yb`j Yf`ØZYbh]WXYh`i bX`]WXY`k`Y]ž`XUgg`G]Y  
Yhk Ug`9]bn][ Ufh][ Yg`ZØf`fY`Y][ YbY`FY]gY`Z]bXYb`k YfXYb`°

'U`h1 5bgY`A Uffc b`Ui Z@J`8][ i Yž`GYmWXY`Yb 2

"

8YhJ]`g

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