

J Yf\_Y\ fgi bZU``]b`F \ Y]bXU\`Yb. `Nk Y]  
?`Y]bVi ggY`\_c``]X]YfYb

J Yf\_Y\ fgi bZU``nk ]gWXYb`nk Y]?`Y]bVi ggYb`]b  
A ÒbWXYb[ `UXVUWX.`@Y]WXYhY`J Yf`Yhni b[ Yb`i bX`[ fc» Y  
9]bgUhn\_fÀZhY`j cf`Cfh"

9]b`J Yf\_Y\ fgi bZU``nk ]gWXYb`nk Y]?`Y]bVi ggYb`gcf[ hY`Ua` `&\*"  
5i [ i gh&\$&( ži a`%) .(- `I \ fž`b`A ÒbWXYb[ `UXVUWX`ZØf`5i ZgY\Yb"  
8Yf`J cfZU``YfY][ bYhY`g]WXY`Ub`XYf`j ]Y`VYZU\ fYbYb`?fYi ni b[  
<UfXhYf`GhfU» Yž`9W\_Y`6) +""8]Y`[ YbUi Yb`I a`ghÀbXYž`X]Y`ni`XYf`  
?c``]g]cb`ZØ\fhYbž`g]bX`V]g`Ub[ `i b`\_Ufž`UVYf`XYf`Ni`gUa` a`Ybghc»  
\Uh`i ba` ]hhY`VUFY`A U» bU\`a` Yb`XYf`FYhhi b[ g!`i bX  
: Yi Yfk Y\ f\_fÀZhY`Ui`g[ Y`Ògh"

≠Y]bYa`XYf`VY]XYb`: U\fnYi [ Y`VYZUbXYb`g]WXY`gYWX`g`DYfgcbYbž`  
k`À\ fYbX`ja`UbXYfYb`?`Y]bVi`g`Y]bY`: U\ fYf]b`U`Y]b`k`Uf""8]YgY`  
Yf`]hh`VY]`XYa`I`bZU``[ `ØW\_`]WXYfk`Y]gY`bi`f`Y]WXYhY`J Yf`Yhni b[ Yb`  
I`a`g]WXYfni`ghY`Ybž`XUgg`g]Y`X]Y`bchk`YbX][ Y`a`YX]n]b]gWXY`  
J Yfgcf[ i b[ `Yf\`À`hž`k`i`fXY`g]Y`]b`Y]b`bU\Y[ Y`Y[ YbYg`?fUb`\_Yb\Ui`g`  
[ YVfUWX`h""8]Y`≠gUggYb`XYg`nk`Y]hYb`?`Y]bVi`ggYg`V`]YVYb`  
\]b[ Y[ Yb`i`bj`Yf`Yhhi`bX`\_cbbhYb`bUWX`XYf`Àfnh`]WXYb`  
I`bhYfgi`WXYb[ `Xi`fWXY`Y]bYb`B`chUfnh`Ub`XYf`I`bZU``ghY`Y`j`YfV`Y]VYb"

### F YU\_h]cb`XYf`9]bgUhn\_fÀZhY

5i Z[ fi bX`XYf`GWX`k`YfY`XYg`I`bZU``g`bU\`a`Yb`X]Y`9]bgUhn\_fÀZhY`XYf`  
: Yi Yfk Y\ f`gWXYb`Y`X]Y`?`cbhfc``Y`ØVYf`X]Y`G]hi`Uh]cb`Ui`Z`G]Y`  
g]WXYfhYb`XYb`I`bZU``cfh`UVž`i`a`X]Y`G]WXYf\Y]h`U`Yf`VYhY`][ hYb`  
DYfgcbYb`ni`[ Yk`À\ f`Y]ghYb`Ni`XYa`k`i`fXY`XYf`6YfY]WXY`i`a`X]Y`  
I`bZU``ghY`Y`[ Y[ Yb`XYb`Z]Y» YbXYb`J Yf\_Y\ f`UV[ YgdYffhž`k`Ug`  
VYXYi`hYhYž`XUgg`X]Y`6) +]b`VY]XY`: U\ fhf]WXYh`i`b[ Yb`k`À\ fYbX`XYg`

[ YgUa hYb`9]bgUhnYg` [ YgdYffh`k Uf" `8]YgY`A U» bU\`a Y`k Uf  
bchk YbX][ ž`i a`Y]bYb`g]WXYfYb`Ni [ Ub[ `Z0f`X]Y`F Yhhi b[ g\_f`AžhY`ni  
Yfa 0[ `]WXYb`i bX`a 0[ `]WXYfk Y]gY`k Y]hYfY` ; YZU\`fYb`ni  
j Yfa Y]XYb"

8]Y`Dc`nY]`k Uf`YVYbZU`g`j cf`C fh`i bX`0VYfbU\`a `X]Y`5i Z[ UVYž`XYb  
J Yf\_`Y\`f`k Y]hf`Ai a ][ `i a`ni `Y]hYb" `Gc`WXY`A U» bU\`a Yb`g]bX`c Zh  
bchk YbX][ ž`i a`GhUi g`i bX`k Y]hYfY`?ca`d`\_Uh]cbYb`ja  
GhfU» Ybj Yf\_`Y\`f`ni `j Yf\`]bXYfb" `6Y]`i bZ`A`Yb`]b`ghUf\_  
ZfYe i Ybh]YfhYb`6YfY]WXYb`]gh`Yg`k ]W h][ ž`gW`bY`ni `UbXY`bž`i a  
X]Y`G]WXYf\`Y]h`ni `[ Yk`A\`f`Y]ghYb`i bX`X]Y`A cV`]h`h`ni `Yf\`U`hYb"

- 6YhfcZZYbY` : U\`fnYi [ Y. `Nk Y]? `Y]bVi ggY
- 5bnU\`XYf`ϕgUggYb. `GYW`g`]b`Y]bYa` `6i gž`Y]bY` : U\`fYf]b  
]a`UbXYfYb
- J Yf`Yhni b[ Yb. `9]bY`DYfgcb`Y]W`h`j Yf`Yhnhž`fYgh]WXY  
ϕgUggYb`i bj Yf`Yhnh
- A U» bU\`a Yb. ` : Yi Yfk Y\`f`g]WXYfh`X]Y`i bZU`ghY`Yž  
GdYffi b[ `XYf`6) + `]b`VY]XY`F ]W`hi b[ Yb
- FYhhi b[ gX]YbghY. `FYhhi b[ gk U[ Ybž`B`chUfnh`i bX  
 : Yi Yfk Y\`f`]a`9]bgUhn

8]Y` : Yi Yfk Y\`f`k Uf`a` ]h`Y]bYa` `F 0ghk U[ Yb`Ui g`XYa` `HYW`b]\_!`i bX  
@c[ ]gh]\_nYbhfi a`gck ]Y`XYb`9]b\`Y]hYb`XYf` : fY]k ]`][ Yb` : Yi Yfk Y\`f`  
< UfXh`]a`9]bgUhn" `9]b`FYhhi b[ gk U[ Yb`i bX`Y]b  
B`chUfnhY]bgUhnZU\`fnYi [ `k UfYb`YVYbZU`g`j cf`C fhž`i a`gW`bY`Y  
a`YX]n]b]gWXY`< `]ZY`ni `Y]ghYb" `8Yf`9]bgUhn`Y]hYfž  
6fUbXcVYf]bgdY`\_hcf`5bXfYUg` : A[ Yfž`\_ccfX]b]YfhY`X]Y`A U» bU\`a Ybž  
i a`g]WXYfni ghY`Ybž`XUgg`X]Y`G]hi Uh]cb`gW`bY`i bX`YZZY`\_h]j`i bhYf  
?cbhfc`Y` [ YVfUW`h`k ]fX"

J Yf\_`Y\`fgi bZ`A`Y`g]bX`VYXUi Yf`]WXYfk Y]gY`\`Ai Z[ ž`UVYf`YXYf  
J cfZU`V`f]b[ h`igY]bY`Y][ YbYb`< YfUi gZcfXYfi b[ Yb`a` ]h`g]W`" `9g`]gh  
k ]W`h][ ž`XUgg`X]Y`ni gh`AbX][ Yb`6Y\`0fXYb`i bX`9]bgUhn\_f`AžhY`[ i h  
Ui g[ YV]`XYhi bX`j cfVYfY]hYhig]bXž`i a`]b`gc`WXYb`B`chZ`A`Yb`gW`bY`  
ni `UbXY`b" ; `0W`\_]WXYfk Y]gY`V`]YVYb`X]Y`a` Y]ghYb`6YhY`] [ hYb`]b  
X]YgYa` : U`i bj Yf`Yhnhž`UVYf`X]Y`VYfi Z]WXYb`FYhhi b[ g\_f`AžhY`g]bX  
ghYhg`VYfY]hž`YZZ]n]YbhY`< `]ZY`ni `Y]ghYbž`i a`@YVYb`ni`fYhYb`i bX

J Yf`Yhni b[ Yb`ni `VY\UbXY`b"

## J Yf\_Y\fgg]WXYf\Y]h]a : c\_i g

I bZ`Y`k ]Y`X]YgYf`k YfZYb`Ui W`Y]b`@]W`h`Ui Z`X]Y`Zc`fhk `A`fYbXYb  
<YfUi gZc`fXYfi b[ Yb`]b`XYf`J Yf\_Y\fgg]WXYf\Y]h`>XYf`I bZU``]gh  
Y]bY`9f]bbYfi b[ `XUfUbž`k ]Y`k ]W`h][ `j YfUbhk c`fhi b[ gj`c`Yg`: U`fYb  
i bX`X]Y`9]b`U`hi b[ `j`cb`J Yf\_Y\fgfY[ Y`b`g]bX``9g`]gh`Y`bhgW`Y]XYbXž  
XUgg`gck c`5i hcZU`fYf`U`g`Ui W`: i » [ `Ab[ Yf`Ui Za Yf\_gUa  
V`Y]VYbž`i a` [ YZ`A`f`]W`Y`G]hi Uh]cbYb`ni `j Yfa`Y]XYb``8]Y  
A U» bU`a`Y`XYf`Dc`nY]ž`XYb`J Yf\_Y`f`i a`X]Y`I bZU``ghY`Y`Y`fi a  
i a`ni `Y]hYbž`nY][ `h`X]Y`B`chk`Y`bX][ `\_Y]h`gW`bY`Y`f`F`YU`\_h]cbYb`Ui Z  
i bj`cf`Yf[ YgY`Y`bY`J`cfZ`A`Y`"

⊕`5bVYhfUW`h`XYg`[ YgUa`hYb`J`cfZU``g`V`Y]V`h`X]Y`: fU[ Y`b`UW`X`Yf  
I fgUW`Y`c`ZYb``8]Yg`\_`Ob`bhY`j`YfgW`]YXYbY`: U`hc`fYb`VY]b`U`h`Ybž  
j`cb`a`Y`bgW`]W`Ya`J`YfgU[ Yb`V]g`\]b`ni`h`YW`b]gW`Yb`8YZY`\_`hYb`Ub  
XYb`: U`fnYi [ Yb``8]Y`ni`gh`AbX][ Yb`6Y`A`Öf`X`Yb`k`Yf`X`Yb  
k`U`fgW`Y]b`]W`k`Y]hYfY`9fa`]h`hi`b[ Yb`UbghY`Y`bž`i a`ZY`ghni`ghY`Y`bž  
k`]Y`XYf`I bZU``[ YbUi`i[ YgW`Y`Y`b`\_`cb`bhY``Gc`W`Y`5bU`mgYb`g]bX  
Y`bhgW`Y]XYbXž`i a`\_`Øb`Zh][ Y`I bZ`A`Y`ni`j`Yf`\]b`XYfb`i`bX`g]W`Yf`Yf`Y  
GhfU» Yb`ZØf`U`Y`J`Yf\_Y`f`ghY]`bY`a`Yf`ni`g`W`UZZYb`"

## I fgUWXYb`i`bX`J Yf\_Y\fgg]WXYf\Y]h

8]Y`I fgUWXYb`ZØf`J Yf\_Y`f`gi bZ`A`Y`g]bX`j ]Y`Z`A`h][ `i`bX`c`Zi`\_`ca`d`YI`"  
K`Y`hY`fVYX]b[ i`b[ Ybž`J Yf\_Y`f`gUi Z`\_`ca`a`Yb`i`bX`a`Y`bgW`]W`Yg  
: Y`\`j`Yf`U`h`Yb`gd]Y`Yb`\]Y`fVY]`Y]bY`k`YgY`bh]W`Y`F`c`Y``6Y]`XYa  
I bZU``]b`A`Øb`W`Yb[ `UXVUW`i[ ]V`h`Yg`V]g`Ub[ `\_Y]bY`c`Z]n]Y`Y`b  
9f`\_`Yb`bh]ggY`ØVYf`X]Y`[ YbUi`Y`I bZU``i fgUW`Y``9g`]gh`Y`Xc`W  
VY`\_`Ub`bhž`XUgg`I bUi`Za`Yf\_gUa`\_Y]h`Ua`GhYi`Yfž`A`]ggUW`hi`b[ `j`cb  
J Yf\_Y`f`gnY]W`Yb`c`XYf`d`Øh`]W`Y`6fYa`ga`Ub`Øj`Yf`\`Äi`Z][ Y  
I fgUWXYb`ZØf`?`c``]g]cbYb`g]bX`"

I a`X]Y`G]W`Yf\Y]h]a`GhfU» Ybj`Yf\_Y`f`ni`Yf`\`Ö`Ybž`gY`hnYb`Gh`A`X`hY  
i`bX`;`Ya`Y]b`XYb`j`YfgW`]YXYbY`A`U» bU`a`Yb`i`a`"8`Uni`[ Y`A`Öf`Yb  
X]Y`⊕`ghU``Uh]cb`j`cb`5a`dY`b`i`bX`?`fY]gj`Yf\_Y`f`Ybž  
;`YgW`k`]bX][ `\_Y]hg`\_`cb`hfc`Y`b`i`bX`ÖZZY`bh]W`Y`"

5i Z\_Àfi b[ g\_Ua dU[ bYb"@Ui h'XYa '8Yi hgWYb  
J Yf\_Y\fgg]WYf\Y]hgfUhfBJ F Ł\UVYb'gc`WY'ϕ]h]Uh]j Yb'j]b`XYb  
'YhnhYb'ϕ\fyb'ni`Y]bYa`FØW\_[ Ub[ 'XYf'J Yf\_Y\fgi bZÀ`Y'[ YZØ\fhž  
cVkc\`X]Y`NU\`XYf'J Yf`YhnhYb'i bX'; YhØhYhYb']a a Yf'bcW  
VYgcf[ b]gYffY[ YbX`V`Y]Vh`Ni gÀhn`]WY`Dfc[ fUa a Yž'k ]Y`Yhk U  
: U\fhfU]b]b[ g'ZØf`VYgh]a a hY'; fi ddYb'j cb': U\fyfbž`ØbbhYb  
YVYbZU`g'dcg]h]j Y`5i gk ]f\_i b[ Yb`Ui ZX]Y`J Yf\_Y\fgg]WYf\Y]h  
\UVYb"

## F c`Y`XYf`F Yhhi b[ g\_fÀZhY

æa : U`Y`Y]bYg'J Yf\_Y\fgi bZU`g'g]bX`X]Y`9]bgUhn\_fÀZhY`XYf  
: Yi Yfk Y\fi bX`XYf`F Yhhi b[ gX]YbghY`j cb`YbHgWY]XYbXYf  
6YXYi hi b[ "≠fY`gWbY`Y`F YU\_h]cb`\_Ubb`cZiØVYf`@YVYb`i bX`HcX  
YbhgWY]XYb"6Y`XYa`J c fZU``]b`A ØbWYb[ `UXVUW`k UfYb  
j YfgW]YXYbY`9]b\Y]hYb`VYhY]] [ hž`XUfi bhYf': Yi Yfk Y\fi bX  
F Yhhi b[ gX]Ybghž`X]Y`ni gUa a YbUfVY]hYhYbž'i a`X]Y`I bZU`ghY`Y  
UVni g]WYfb`i bX`X]Y`J Yf`YhnhY`a YX]n]b]gW`ni`j Yfgcf[ Yb"

ϕ`XYf`F Y[ Y`k ]fX`VY]] [ fØ» YfYb`9]bgÀhnYb`Ui W`XYf  
: Ø\fi b[ gX]Ybgh`XYf`6Yfi ZgZYi Yfk Y\f`\]bni [ Ync[ Ybž'i a`X]Y  
?ccfX]bUh]cb`ni`cdh]a ]YfYb"9g'gh'k ]W]h][ ž`XUgg`U`Y`6YhY]] [ hYb  
YZ]n]Ybh`ni gUa a YbUfVY]hYbž'i a`X]Y'; YZU\fyb`ZØf`U`Y  
J Yf\_Y\fgH]`bY\`a Yf`ni`a ]b]a ]YfYb`i bX`Y]bY`nØ[ ] [ Y  
K ]YXYf\YfghY``i b[ `XYg'J Yf\_Y\fgZi ggYg`ni` [ Yk`À`f`Y]ghYb"

GhUh]gh]\_Yb`nY]] [ Ybž`XUgg`X]Y`F YU\_h]cbgnY]h`XYf`F Yhhi b[ g\_fÀZhY  
i bX`X]Y`E i U`]hÀh`XYf`a YX]n]b]gWYb`J Yfgcf[ i b[ `cZiYbHgWY]XYbX  
ZØf`X]Y'; YbYgi b[ `XYf`J Yf`YhnhYb`g]bX"8]Y`a cXYfbghY  
5i gghUhhi b[ `XYf`F Yhhi b[ gX]YbghY`i bX`\_cbh]bi ]Yf`]WY`5i g!`i bX  
: cfhV]`Xi b[ `g]bX`XU\Yf`j cb`[ fØ» hYf`K ]W]h][ \_Y]h"

## J Yf\_Y\fgXUhYb`i bX`I bZU`ghUh]gh]\_Yb

@Ui h'XYa`GhUh]gh]gWYb`6i bXYgUa`hj Yf`YhnhYb`g]WY`]a`ϕ\f`&\$&  
]b`8Yi hgW`UbX`]bg[ YgUa`hYhk U` '\$\$\$`DYfgcbYb`VY]  
J Yf\_Y\fgi bZÀ`Yb"8Uj cb`k UfYb`X]Y`a Y]ghYb`I bZÀ`Y`Ui ZD\_k!  
I bZÀ`Y`ni fØW`ni ZØ\fybž`[ YZc`[ hj cb`Bi hmZU\fnYi [ Yb`i bX

Nk Y]fÅXYfb" 8]YgY`NU\`Yb`j YfXYi h]W\Yb`X]Y`ghÅbX][ Y  
< YfUi gZcfXYfi b[ žX]Y`J Yf\_Y\fgg]W\Yf\Y]h`ni`Yf\Ò\Yb"

8]Y`i bZU`nU\`Yb`j Uf]]YfYb`\Ài Z[ `Y`bUW\`FY[ ]cb`i bX`\_ÒbbYb  
Xi fW`j YfgW\]YXYbY` : U\_hcfYbž`k ]Y`6Yj Ò`\_Yfi b[ gX]W\hY`i bX  
≠ZfUghfi \_hi fž`VYY]bZi ggh`k YfXYb"≠`GhÅXhYb`k ]Y  
A ÒbW\Yb[ `UXVUW\`]gh`XYf`GhfU» Ybj Yf\_Y\`f`cZi]bhYbgj] Yfž`k Ug`X]Y  
K U\fgW\Y]b`]W\`Y]hj cb`?c``]g]cbYb`Yf\Ò\h"8U\Yf`]gh`Yg`k ]W\h][ ž  
XUgg`c`\_U`Y`6Y\ÒfXYb`i bX`J Yf\_Y\fgd`UbYf`Ui ZYbX`8UhYb  
UbU`mg]YfYb`i bX`YbhgdYfW\YbXY`A U» bU\`a Yb`ni f  
F]g]\_ca ]bXYfi b[ `Yf[ fY]ZYbž`k ]Y`ni a`6Y]gd]Y`X]Y`J YfVYggYfi b[  
j cb`?fYi ni b[ Yb`i bX`X]Y`GW\UZZi b[ `g]W\YfYf  
, VYfei Yfi b[ ga Ò[ `]W\`Y]hYb`ZØf` : i » [ Àb[ Yf"

8]Y`8UhYb`ni`J Yf\_Y\fgi bZÅ`Yb`g]bX`b]W\h`bi f`ZØf`X]Y`D`Ubi b[ `j cb  
≠ZfUghfi \_hi f`bÒh][ ž`gcbXYfb`Ui W\`ZØf`X]Y`9bhk ]W`i b[ `j cb  
[ Yn]Y`hYb`DfÅj Ybh]cbgdYf[ fUa`a Ybž`X]Y`\Y`ZYb`gc`Ybž`X]Y  
G]W\Yf\Y]h`U`Yf`J Yf\_Y\fgY]`bY\`a Yfž`Y]bgW\`Y»`]W\` : i » [ Àb[ Yf  
i bX`F UXZU\`fYfž`ni`Yf\Ò\Yb"

8YhU]`g

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