

J Yf\_Y\ fgi bZU``]b`6fY]hYbk cfV]g.  
5i hcZU\ fYf]b`bUW\`J cfZU\ fhgZY\`Yf  
j Yf`Yhnh

J Yf\_Y\ fgi bZU``]b`6fY]hYbk cfV]g. 5i hcZU\ fYf]b`j Yf`Yhnh`bUW\`  
J cfZU\ fhgZY\`Yf`"Dc`]nY]`Y]hYh`9fa`]hhi b[ Yb`Y]b"

5a`GcbbhU[ UVYbX`\_Ua`Yg]b`6fY]hYbk cfV]g`ni`Y]bYa  
J Yf\_Y\ fgi bZU``Z`XYf`X]Y`5i`Za`Yf\_gUa`\_Y]h`XYf`Dc`]nY]`Ui`Z]g]W\`nc[ "  
; Y[ Yb`%, "" \$`I` \f`\_c``]X]Yfh`Y]b`J`c`\_gk`U[ Yb`a`]h`Y]bYa`6A`K`]b  
XYf`C`ghghfU» Y""8Yf`J`cfZU``Vf]b[ h`b]W\`h`bi`f`X]Y`G]W\`Yf\`Y]h]a  
GhfU» Ybj`Yf\_Y\`f]bg;`Ygdf`A`W\`Z`gcb`XYfb`Ui`W\`X]Y`6YXYi`hi`b[`XYf`  
J Yf\_Y\`fgj`cf`gW\`f]ZhYb"

8]Y`YfghYb`9fa`]hhi`b[ Yb`XYf`Dc`]nY]`XYi`hYb`XUfUi`Z`\]b`Z`XUgg`XYf`  
: U\`fYf`XYg`6A`K`X]Y`J`cfZU\`fh`Y]b`Yf`&\$!`A`\f][ Yb`: fUi`a`]ggUW\`hYhY"  
8i`fW\`XYb`5i`ZdfU``Yf]h`h`X]Y`↑`b[ Y`5i`hcZU\`fYf]b[ [ `ØW`\_]W\`Yfk`Y]gY  
bi`f`Y]W\`hY`J`Yf`Yhni`b[ Yb""8Yb`bc`W\`nY][ h`X]YgYf`J`cfZU``Ui`Z`k`]Y  
gW\`bY``g]W\`Xi`fW\`Y]bYb`A`ca`Ybh`XYf`I`bUi`Za`Yf\_gUa`\_Y]h`YfbghY`  
: c`[ Yb`Yf[ YVYb`\_ØbbYb"

## 8YhU]`g`XYg`I`bZU``g

BUW\`XYa`Ni`gUa`a`Ybghc»`k`Uf`XYf`J`c`\_gk`U[ Yb`Yf\`YV`]W\`  
VYgW\`AX][ h`i`bX`a`i`gghY`UV[ YgW\`Yddh`k`YfXYb""9g]gh`Y]b`XYi`h]W\`  
g]W\`hVUfYg`NY]W\`Yb`ZØf`X]Y;`Y`ZU\`fYb`Z`X]Y`]a`GhfU» Ybj`Yf\_Y\`f`  
`Ui`Yfb`Z`k`Ybb`J`Yf\_Y\`fgfY[ Y`b`b]W\`h`VYUW\`hYh`k`YfXYb""Gc`W\`Y`  
J`cfZ`A``Y`\_ØbbYb`b]W\`h`bi`f`a`UhYf]Y``Y`GW\`AXYb`j`Yfi`fgUW\`Yb`Z`  
gcb`XYfb`Ui`W\`XUg`@YVYb`XYf`6YhY]`][ hYb`i`bX`XYfYb`5b[ Y\`Øf][ Y`  
ghUf`\_`VY`UghYb"

8]Y`Dc`]nY][]bgdY`\_h]cb`9]W\`gZY`X`\`Uh`Y]b`9fa`]hhi`b[ gj`YfZU\`fYb`

k Y[ Yb`XYg`J YfXUW hg`XYf`ZU\`f`Àgg][ Yb`? ÒfdYfj Yf`Yhni b[  
Y]b[ Y`Y]hYh`8]YgY`fYVW h]WY Yb`GW f]hY`i bhY fghfY]WY Yb`X]Y  
6YXYi hi b[ `XYf`J Yf`Y\fgg]WY Yf\Y]hi bX`XYf`9]b\U`hi b[ `j cb  
FY[ Y`b`ja`GhfU» Ybj Yf`Y\`f`9g`]gh`Y]b`k Y]hYfYf`<]bk Y]g`XUfUi Z  
XUgg`J Yf`Y\fg hY]`bY\`a Yf`J YfU bhk cfhi b[ `ZØf`]\`f`<UbXY`b  
ØVYfbY\`a Yb`a ØggYb"

## K Ufi a `X]YgYf`J cfZU```k ]W h][ `]gh

⇒`NY]hYb`ni bY\`a YbXYf`J Yf`Y\fgX]W hY`g]bX`gc`WY`i bZ`Y`b]W h  
bi`f`Y]b`]bX]j ]Xi Y`Yg`DfcV`Ya`ž`gcbXYfb`fYZY`\_h]YfYb`Ui W`X]Y  
<YfUi gZcfXYfi b[ Ybž`j cf`XYbYb`X]Y`; YgY`gW UZh]bg[ YgUa`h`ghY\`h"  
9g`a UW h`XYi h]W ž`k ]Y`YggYbn]Y``X]Y`GYbg[V`]g]Yfi b[ `ZØf  
J Yf`Y\fgfY[ Y`b`]gh`i bX`XUgg`YXY`J Yf`Y\fg hY]`bY\`a Yf]b`i bX`YXYf  
J Yf`Y\fg hY]`bY\`a Yf`Ui ZX]Y`G]WY Yf\Y]h`UW hYb`a i ggž`b]W h`bi`f`ZØf  
g]W`gY`Vghž`gcbXYfb`Ui W`ZØf`UbXYfY"

8Yf`J cfZU``]b`6fY]hYbk cfV]g`]gh`b]W h`XYf`YfghY`gY]bYf`5fhi bX  
k ]fX`k U\fgW Y]b`]W`b]W h`XYf`YhnhY`gY]b``>XYf`\_`Y]bY`A ca Ybh  
XYf`i bUW hgUa`\_Y]h`\_Ubb`ni`Y]bYf`? YhhYbfYU`\_h]cb`ZØ\`fYb"  
⇒Zcfa`Uh]cbYb`ØVYf`X]Y`i bZ`Y`i bX`XYfYb`i fgUW Yb`\_ØbbYb`ni`f  
5i Z`Àfi b[ `]b`XYf`2`ZYbh]W`\_Y]h`VY]hfU[ Yb`i bX`X]Y`NU\`  
ni`\_ØbZh][ Yf`J cfZ`Y`fYXi`n]YfYb"

⇒`XYf`FY[ Y`f]W hYh`g]W`X]Y`5i Za`Yf`gUa`\_Y]h`bUW`Y]bYa  
J Yf`Y\fgi bZU``Ui ZX]Y`i ba`]hY`VUfYb`:`c`[ Yb``>XYg`A U`ž`k Ybb`Y]b  
I bZU``[ YgW]Y\`hž`k YfXYb`X]Y`6Yhfc`ZYbYb`i bX`X]Y`i a`ghY\`YbXYb  
DYfgcbYb`i bk Y][ Yf`]W`j Yf`Yhnhž`gck c\`d`mg]gW`U`g`Ui`W  
Ya`ch]cbU``8Yf`FYhYf`]b`XYf`Bch]gh`b]W h]a`a`Yf`j YfZØ[ VUfž`i bX  
gc`]gh`YXYf`:`U\`fYf`XUni`Ub[ Y\`U`hYbž`j cfUi ggW Ui YbX`ni`ZU\`fYb  
i bX`b]W h`bi`f`Ui ZgY]bY`Y][ YbYž`gcbXYfb`Ui W`Ui ZX]Y`G]WY Yf\Y]h  
XYf`UbXYfYb`ni`UW hYb"

5VgW`]Y» YbX`V`Y]Vh`ZYghni`U`hYbž`XUgg`J Yf`Y\fgg]WY Yf\Y]h`Y]b  
[ Ya`Y]bgUa`Yg`5b`Y[ Yb`]gh``>XYf`\`Uh`X]Y`DZ]W hž`g]W`Ub`X]Y  
FY[ Y`b`ni`U`hYb`i bX`j YfU bhk cfhi b[ gVYk`i ggh`ni`U`bXY`bž`i a  
À\`b`]W Y`J cfZ`Y`]b`Ni`\_i bZh`ni`j Yfa`Y]XYb"

HfUi f][ Y`F YU`]hÀh`]a`GhfU» Ybj Yf\_Y\`f

8Yf`i bZU``j cb`6fY]hYbk cfV]g`]gh`Y]bY`hfUi f][ Yž`UVYf`\_`UfY  
9f]bbYfi b[ `XUfUbž`XUgg`]a`GhfU» Ybj Yf\_Y\`f`b]W`hg  
gY`Vghj Yfgh`ÀbX`]W`]gh`"8]Y`F YU`]hÀh`]gh`c Zh`j ]Y`gW`k Yfk ]Y[ YbXYfž  
U`g`a Ub`ni [ `Ui VYb`j Yfa U[ ž`i bX`gW`cb`Y]b`\_`Y]bYf`:`Y\`Yf`\_Ubb  
k Y]hfY]W`YbXY`:`c`[ Yb`\`UVYb``i a`gc`k ]W`h][ Yf`]gh`Ygž`k Y]hYf\ ]b`ZØf  
5i Z\_`Àfi b[ `i bX`Df`Àj Ybh]cb`ni`gc`f[ Ybž`XUa`]h`X]Y`GhfU» Yb`ZØf`U`Y  
g]W`YfYf`k YfXYb`"

J Yf\_Y\`fgi bZÀ``Y`]b`8Yi hgW`U`bX.

GhUh]gh]gW`Y`9]b`c`f`X`b`i`b`[

⇒ 8Yi hgW`U`bX`]gh`X]Y`J Yf\_Y\`fgg]W`Yf\`Y]h`Y]b`nYbhfU`Yg`5b`]Y[ Yb  
XYf`ÒZYbh]W`Yb`<UbX``@Ui h`XYa`GhUh]gh]gW`Yb`6i bXYgUa`h  
YfY][ bYhYb`g]W`]a`]`Y\`f`&\$&&`Yhk U`&ž`A`]]cbYb`J Yf\_Y\`fgi bZÀ``Yž  
k Ug`Y]bYb`Y]W`hYb`F ØW\_[ Ub[ `]a`]J Yf[ `Y]W`ni a`]J cf`U\`f`XUfghY``h`  
J cb`X]YgYb`i bZÀ``Yb`k UfYb`fi bX``%\$`\$\$\$`DYfgcbYb`j Yf`Yhnhž  
k À\`fYbX`Yhk U`&`) \$\$`A YbgW`Yb`]f`@YVYb`j Yf`cfYb``8]YgY`NU\`Yb  
j YfXYi h]W`Yb`X]Y`Ub\`U`hYbXYb`<YfUi gZcfXYfi b[ Yb`]a  
GhfU» Ybj Yf\_Y\`fž`]bgVYgcbXYfY`]b`6Yni [ `Ui ZJ Yf\_Y\`fgi bZÀ``Yž`X]Y  
Xi fW`XUg`A ]ggUW`hYb`j cb`J Yf\_Y\`fgfY[ Y`b`j Yfi fgUW`h`k YfXYb`"

⇒ Ni gUa`a Yb\`Ub[ `a`]h`J cfZU\`fhgj Yf`Yhni b[ Ybž`k ]Y`]a  
[ YbUbbhYb`:`U`ž`]gh`ni`VYUW`hYbž`XUgg`X]YgY`Y]bY`\`Ài Z][ Y  
i bZU``i fgUW`Y`XUfghY``Yb`GhUh]gh]\_Yb`nY][ Ybž`XUgg`YXYg`Y\`f  
a Y\`fYfY`hUi gYbX`i bZÀ``Y`Xi fW`J cfZU\`fhga`]ggUW`hi b[ Yb  
dUgg]YfYbž`k Ug`c Zh`ni`gW`k YfYb`J Yf`Yhni b[ Yb`ZØ\`fh`"

; YgYhn`]W`Y`F`Y[ Y`i`b[ Yb`i`b`X

J Yf\_Y\`fgg]W`Yf\`Y]h

8 Ug`XYi hgW`Y`J Yf\_Y\`fg[ YgYhn`g]Y\`h`\_`UfY`F`Y[ Y`i`b[ Yb`ZØf  
J cfZU\`fhgfYW`hY`j cfž`X]Y`]b`XYb`J Yf\_Y\`fgnY]W`Yb`i bX`XYf  
GhfU» Ybj Yf\_Y\`fgcfXbi b[ `ZYgh[ Y`Y[ h`g]bX``9]b  
j cfZU\`fhgVYfYW`h][ hYg`:`U\`fnYi [ `U`h`XUg`F`YW`hž`X]Y`?`fYi`ni`b[ `ni  
ØVYfei YfYbž`k À\`fYbX`UbXYfY`:`U\`fnYi [ Y`Ub\`U`hYb`a`ØggYb``8]YgY

F Y [ Y`i b [ Yb`g]bX`YbHgWXY]XYbX`ZØf`X]Y`G]WXYf\Y]h`U`Yf  
J Yf\_Y\fgH]`bY\ a Yf"

I a`J Yf\_Y\fgi bZ`Y`ni`fYXi`n]YfYbž`\UVYb`j`JY`Y`GhAXhY`i`bX  
; Ya`Y]bXYb`[h]Uh]j`Yb`ni`f`J YfVYggYfi`b [ `XYf`J Yf\_Y\fgg]WXYf\Y]h  
]bg`@YVYb`[ Yfi`ZYb`"8Uni`[ Y\ØfYb`A U» bU\ a Yb`k`JY  
; YgWk`]bX][`\_Y]hg`cbhfc`Ybž`X]Y`9ff]W`hi`b [ `j`cb`J Yf\_Y\fg]bgY`b  
i`bX`X]Y`J YfVYggYfi`b [ `XYf`G]W`hVUf`\_Y]h`j`cb`J Yf\_Y\fgnY]W`Yb`  
5i`W`X]Y`5i`Z`Åfi`b [ `XYf`J Yf\_Y\fgH]`bY\ a Yfž`]bgVYgc`bXYfY  
↑ b [ Yf` : U\ fYfž`]gh`Y]b`k`]W`h][`Yf`6YghUb`XhY]`X]YgYf`6Ya`Ø\i`b [ Yb`"

8 Yf`9]bZ`i`gg`j`cb`J Yf\_Y\fgYfn]Y\i`b [ `Ui`Z`XUg  
: U\ fj`Yf\ U`hYb`

8]Y`J Yf\_Y\fgYfn]Y\i`b [ `gd]Y`h`Y]bY`YbHgWXY]XYbXY`F`c`Y`]a  
G]WXYf\Y]hgVYk`i`gghgY]b`XYf` : U\ fYf`"Dfc [ fUa` a`Y`]b`GW`i`Yb`i`bX  
: Ø\ fYfgWXY]b`i`fgYb`gc`Yb`b]W`h`bi`f`X]Y`6YXYi`hi`b [ `XYg  
F Y [ Y`k`Yf`\_g`j`Yfa`]hY`bž`gcbXYfb`Ui`W`XUg`6Yk`i`gghgY]b`ZØf`X]Y  
; YZU\ fYb`]a`GhfU» Ybj`Yf\_Y\ f`gW`ÅfZYb`"Ghi`X]Yb`\UVYb`[ YnY][`hž  
XUgg`[ i`h]bZcfa`]YfhY` : U\ fYf`k`Yb][`Yf`\`Ài`Z][`]b`i`bZ`Y`j`Yfk`]W`Y`h  
g]bXž`k`Ug`Ui`Z`X]Y`6YXYi`hi`b [ `Y]bYf`Z`bX]YfhYb  
J Yf\_Y\fgUi`gV]`Xi`b [ `]bk`Y]gh"

⊕`j`JY`Yb`6i`bXYg`ÅbXYfb`g]bX`dfÅj`Ybh]j`Y`A`U» bU\ a Yb  
6YghUb`XhY]`XYg` : U\ fUi`gV]`Xi`b [ gdfc [ fUa` a`gž`i`a`ni`\_ØbZh][`Y  
: U\ fYf`ZfØ\ nY]h][`ZØf`X]Y` ; YZU\ fYb`j`cb`J`cfZU\fhga`]ggUW`hi`b [ Yb  
i`bX`UbXYfYb`J Yf\_Y\fgj`YfghØ`Y`ni`gYbg]V]`]g]YfYb`"Gc`W`Y  
⊕]h]Uh]j`Yb`n]Y`Yb`XUfUi`Z`UVž`Y]b`j`YfUb`hk`cfhi`b [ gVYk`i`gghYg  
: U\ fj`Yf\ U`hYb`ni`ZØfXYfb`i`bX`Y`hnhYbX`]W`X]Y`5bnU\`XYf  
J Yf\_Y\fgi`bZ`Y`ni`gYb`\_Yb"

F Y`Yj`UbhY`DfÅj`Ybh]cbga`U» bU\ a Yb`

Ni`gÅhn`]W`ni`XYb`[ YgYhn`]W`Yb`F`U\ a YbVYX]b [ i`b [ Yb`k`YfXYb  
j`YfgW]YXYbY`DfÅj`Ybh]cbga`U» bU\ a Yb`Yf [ f]ZYbž`i`a`X]Y  
J Yf\_Y\fgg]WXYf\Y]h`ni`Yf\Ø\Yb`"<]Yfni`nÅ\`Yb`i`bhYf`UbXYfYa`.

- FY[ Y`a Å» ][ Y`?Ua dU[ bYb`ni f`GYbg]V]`g]Yfi b[ `XYf 6Yj Ò`\_Yfi b[ `VYnØ[ `]Wk `J Yf\_Y\fgfY[ Y`b"
- ðghU``Uh]cbYb`j cb` , VYfk UWk i b[ g\_Ua YfUg`Ub`\_f]h]gWk Yb J Yf\_Y\fg\_bchYbdi b\_hYb"
- : fYei YbhY` ; YgWk k ]bX][ \_Y]hg\_cbhfc``Yb`Xi fWk `X]Y`Dc`]nY]"
- 9fk Y]hYfi b[ `XYf` ðZcfa Uh]cbgUb[ YVchY`ØVYf`X]Y` ; YZU\ fYb ]a `GhfU» Ybj Yf\_Y\fž`]bgVYgcbXYfY`ZØf`↑ b[ Y` : U\ fYf"

8]YgY`A U» bU\ a Yb`gc``Yb`XUni `VY]hfU[ Ybž`XUg`6Yk i ggHgY]b`ZØf X]Y`Y][ YbY`J YfUbhk cfhi b[ `]a `GhfU» Ybj Yf\_Y\ f`ni `gWk ÅfZYb`i bX `Yhnh]Wk `X]Y`NU\`XYf`J Yf\_Y\ fgi bZÅ``Y`ni `fYXi n]YfYb"

8YhU]`g

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