

: F 5 B 9? `nY][ h`b `VYfUi gW\YbXYb `6]`XYfb.  
8]Y `VYXfc \hYb `J Ò[ Y`i bgYfYf`K Y`h`

9f`YVYb`G]Y`X]Y`ZUgn]b]YfYbXY`5i gghY``i b[ `XYf`?Øbgh`Yf]b  
: F 5 B 9? `]a `; i hg\Ui g`GhY[ `]hnžX]Y`j ca `C`\_hcVYf`&\$&( `V]g  
A `Äfn`&\$&) `X]Y`VYXfc \hYb `H]YfY`XYf`F chYb`@]ghY  
h\Ya Uh]g]Yfh"

`Nk ]gW\Yb`C`\_hcVYf`&\$&( `i bX`A `Äfn`&\$&) `k ]fX`]a `; i hg\Ui g  
GhY[ `]hn`Y]bY`VYa Yf`\_Ybgk YfhY`5i gghY``i b[ `i bhYf`XYa `H]hY`  
: F 5 B 9? ` `H\Y`Gd]f]hg`cZ`J Ub]g\]b[ `5b]a U`g``8]Y`F chY`@]ghY `ni  
gY\Yb`gY]b``8]Y`?Øbgh`Yf]b: F 5 B 9? ž`š\`f[ Ub[ `%-` - ž`\Uh]g]W\`ØVYf  
š\`fnY\`bhY`\]bk Y[ `a ]h`XYa `H\Ya U`VYXfc \hY`i bX`VYfY]hg  
Ui g[ Yghc`fVYbY`H]YfUfhYb`Ui`gY]bUbXYf[ YgYhnh``≠fY`K Yf`\_Y  
i a ZUggYb`A U`YfY]Ybž`NY]W\bi b[ Yb`i bX`ØVYfa U`hY`F UX]Yfi b[ Ybž  
X]Y`ni `Y]bYa `Y]bXfi W\_gj c``Yb`; YgUa h\_i bgfk Yf`\_j YfgW\ a Y`nYb``

`≠`XYf`5i gghY``i b[ `k ]fX`Y]bY`FY]\Y`j cb`K Yf`\_Yb`df`ÄgYbh]Yfhž`X]Y  
g]W\`gdYn]Y``a ]h`J Ò[ Y`b`XYf`F chYb`@]ghY`VYgW\`ÄZh][ Ybž`Y]bYa  
B UW\k Y]g`ZØf`X]Y`; YZÄ`\fXi b[ `j ]Y`Yf`5fhYb``≠]`\fYf`Y]bn][ Ufh][ Yb  
A U`k Y]gY`ZÄb[ h`X]Y`?Øbgh`Yf]b`X]Y`GW`Öb\Y]hi bX`6YgcbXYf\Y]hYb  
X]YgYf`H]YfY`Y]b``6YgcbXYfg`X]Y`7\`UfU`\_hYf]gh]\_U`k ]Y`XUg`Ui ZÄ``][ Y  
; YZ]YXYf`XYg`; fUi`gdYW\hg`cXYf`XYf`Ub[ Y`GW\`bUVY``XYg  
6fUW\j c[ Y`g`ghY\Yb`XUVY]`]a `: c\_i`g``

8]Y`J YfV]bXi b[ `j cb`A YbgW\ ž`H]Yf`i bX  
DZ`Ubnyb

`: F 5 B 9? `]bgd]f]Yfh]g]W\`Ui W\`Ub`]bX][ YbYb`?i`hi`fYb`i bX`XYfYb  
A m\Ybž`X]Y`cZi`X]Y`6Yn]Y\i b[ Yb`nk ]gW\Yb`A YbgW\`i bX`B Uhi`f  
YfZc`fgW\Yb``8]YgY`6Y[ Y[ bi b[ Yb`\UVYb`]fYb`\_Øbgh`Yf]gW\Yb`Gh]  
[ YdfÄ[ h`9]bY`]bhYfYggUb`hY`: UW\`hY`]fYf`5fVY]h]`gh`XUg

Ni gUa a Ybgd]Y`j cb`J Ò[ Y`b`i bX`A ]gWk YgYbž`X]Y`g]Y`U`g  
5`fUi bYb`VYgWfY]Vh"8]YgY` ; YgWÒdZY`YbhghUa a Yb`XYf  
Yi fcdÀ]gWYb`GU[ Ybk Y`hi bX`k YfXYb`U`g`a U[ ]gW`i bX`j Yfhf`Ai a h  
XUf[ YghY`h`

∇ fY`5fVY]hYb`YbhXYW\_Yb`X]Y`Gma V]cgY`nk ]gWYb`A YbgWž`H]Yf  
i bX`DZUbni`Ui ZdcYh]gWY`K Y]gY"8]Yg[ YgW]Y`h`gck c`"b`XYf  
8UfghY`i b[ `U`g`Ui W`]b`XYf?cbnYdh]cb`]\fYf`K Yf\_Yž`X]Y`Ài Z[  
j cb`gd]f]hi Y`Yb` ; YXUb\_Yb`i bX`a U[ ]gWYb`5bgWUi i b[ Yb  
Xi fW`Xfi b[ Yb`g]bX"K ]ggYbgWUZhYf`k ]Y`6fi bc`@hci fi bX`@mbb  
A Uf[ i`]g`UVYb`À`b`]WY`H`Ya Yb`]b`]\fYb`5fVY]hYb`VY`UbXY`hž  
k Ug`X]Y`d`]\`cgcd`]gWY`H]YZ`j cb` : F 5B 9? g`?i bghi bhYfghfY]W`h`

9]bY`VYgcbXYfY`BchY`Yf`À`h`X]Y`5i gghY`i b[ `Xi fW`X]Y  
J Yfk YbXi b[ `j cb`GW]YZYfhUZ`bž`X]Y`Ub` ; fUVghY]bY`Yf]bbYfb"  
8]YgY`HUZY`b`g]bX`a ]h`ZY]bYb`NY]W`bi b[ Yb`XYf[ YZ`À`f`X`Y`h`b`J Ò[ Y`  
j YfgY`Yb`i bX`hfU[ Yb`]\UbXgW`f]Zh]WY`B`ch]nYbž`X]Y`XYb  
 ; YZ`À`f`Xi b[ gghUhi g`X]YgYf`5fhYb`Xc`\_i a Ybh]YfYb"9g]ghž`U`g  
k c`hYb`X]YgY`K Yf\_Y`X]Y`6YhfUW`hYf`Ui ZXYb`J Yf`i gh`XYf  
6]cX]j Yfg]h`h`gYbg]V`]g]YfYb"

a`Nm`\_i gž`XYf`XYb`G`Ai [ Yh]YfYb`[ Yk`]Xa`Yh]ghž`[ fY]Zh: F 5B 9?  
Ui ZVYghY`YbXY`F`UX]Yfi b[ Yb`ni fØW`ž`i a` : fU[ YghY`i b[ Yb`XYf  
J Yf[ `Àb[ `]W`\_Y]h`]b`]\fYf`?i bgh`ni `VY`UbXY`b"Fi ]bYb`i bX`X]Y  
9f]bbYfi b[ Yb`Ub`Y]bY`i bhYf[ Y[ Ub[ YbY`?i`hi`f`k`YfXYb`]\]YfVY`]ni  
nYbhfU`Yb`9`Ya`YbhYb"8]Y`5i gghY`i b[ `k`]fX`Xi`fW`Y]bY`5i`gk`U`  
j cb`D`Ugh]\_Yb`Yf[ `Àb`ni`bX`V]YhYh`X`Ua` ]h`Y]bYb`i a`ZUggYbXYb  
9]bV`]W`\_]b` : F 5B 9? g`GW`UZZYb"

: Øf`?i bgh]YV`UVYf`i bX`i a`k`Y`hgW`Ø`hnYf`]gh`X]YgY`5i gghY`i b[  
j cb`[ fc» Yf`6YXYi hi b[ "G]Y`nY][ h`b]W`h`bi`f`X]Y`\_Øbgh`Yf]gW`Y  
5i`gY]bUbXYfgYhni b[ `a`]h`XYa`H`Y`a`U`B`Uhi`fgW`i`h`ž`gcbXYfb  
Yf]bbYfh`Ui`W`\_Ub`X]Y`J`YfUb`hk`cfhi`b[ `XYf`A`YbgW`\Y]h`ZØ`f`X]Y  
9f`U`hi`b[ `VYXfc`\hYf`5fhYb"Ni`f`5i`gghY`i`b[ `[ Y`À`f`h`Ui`W`\_Y]bY  
`]a` ]h]YfhY`9X]h]cb`XYf`K`Yf\_Yž`X]Y`ZØ`f` )`9i`fc`YfghUbXYb`k`YfXYb  
\_Ub`bž`Y]b`k`Y]hYfYf`5bfY]nž`g]W`\_a` ]h`XYa`K`Yf`\_j`cb` : F 5B 9?  
Ui`gY]bUbXYfni`gYhnYb"

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z.`a Y]b!VYf`]b"bYh