

? ]Yk 'i b hYf'8 fc \ bYbUb [ f]ZZ. 'F i gg`UbXg  
A ]`]hÀf`j YfgWÀfZh`XYb`? c bZ`\_h

F i gg`UbX` [ fY]Zh? ]Yk `a ]h`ØVYf` ( \$`? Ua dZxfc \ bYb`Ub`"8 ]Y  
i \_fU]b]gWY`@ ZhUVk Y \ f`j Yf \ ]bXYfh`U`Y`5b [ f]ZZY`Ui ZX]Y  
< Ui dhghUXh"

8 fc \ bYbUb [ f]ZZY`Ui Z? ]Yk `i bX` ] \ fY  
5i gk ]f\_i b [ Yb

Jcb`XdU

' %' ð ' ] & \$ & ( ž \$, . ' , ' l \ f

]

F i gg`UbXg`GhfUHy [ ]Y`ja `l \_fU]bY`\_cbZ`\_h`? Ua dZxfc \ bYb`U`g  
nYbhfU`Y`K UZZY` : chc. `9ZfYa `@ \_Uhg\_m#8 D5

A ]h`Y]bYa `a Ugg]j Yb`8 fc \ bYbUb [ f]ZZ`Ui Z? ]Yk `XYa`cbghf]Yfh  
F i gg`UbX`YfbYi`h`gY]bYb` : c\_i`g`Ui Zi b`\_cbj`Ybh]cbY`Y  
? f]Y [ gZØ \ fi b [ `ja `l \_fU]bY`\_cbZ`\_h`"8 ]YgY`5b [ f]ZZY`k`YfZYb`b]WÀh  
bi f` : fU [ Yb`ØVYf`X]Y`a ]`]hÀf]gWY`HU`\_h`\_Ui`Z`g`c`b`X`Y`f`b` \`U`V`Y`b`Ui`WÀ  
h]YZ [ fY]ZYbXY`5i gk ]f\_i b [ Yb`Ui ZX]Y`N]j ]`VYj`Ò`\_Yfi b [ "

? ]Yk žX]Y`i \_fU]b]gWY`< Ui dhghUXhž`k`i`fXY`]b`XYf`B`UWÀ`h`YfbYi`h`N]Y`  
Y]bYg`i`a`ZUb [ fY]WÀYb`5b [ f]Zg`a`]h`ØVYf` ( \$`? Ua dZxfc \ bYb`"8 ]Y  
A ]`]hÀf`j`Yfk`U`hi`b [ `j`cb`? ]Yk `VYf]WÀ`h`Y`h`Y`ØVYf`nk`Y]`K`Y`Y`b`XYf  
5b [ f]ZZY`ž`VY]`XYbYb`U`Y`8 fc \ bYb`UV [ YZUb [ Yb`k`YfXYb`\_c`b`b`h`Y`b`ž  
c \ bY`X`U`gg`Y`g`ni`G`WÀ`X`Y`b`c`X`Y`f`j`Y`f`i`g`h`Y`b`]b`X`Y`f`G`h`U`X`h`\_`U`a`"8 ]Yg  
XYi`h`Y`h`Ui`ZX]Y`9ZZY`\_h]j`]hÀ`h`XYf`i`\_fU]b]gWYb`@`ZhUVk`Y` \ f` \ ]b`ž`X]Y  
g]WÀ`gY]h`6Y [ ]bb`XYf` ðj`Ug]cb`ghYh] [ `j`YfVYggYfh` \`U`h"

## 8 ]Y`F YU\_h]c bYb`XYf`6Yj Ò`\_Yfi b[

⊕`?]Yk` \`À`h`X]Y`N]j ]`VYj Ò`\_Yfi b[ `XYb`5hYa` Ubž`k Ybb`XYf`  
@i ZhU`Ufa` ØVYf`Ghi bXYb` \`]bk Y[ `XfÒ\`bh" `⊕`X]YgYf`B UW`h`k Uf`XYf`  
5`Ufa` ØVYf`UW`h`Ghi bXYb` `Ub[ `U\_h]j ` `Y]b`NY]W`Yb`ZØf`X]Y`  
Ub\U`hYbXY`6YXfc\i b[ ž`XYf`g]W`X]Y`6Øf[ Yf`hÀ[ `]W`Ui g[ YgYmh`  
gY\Yb" `8]Y`dgmW`c`c[ ]gW`Yb`5i gk ]f\_i b[ Yb`gc`W`Yf`5b[ f]ZY`g]bX`  
Ybcfa " `J]Y`Y`A YbgW`Yb`YVYb`]b`gh`À`bX][ Yf`5b[ ghi bX`  
I bg]W`Yf\Y]h"

## 8 ]Y`GhfUhY[ ]Yb`]a` `? f]Y[ gj Yf`Ui Z

⊕`i`\_fU]bY`\_cbZ]\_h`\Uh`g]W`XYf`9]bgUhn`j`cb`?Ua`dZXfc`\bYb`U`g`  
YbhgW`Y]XYbXYg`9`Ya`Ybh`ZØf`VY]XY`GY]hYb`\YfUi g[ YghY`h`  
Fi gg`UbX`bi hnh`g]Y`b]W`h`bi f`ZØf`5b[ f]ZY`ž`gcbXYfb`Ui W`ni`f`  
5i Z`Àfi b[ ` \`]bhYf`XYb` : fcbh`]b]Yb" `8]YgY`8fc\bYb`Yfa` Ò[ `]W`Yb`  
Ygž`N]Y`Y`]a` <`]bhYf`UbX`Ubni [ fY]ZYbž`k Ug`XYb`?`cbZ]\_h`Ub`  
⊕`hYbg]h`À`hi bX`?`ca`d`YI ]h`À`h`Yf\`Ò`h"

## J YfVfY]hi b[ `XYg`?`cbZ`]\_hg

8]Y`6Yf]W`hY`ØVYf`fi gg]gW`Y`8fc\bYbUb[ f]ZY`VYgW`f`À`b`\_Yb`g]W`  
YXcW`b]W`h`bi f`Ui Z`?]Yk` " `5i W`]b`UbXYfYb`FY[ ]cbYb`k ]Y`  
8b]dfcdYhfck g\_`i bX`A`m`\_c`U`]k` `Ua` `Yg`ni` `À`b`]W`Yb`J`cfZ`À`Ybž`  
k Ug`X]Y`k Y]hfY]W`YbXYb`N]Y`Y`XYf`fi gg]gW`Yb`A` ]h`À`ghfUhY[ ]Y`  
j YfXYi h]W`h" `8]YgY`5b[ f]ZY`nY][ Yb`Ui Zž`XUgg`XYf`?`cbZ]\_h`b]W`h`  
bi f`Ub`XYf` : fcbh`]b]Yž`gcbXYfb`Ui W`]b`XYb`Gh`À`XhYb`XYf`  
N]j ]`VYj Ò`\_Yfi b[ `U`g`Zcfhk`À`\fYbXY`6YXfc\i b[ `df`À`gYbh`]gh"

## K Y]hYfZØ\ fYbXY`5i gk ]f\_i b[ Yb`XYf`5b[ f]ZZY

8]Y`Øb[ ghYb`5b[ f]ZZY`ghY`Yb`Y]bYb`XYf`]bhYbg]j ghYb`A`ca`YbhY`]a`  
V]g\Yf][ Yb`J`Yf`Ui Z`XYg`?`f]Y[ Yg`XUf`i bX`YfZcfXYfb`Y]bY`  
\_cbh]bi ]Yf`]W`Y`5bdUggi b[ `XYf`i`\_fU]b]gW`Yb`  
J YfhY]X][ i b[ gghfUhY[ ]Yb" `9g`V`Y]Vh`UVni`k`UfhYbž`k ]Y`g]W`X]YgY`  
HU\_h]\_Yb`k Y]hYf\]b`Ybhk ]W`\_Y`b`i bX`k`Y`W`Y`A`U»`bU`a`Yb`Yf[ f]ZZY`b`  
k YfXYbž`i`a`X]Y`G]W`Yf\Y]h`XYf`N]j ]`VYj Ò`\_Yfi b[ `ni`

[ Yk Å\ f`Y]ghYb" Ub [ Yg]W\ hg`XYf`ghÅbX][ Yb ; YZU\ fYb` ]gh`X]Y  
I bhYfghØhni b [ `XYf`]bhYfbUh]cbU`Yb ; Ya Y]bgW\ UZh`k ]W\h][ Yf`XYbb  
γ"

8]Y`Bchk YbX][ \_Y]hž`X]Y`N]j ]`VYj Ö`\_Yfi b [ `ni`gW\ØhYb`i bX  
[ `Y]W\ nY]h][ `a ]]hÅf]gW\Y`? UdUn]hÅhYb`ni`Yf\U`hYbž`V`Y]Vh`Y]bY  
j cfXf]b [ `]W\Y`<YfUi gZcfXYfi b [ `]b`X]YgYa`?cbZ]\_h`"

· B 5;

8YhU]`g

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