

# Ghi fa Zi hk Ufbi b [ . ' < YZh][ Y '6 ÖYb Yfk UfhYb 'B ]YXYfgUWk gYb 'Ub 'XYf 'B cfXgYY

Ghi fa Zi hk Ufbi b [ ' ]b 'B ]YXYfgUWk gYb . ' < YZh][ Y '6 ÖYb 'i bX  
: Ä\ fUi gZÄ ``Y 'Ub 'XYf 'B cfXgYY " K YhhYfYI dYfhYb ' ]bZcfa ]YfYb  
ØVYf 'X]Y ; YZU\ fYb "

⊕ 'B ]YXYfgUWk gYb 'gcf [ Yb 'a YhYcfc `c [ ]gWk Y '9bhk ]W\_ 'i b [ Yb 'ZØf  
l bfi \Y " Hfchm 'XYf ' < cZbi b [ 'Ui Z'Y ]bYb 'ni fØW\_ Y\ fYbXYb 'Gca a Yf  
Vf]b [ Yb 'X]Y 'K YhhYfj cf\ YfgU [ Yb 'Y ]bY 'FY ]\ Y 'j cb  
< YfUi gZcfXYfi b [ Yb 'a ]hg]Wk " 8Yf '8Yi hgWk Y 'K YhhYfX ]Ybgh'fB K 8Ł  
k Ufbh'j cf'gWk YfYb 'Ghi fa Zi hYb 'i bX ' \_fÄZh][ Yb '6 ÖYb ž'X]Y  
VYgcbXYfg 'X]Y 'B cfXgYY\_ØghY 'VYhfYZZYb 'k YfXYb "

8 Ug 'U\_hi Y ``Y 'Ghi fa h]YŽ'XUg 'gY ]bYb 'l fgdfi b [ 'VY ] 'g'UbX '\ Uhž'k Y\ h  
Y ]b 'GhØW\_ 'gY ]bYg '9]bZi ggYg 'V]g ]b 'X]Y 'b ]YXYfgÄWk ]g]gWk Y  
?ØghYbFY [ ]cb " 5a ' : fY ]hU [ ž'XYa ' &' " 5i [ i ghž'k ]fX 'Y ]b 'HY ] 'XYg  
Ghi fa ZY 'Xg 'Yfk UfhYhž'XUg 'Ua ' J cfa ]hU [ 'X]Y 'B cfXgYY 'YffY ]Wk h " 8 ]Y  
6 ÖYb 'k YfXYb 'ni bY\ a YbX ' \_fÄZh][ Yfž'i bX 'XUg '\ Uh'5i gk ]f\_i b [ Yb  
Ui ZXYb 'GWk ]Zgj Yf\_ Y\ f ' ]b 'XYf 'FY [ ]cb "

## K YhhYfk Ufbi b [ Yb 'i bX ' ]\ fY : c ` [ Yb

8 ]Y 'K YhhYf 'U [ Y 'k ]fX 'U 'g'VYgcf [ b ]gYffY [ YbX 'Y ]b [ YgWk Ämh " 5b 'XYf  
B cfXgYY 'g ]bX 'Ghi fa VÖYb 'a ]h ; YgWk ]bX [ [ \_Y ]hYb 'j cb 'V]g'ni ' - )  
\_a # fK ]bXghÄf\_Y '%\$Ł'ni 'Yfk UfhYb " a '6 ]bbYb 'UbX 'a ØggYb 'g]Wk  
X]Y '6Øf [ Yf 'Ui ZK ]bX [ YgWk ]bX [ [ \_Y ]hYb 'j cb 'Yhk U '\* ) \_a #  
fK ]bXghÄf\_Y ' , Ł [ YZUggh'a UWk Yb " 8 ]YgY 'YI hfYa Yb '6YX ]b [ i b [ Yb  
ZØ\ fYb 'XUni ž'XUgg 'Y ]b [ Y : Ä\ fj YfV ]bXi b [ Yb 'j cfØVYf [ Y\ YbX  
Ui g [ YgYhnh'k YfXYb 'a ØggYb "

6YfY ]hg 'Yhnh'\_ØbX [ ]hY 'X]Y 'J Yf\_ Y\ fga UbU [ Ya Ybh'NYbhfU'Y

B]YXYfgUW\gYb`YbXYfi b[ Yb`VY]`XYb` : Å\ fj YfV]bXi b[ Yb`Ub"  
=bgVYgcbXYfY`X]Y`J YfV]bXi b[ `j cb`<Uf`Yg]Y`bUW`K Ub[ Yfcc[ Y`]gh  
VYhfcZYb"5a` : fY]hU[ `k ]fX`X]Y` : Å\ fY`i a` `%` .` \$`I` \f`b]W`h`ZU\ fYb  
\_ÖbbYbž`i bX`Ui W`X]Y`F`ØW`ZU\fh`j cb`K Ub[ Yfcc[ Y`i a` `%(.` \$`I` \f`  
ZÅ`h`Ui g`"8]Y`bYi Y`NY]hd`Ubi b[ [ `]`h`j cb`%&.` \$`V]g`%) `I` \f`ž`XcW\  
Ui W` \]Yf`\_ÖbbYb`YbXYfi b[ Yb`Ui Z[ fi bX`XYf`K YhYf`U[ Y  
Y]bhYfYhYb"

## 9fk UfhYhY`Ghi fa Zi hYb

B UW`5b[ UVYb`XYg`B]YXYfgÅW\g]gW\Yb`@UbXYgVYhf]YVg`ZØf  
K UggYfk ]fhgW\Užž? ØghYb`i bX`BUhi fgW\i hn`fB`@K`? B`Ł`VYghY`h`X]Y  
; YZU\ f`Y]bYf`Y]W\hYb`Ghi fa Zi hž`X]Y`ni f` , VYfgW\k Ya a`i b[ `j cb  
GhfÅbXYb`i bX`J cf`ÅbXYfb`ZØ\ fYb`\_Ubb"8]Y` \`ÖW\ghY`9f\`Ö\i b[  
XYg`K UggYfghUbXYg`k ]fX`Ub`j YfgW\]YXYbYb`Di b`\_hYb`YbhUb[ `XYf  
\_ØghYbbU\Yb`F`Y[ ]cbYb`Yfk UfhYh

- BcfXYfbYm`Ž`%`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%`(.)`\$`I` \f`Ł
- 6YbgYfg]Y` .`Ž`%`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%)`.%+`I` \f`Ł
- 9a`XYb.`Ž`%`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%\*`.\$&`I` \f`Ł
- K`j`\Y`a`g`Uj`Yb.`Ž`%`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%\*`.&-`I` \f`Ł
- 7i`I` \Uj`Yb.`Ž`%ž&)`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%\*`.`(`I` \f`Ł
- 6fYa`Yf`Uj`Yb.`Ž`%ž&)`A`YhYf`5V`k`Y]W\i b[ `]a` `<cW\k UggYf  
f9]bhf]hhgnY]h`%\*`.`(\*`I` \f`Ł

8]Y`VfUi`gYbXYb`K`Y`Yb`i bX`XYf`F`Y[ Yb`j`YfÅbXYfb`XUg`\Y]a`]gW\Y  
K`YhYfV]`X`]b`B]YXYfgUW\gYb`XfUgh]gW\`" `=b`XYb`\_ca`a`YbXYb  
HU[ Yb`Yfk UfhYb`A`YhYcf`c`c[ Yb`b]W\h`bi`f`F`Y[ Ybž`gcbXYfb`Ui`W\  
; Yk`]hYf`"8`Ug`K`YhYf`k`]fX`k`YW\gY`\Užž`V`Y]VYbž`i bX`Yg`]gh  
k`]W\h[ ]ž`XUgg`g]W\`X]Y`A`YbgW\Yb`VYk`i`ggh`Ui`Z`X]Y  
i`bVYfYW\YbVUFYb`6YX]b[ i`b[ Yb`j`cfVYfY]hYb"

5a`GUa`ghU[ `nY][`h]g]W\`XUg`K`YhYf`]b`nk`Y]j`YfgW\]YXYbYb

5i gdfÄ[i b[ Yb"K Ä\fybX]b`XYf`FY[ ]cb`j cb`XYf`9a g`V]g`ni f  
9`Va ØbXi b[ `a ]h`VYk Ò`\_hYa `<]a a Y`i bX`GW\Ui Yfb`ni `fY\W`bYb  
]ghž`V`Y]Vh`Yg`ja `K YgYfVYf[ `UbX`i bX`K YbX`UbX`ZfYi bX`]W`i bX  
k Ufa `a ]h`c\Yb`HYa dYfUhi fYb" ð`C ghZf]Yg`UbX`k YfXYb`Yg`V]g`ni  
&&`; fUXž`k Ä\fybX`Yg`ja `GØXYb`B]YXYfgUW`gYbg`V]g`ni `` &`; fUX  
\Y]»`k YfXYb`\_Ubb"

ðX]UbU`K ]bXY`k YfXYb`k Y]hYf\]b`VYghY\Ybž`X]Y`YXcW  
j cfØVYf[ Y\YbX`UVZUi Yb`gc`Yb"9g`V`Y]Vh`UVni k UfhYbž`k ]Y`X]Y  
[ YbUi Yb`K YhhYfj Yf\Ä`hb]ggY`X]Y`F`Y[ ]cb`VYY]bZi`ggYb`k YfXYb"  
8]Y`5bk c\bYf`g]bX`Ui Z[ Yfi ZYbž`g]W`fY[ Y`a Ä»][ `ØVYf`X]Y  
U\_hi Y`Yb`K YhhYfk Ufbi b[ Yb`ni `]bZcfa ]YfYb`i bX`[ Y[ YVYbYbZU`g  
\fY`5\_hj] ]hÄhYb`ni `d`UbYb"

## Ghi fa Zi hk Ufbi b[ .`5bk c\bYf`i bX`F`Y]gYbXY Ui Z[ Yfi ZYb`ni f`J cfg]W`h

8]Y`Ghi fa Zi hk Ufbi b[ Yb`i bX`X]Y`XUa ]h`Y]b\Yf[ Y\YbXYb  
K YhhYfVYX]b[ i b[ Yb`a UW`Yb`XYi h`]W`ž`k ]Y`k ]W`h][ `Yg`]ghž`g]W`Ui Z  
gc`W`Y`J YfÄbXYfi b[ Yb`Y]bni ghY`Yb"J YfUbhk cfh`]W`Y`GhY`Yb  
Ya dZY\`Ybž`X]Y`K YhhYfg]hi Uh]cb`Ui Za Yf\_gUa `ni `j YfZc`[ Yb`i bX  
dfYWUi h]cbUfm`a YUgi fYg`ni `Yf[ fY]ZYb"8]Y`G]W`Yf\Y]h]j cb  
5bk c\bYfb`i bX`F`Y]gYbXYb`\Uh`\ÖW`ghY`Df]cf]hÄhž`i bX`XU\Yf`]gh  
Yg`fUhgUa ž`X]Y`F`UhgW`Ä[ Y`XYf`K YhhYfX]YbghY`i bX`c`\_U`Yb  
6Y\ÖfXYb`ni `VYZc`[ Yb"

K YhhYfd\Äbca YbY`Ub`XYf`B`cfXgYY.

I fgUW`Yb`i bX`5i gk ]f`\_i b[ Yb

8]Y`U\_hi Y`Yb`K YhhYfVYX]b[ i b[ Yb`]b`B]YXYfgUW`gYb`g]bX`XUg  
9f[ YVb]g`\_ca d`YI Yf`a YhYcfc`c[ ]gW`Yf`J cf[ Äb[ Y"9]b  
<Ui dhZU`\_hc f`]gh`XUg`[ fc»Y`Ghi fa h]YŽ`XUg`g]W`ØVYf`g`UbX  
[ YV]`XYh`\Uh`Gc`W`Y`Ghi fa h]YŽ`Yb`hghY\Yb`c`Zhž`k Ybb`\_U`hY  
@]Zha UggYb`Ui Zk Äfa YfY`@]Zi`hfYZZYbž`k Ug`ni `Y]bYa  
8fi W\_i bhYfgW]YX`ZØ`fh`i bX`XUa ]h`ghUf`\_Y`K ]bXY`i bX`GhØfa Y  
YfnYi [ h"8]YgY`XmbUa ]gW`Yb`K YhhYfd\Äbca YbY`g]bX`b]W`h`bi f  
hmd]gW`Yfk Y]gY`ZØf`XYb`<YfVgh`i bX`K ]bhYf`]b`B`cfXXYi hgW`\_UbXž

gcbXYfb`Ui W`Z0f`UbXYfY`?0ghYbFY[ ]cbYb`i a`XYb`5h`Ubh]\_ W`UfU`hYf]gh]gW`"

8]Y`5i`gk`]f`\_i`b[ Yb`gc`W`Yf`K`YhhYfYfY][ b]ggY`g]bX`j`]Y`Z`A`h][ " GhUf`\_Y`K`]bXY`\_0bbYb`b]W`h`bi`f`X]Y`G`W`]ZZU`fh`V`Y`Y]bhf`A`W`h][ Yb`z`k`]Y`]a` :`U`XYf`Ui`g[ YZU`Y`b`Y`b` :`A`f`Y`b`nk`]gW`Y`b`<`Uf`Y`g]Y`i`b`X`K`Ub[ Yfcc[ Yz`gcbXYfb`Ui W`ni`Yf`Y`V`]W`Y`b`G`W`A`X`Y`b`Ub`<`Z`f`U`ghfi`\_hi`f`Y`b`Z`0`f`Y`b`"?0ghYb[ YV]YhY`g]bX`V`Y`gcbXYfg`j`i`b`Y`f`U`V`Y` [ Y[ Yb0VYf`Ghi`fa`Zi`hYb`z`XU`XUg`K`UggYf`V`Y]`Ghi`fa`YfY][ b]ggYb` [ Y[ Yb`X]Y`?0ghYb`gh0`>`hi`b`X` ,`V`Y`f`Zi`hi`b[ Yb`j`Yfi`fgU`W`Y`b`\_`U`bb`"

5`\_`hi`Y`Y`K`YhhYfa`i`ghYf`]b`B`]YXYfgU`W`gYb`i`bX`Vi`bXYgk`Y]h`

<`B`]YXYfgU`W`gYb`g]bX`X]Y`K`YhhYfj`Yf`A`h`b]ggY`X`Y`fnY]h`Ai`>`Y`f`gh`j`Uf]UVY`K`A`f`Y`b`X`Y]b][ Y`F`Y`[ ]cbYb`i`bhYf`GhUf`\_fY[ Yb`i`b`X` ;`Yk`]hhYfb`Y`X]Yb`z`YfZU`f`Y`b`Ub`XYfY`[ `Y]W`nY]h][ `c`Y`HYa`dYfUhi`fYb`i`bX`gcb]b][ Y`5`V`g`W`b]hhY`"8]Y`g`Y`A`]g`W`i`b[ `Ui`g`K`YhhYfVYX]b[ i`b[ Yb`]gh`\_Y]b`ni`Z`A`][ Y`g`9`f`Y][ b]g`z`gcbXYfb`gd]Y[ Y`h`X]Y`[ f0`>`Y`f`Y`b`\_`]a`Uh]gW`Y`b`J`Yf`A`b`X`Y`fi`b[ Yb`k`]X`Y`f`z`X]Y`]b`X`Y`b`Y`h`h`Y`b`>`U`f`n`Y`b`h`Y`b`V`Y`c`V`U`W`h`Y`h`i`i`f`X`Y`b`"@Ui`h`X`Y`a`8`Yi`hgW`Y`b`K`YhhYfX]Y`b`gh`f`B`K`8`E`n`Y][ Yb`ghU]h]g]gW`Y`8`U`h`Y`b`z`X`U`gg`X]Y`<`Ai`Z][ \_Y]h`j`cb`Yi`hf`Ya`Yb`K`YhhYfYfY][ b]ggYb`z`k`]Y`ghUf`\_Yb` ;`Yk`]hhYfb`i`bX`Ghi`fa`Zi`hYb`z`ni`[ Yb`ca`a`Yb`U`h`"

5i`Z`b`Uh]cb`U`Y`f`9`V`Y`b`Y`V`Y`c`V`U`W`h`Y`h`i`a`Ub`A`b`]W`Y`H`f`Y`b`X`g`"9]b`6`Y`f]W`h`X`Y`g`i`a`k`Y`h`Vi`b`X`Y`g`U`a`h`Y`g`j`Y`f`X`Y`i`h]W`h`z`X`U`gg`X`Y`f`?`]a`Uk`Ub`X`Y`X]Y`K`YhhYfYi`hf`Ya`Y`]b`8`Yi`hgW`Ub`X`j`Y`f`gh`A`f`\_`h`"8]Y`5`bnY]W`Y`b`X`Y`i`h`Y`b`X`U`f`Ui`Z`b`z`X`U`gg`X]Y`<`h`Y`b`g]h`A`h`i`b`X`<`Ai`Z][ \_Y]h`j`cb`Gh0`fa`Yb`i`bX`B]YXYfgW`A`[ Yb`]b`X`Y`b`\_`ca`a`Yb`X`Y`b`>`U`f`Y`b`k`Y]h`Y`f`ni`b`Y`a`Yb`\_0bb`h`Y`"8`U`f`Ui`g`Z`c`[ h`z`X`U`gg`X]Y`K`YhhYfk`Ufbi`b[ Yb`b]W`h`bi`f`\_i`fn`Zf]gh][ Yz`gcbXYfb`Ui W`\_`Ub[ Zf]gh][ Y`5`bd`U`ggi`b[ Yb`]b`X`Y`f`<`Z`f`U`ghfi`\_hi`f`i`b`X`]a`B`chZU`a`UbU[ Ya`Yb`h`Y`f`Z`c`f`X`Y`fb`"

<`]ghc`f]gW`Y`J`Y`f[ `Y]W`Y`Ghi`fa`Zi`hYb`i`b`X`]`f`Y`9`b`hk`]W`\_`i`b[

Ghi fa Zi hYb`Ub`XYf`BcfXgYY`g]bX`\_Y]b`bYi Yg`D\`Abca Yb"  
<]ghcf]gW\`VYhfUW\hYh[ UV`Yg]b`XYf`FY [ ]cb`nU\`fY]WXY  
j Yf\`YYfYbXY`Ghi fa Zi hYbž`X]Y`A YbgW\Yb`i bX`@UbXgW\UZhYb`ghUf\_  
VYY]bZi ggh`\UVYb``9]b`VYa Yf`Ybgk YfhYg`6Y]gd]Y``]gh`X]Y  
Ghi fa Zi hij cb`%- \* &ž`X]Y`]b`<Ua Vi f[ `\_UhUghfcd\`U`Y`GW\`AXYb  
j Yfi fgUW\hY``8Ua U`g`\_Ua Yb`nU\`fY]W\Y`A YbgW\Yb`i a g`@YVYbž  
i bX`X]Y`NYfgh`0fi b[ Yb`Ub`; YV\`i XYb`i bX`ϕZfUghfi \_hi f`k UfYb  
Ybcfa "

⇒ J Yf[ `Y]W\`ni`XUa U`][ Yb`9fY][ b]ggYb`g]bX`X]Y  
a YhYcfc`c[ ]gW\Yb`J cf\`YfgU[ Ya Yh\`cXYb`i bX`X]Y`ϕZfUghfi \_hi f  
ni a`GW\`i hn`[ Y[ Yb`Ghi fa Zi hYb`\`Yi hY`k Y]hUi g`VYggYf`Ybhk ]W`\_Y`h"  
A cXYfbY`HYW\bc`c[ ]Yb`Yfa 0[ `]W\Yb`Y]bY`df\`n]gYfY  
K YhhYfj cf\`YfgU[ Y`i bX`gW\`bY``YfY`5`Ufa ]Yfi b[ Ybž`X]Y  
YbhgW\Y]XYbX`g]bXž`i a`X]Y`6Yj 0`\_Yfi b[ `fYW\`hnY]h][ `k UfbYb`i bX  
gW\`0hnYb`ni`\_0bbYb``8YbbcW\`V`Y]Vh`X]Y`J`i`bYfUV]`]h\`h`j cb  
?0ghYb[ YV]YhYb`Ui Z[ fi bX`XYg`ghY][ YbXYb`A YfYfggd]Y[ Y`g`i bX  
XYf`j Yf\`bXYfhYb`\_]a Uh]gW\Yb`6YX]b[ i b[ Yb`Y]bY`gh\`bX][ Y  
<YfUi gZcfXYfi b[ "

8YhU]`g

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