

## 6YghY`K UbXYfi b[ Yb`]b`DU\_]ghUb. `) [ fc» Ufh][ Y`5VYbhYi Yf

K ]f`k YfZYb`Y]bYb`6`]W`Ui ZX]Y`VYghYb`HfY\_g`]b`DU\_]ghUbž  
j cb`\_`Ugg]gWYb`6Ug]g`U[ YffY]gYb`V]g`\\]b`ni  
gWbYYVYXYW\_hYb`<cW dUgg!CXmgyYb`BUWXYa`]W  
[ YfUXY`j cb`XYf`K UbXYfi b[ `ni a`?&!6Ug]g`U[ Yf`]b`DU\_]ghUb  
ni f0W\_[ Y\_Y`fh`V]b`i bX`a`Y]b`hYfYggY`Ua`?UfU\_cfi a  
k ]f`\_]W`[ Yk YW\_h`\\Uhž`XUW`hY`]W`ž`]W`k 0fXY`Y]b][ Y  
ni gÅh`]WY`K UbXYffci hYb`Z0f`a`Y]bY`b`ÅW`ghY`FY]gY`]b  
X]YgYg`k i bXYfgW`0bY`@UbX`Yf\_i`bXYb`"A ]h`Y[ YbX`ÅfYb  
; ]dZY`b`ž`DUbcfUa`U!D`ÅggYb`i bX`]Xm`]gWYb`6Yf[ k ]YgYb  
V]YhYh`DU\_]ghUb`Y]bY`: 0`Y`\\Yfj`cffU[ YbXYf  
K UbXYfa`0[ `]W`\_Y]hYb`ž`X]Y`Yg`a` ]h`gY]bYb`BUW`VUfb`]a  
<]a`U`UmU`Ui ZbY`\\a`Yb`\_`0bbYb`"a` : c`[ YbXYb`Yf\_i`bXYb`k ]f  
Y]b][ Y`XYf`VYghYb`K UbXYfi b[ Yb`]b`DU\_]ghUb`"h`J`YfV]bXi`b[  
ghY`\\YbXY`5fh]\_Y`. `?&!6Ug]g`U[ Yf!HfY`\_]b[ .`9]b`GdUn]Yf[ Ub[  
nk ]gWYb`F ]YgYb`]a`?UfU\_cfi a`?&!6Ug]g`U[ Yf!  
5i gf0ghi b[ g`]ghY`H]ddg`Z0f`/`Ua`d`^Y`"]d/

K ]f`k YfZYb`Y]bYb`6`]W`Ui ZX]Y`VYghYb`HfY\_g`]b`DU\_]ghUbžj cb  
\_`Ugg]gWYb`6Ug]g`U[ YffY]gYb`V]g`\\]b`ni`gWbYYVYXYW\_hYb  
<cW dUgg!CXmgyYb

BUWXYa`]W`[ YfUXY`j cb`XYf`K UbXYfi b[ `ni a`?&!6Ug]g`U[ Yf`]b`  
DU\_]ghUb`ni f0W\_[ Y\_Y`fh`V]b`i bX`a`Y]b`hYfYggY`Ua`?UfU\_cfi a  
k ]f`\_]W`[ Yk YW\_h`\\Uhž`XUW`hY`]W`ž`]W`k 0fXY`Y]b][ Y`ni gÅh`]WY`  
K UbXYffci hYb`Z0f`a`Y]bY`b`ÅW`ghY`FY]gY`]b`X]YgYg`k i bXYfgW`0bY  
@UbX`Yf\_i`bXYb`"

A ]h`Y[ YbX`ÅfYb` ; ]dZY`b`ž`DUbcfUa`U!D`ÅggYb`i bX`]Xm`]gWYb  
6Yf[ k ]YgYb`V]YhYh`DU\_]ghUb`Y]bY`: 0`Y`\\Yfj`cffU[ YbXYf  
K UbXYfa`0[ `]W`\_Y]hYb`ž`X]Y`Yg`a` ]h`gY]bYb`BUW`VUfb`]a`<]a`U`UmU

Ui ZbY\ a Yb`\_ÖbbYb" `æ : c` [ YbXYb`Yf\_i bXYb`k ]f`Y]b][ Y`XYf VYghYb`K UbXYfi b[ Yb`]b`DU\_]ghUb"

⇒b`J YfV]bXi b[ `ghY\ YbXY`5 fh]\_Y`.

? &!6Ug]g`U[ Yf!HfY\_\_]b[ .`9]b`GdUn]Yf[ Ub[ `nk ]gWYb`F ]YgYb`]a  
? UfU\_cfi a `? &!6Ug]g`U[ Yf!5i gfØghi b[ g`]ghY`H]ddg`ZØf`XUg  
HfY\_\_]b[ `ni a `? &!6Ug]g`U[ Yf`9j YfYgh`j g" `? &!6Ug]g`U[ Yf. `K Y`WXY  
K UbXYfi b[ `]gh`X]Y`f]W`h][ Y`ZØf`G]Y3

## 6YghY`K UbXYfi b[ Yb`]b`DU\_]ghUb

5`Y`i bhYb`Ui Z[ YZØ\ fhYb`K UbXYfi b[ Yb`VYZ]bXYb`g]W`]b`Y]bYa  
g]W`YfYb`HY]`XYf`F Y[ ]cb`; ][ ]h!6U`h]ghUb" `K ]Y`VY]`YXYf`F Y]gY  
`c\ bhYg`g]W`žj cf`XYa `: `i [ `X]Y`DfcV`Ya VYfY]W`Y`XYg`: 7C`ni  
ØVYfd fØZYb"

%" `6Ug]g`U[ Yf`? &`i bX`; cbXc[ cfc`@U`

8Ui Yf. `( `HU[ YGW`k ]Yf][ \_Y]h`GY\ f`gW`k YfA UI ]a U`Y`< Ø\Y.  
)") \* \$a `f%, "&(`%Z`h`

8Ug`? &!6Ug]g`U[ Yf`]gh`DU\_]ghUbg`: `U[ [ gW`]Z]K UbXYfi b[ `i bX`Y]bY  
XYf`VYfØ\ a hYghYb`XYf`K Y`h`A ]h`, "\* %%`a `f&, "&(`%Z`h`]gh`XYf`? &  
XYf`nk Y]h\ ØW`ghY`6Yf[ `XYf`K Y`h`z`Y]bYf`j cb`bi`f`%(  
5W`hhUi gYbXYfb`i bX`Y]b`A ]h[ `]YX`XYf`g]YVYb`nk Y]hYb`; ]dZY`"

9g`ghY\ Yb`a Y\ fYfY`J Uf]UbhYb`ni f`J YfZØ[ i b[ žj cb`XYbYb`X]Y  
VY`]YVhYghY`Y]bY`Y]bZUW`Y`<]b!`i bX`F ØW`fci hY`]gh" `8]YgY`F ci hY`]gh  
Y]bZUW`Yfž`XU`g]Y`XYb`\c\Yb`DUgg`j cb`; cbXc[ cfc`@U`j Yfa Y]XYh"  
G]Y`V]YhYh`Ui W`a Y\ f: `YI ]V`]h`h`z`XU`Yg`a Ø[ `]W`]ghž`i bhYfk Y[ g  
Y]bY`F Y]\Y`j cb`l a k Y[ Yb`ni `a UW`Ybž`Y]bgW`]Y»`]W`ni a  
6Ug]g`U[ Yf`HfUb[ c`Hck Yfgž`gck ]Y`C dh]cbYb`ni a ` , VYfbUW`hYb`]b  
XYb`6Ug]g`U[ Yfb`? &`cXYf`6fcUX`DYU\_`ž`cXYf`VY]XYg"

`U`h1` VYghY`K UbXYfi b[ Yb`]b`DU\_]ghUb`

? &!6Ug]g`U[ Yfk UbXYfi b[ `2? &`j cb`7cbW`cfX]U`Ui g[ YgY\ Yb

⇒W`gW`cgg`a ]W`Y]bYa `? &!6Ug]g`U[ Yf!HfY`\_Ubž`XYf`a ]h`Y]bYf

hYVX.b]gWXYb', VYfei Yfi b[ 'XYg; cbXc[ cfc!@U!DUggYg'\_ca V]b]Yfh  
k i fXY"K Y]hYfY' bZcfa Uh]cbYb'Z]bXYb'G]Y' ]b'XYb'Zc`[ YbXYb  
6Y]hfA[ Yb"

- ? &!6UgY'7Ua d'HfY\_.'9]b'GdUn]Yf[ Ub[ 'nk ]gWXYb'F]YgYb'ja  
?UfU\_cfi a
- ? &!6Ug]g`U[ Yf!5i gfØghi b[ g`]ghY
- ? &!6Ug]g`U[ Yf!HfY\_\_]b[ ZØ\ fYf

&"`GWX bYYgYY`i bX`< ]gdUf`@U

8Ui Yf.'%'`HU[ YGWX.k ]Yf][ \_Y]h`GWX.k YfA UI "'<Ø\Y.' ) "%) %a  
f%\*"- \$Zht

`U`h1 Gbck `@\_Y`Ui ZXYa `<]gdU`@U`HfY\_ 2 @]Ub  
8Yb[ #G\i hhYfghcW\_`8Yf`6]UZc!`i bX`XYf`<]gdUf!; `YhgWXYf`hfYZZYb  
Ua `Gbck `@\_Y`Ui ZY]bUbXYf

8]Y`K UbXYfi b[ `ni a `f]Yg][ Yb`9]gVYW\_Yb`Gbck `@\_Y`fY][ Ybh]WX  
\_Y]b`GYf`VY[ ]bbh]a `8cfZ`5g\_c`Y`i bX`Zc`[ h`\_i fn`XYf`F ci hY`ni a  
? &!6Ug]g`U[ Yf"8Yf`K Y[ `Vf]WX`h`XUbb`Ybh`Ub[ `XYg`6]UZc!; `YhgWXYfg  
ZØf`\*) `\_a `ni f[ fØ»hYb; `YhgWXYfY]g\_cbnYbhU]cb`Ui »Yf\U`V`XYf  
5bhUf\_h]g`UV" <]Yfž`Ui Z) "%) %a ž`Ui ZYb`XYf`6]UZc!`i bX`XYf`<]gdUf!  
; `YhgWXYf`ni gUa a Yb" `GcVU`X`G]Y`XYb`DUgg`ØVYfei Yfh`\UVYbž  
ZØ\fh`XYf`K Y[ `k Y]hYf`Ybh`Ub[ `XYg`<]gdUf!; `YhgWXYfg`ni a `8cfZ  
<]gdUf"

I bhYfk Y[ g`k YfXYb`K UbXYfYf`Y]bY`F Y]\Y`j cb`+"\$\$\$Yf!; ]dZY`b  
gY\Ybž`XUfi bhYf`XYb`VYfØWX`h][ hYb`6U]bh\U`6fU\_\_ž`Ui WX`VY`Ubbh  
U`g`XYf`C [ Yf"8Yf`nYf\_`ØZhYhY`+"&, ) `a `f&' "- \$%: i »Ł`c`Y; ]dZY`  
k Uf`XYf`C`fh] cb`8ci [ `GWč`h`i bX`7\`f]g`6cb]b[ hc`bg`Yd]gWXYf  
5VZU\`fh]a `š\`f`%- ++ž`VY]`XYf`GWč`h`g]WX`bUWX`]\`fYa `; ]dZY`VY]XY  
6Y]bY`VfUWX`"; `ØW\_`]WX`Yfk Y]gY`ØVYf`YVhYb`VY]XY`X]Y  
Ub`gW`]Y»YbXY`nYfa ØfVYbXY`Y]bk ØWX][ Y`F`ØW\_\_Y`f`]bg  
6Ug]g`U[ Yf"

' "'F U\_Udcg\ ]!6Ug]g`U[ Yf

8Ui Yf. '!( 'HU[ YGWk ]Yf][ \_Y]h. 'A ]hY'A UI " < Ò\Y. '( "\$\$\$a  
fP% " %&' ZhŁ

'U`h1 GcbbYbUi Z[ Ub[ 'Ui Z'XYa 'F U\_Udcg\]; ]dZY` 2 B Uhh]bYY  
GUbWU]g]f]\_i `#G\i hYfghcW\_`GcbbYbUi Z[ Ub[ 'Ui Z'XYa 'F U\_Udcg\]!  
; ]dZY`

8 Ug`F U\_Udcg\]!6 Ug]g`U[ Yf`]gh`Y]b`VY`YVhYf`K UbXYfk Y[ ž`XYf`]b  
bi f`Y]b`cXYf`nk Y]HU[ Yb`UV[ YgW`cggYb`k YfXYb`\_Ubb`"K UbXYfYf  
k YfXYb`YXcW`b]W`h`X]Y`NY]h`UVYbž`X]Y`Yff`]W`Y`@UbXgW`UZh  
k ]f`\_]W`ni `gW`ÀhYb`"8Yf`"+, , `a `f&") ) %: i » Ł`c`Y`F U\_Udcg\  
`Y[ h]a `B U[ Uf!HU`Yhk U`+) `\_a `b`ÒfX`]W`j`cb; ; ]`[ ]hi bX`]gh`XYf`&+`  
`ÒW`ghY`6Yf[ `XYf`K`Y`h`

8]Y`K UbXYfi b[ `VY[ ]bbh]a `8cfZ`A ]bUd]b`Ua `?UfU\_cfUa  
<][ \k Um`8Yf`K Y[ `ghY][ h`Xi fW`Y]b`[ YgW`ØhnhYg`HU`ØVYf`K ]YgYbž  
? ]YZYfbk `À`XYf`i bX`< ]fhYbk Y]XYb`Ub`

F U\_Udcg\]`VYXYi hYh` gW`bYVYXYW`\_h ž`UVYf`XYf`6Yf[ `]gh`Ui W`U`g  
8i a Ub]`VY`\_Ubbž`k Ug`ØVYfgYhnh` A i hYf`XYg`B`YVY`g `VYXYi hYh`  
8Yf`; ]dZY`gh`Y]b`i `hfU!dfca ]bYb`hYf`; ]dZY` `VYa Yf`Ybgk Yfh`ZØf  
gY]bYb`Ui » Yf[ Yk Ò\b`]W`Yb`5bgh]Y[ `ØVYf`XUg`i a `]Y[ YbXY  
; Y`ÀbXY`

( " `F i dU` : UW` i bX`A UnYbc `@U

8Ui Yf. '\*!- 'HU[ YGWk ]Yf][ \_Y]h. 'A ]hY`gW`k Yf< Ò\Y. ') "( \$ \$a  
fP%+ " %+ ZhŁ

'U`h1 8 Ug`VYfØ`a hY`F i dU` : UW`XYg`B Ub[ U`DUfVUh`\_Ubb`Ui Z  
Y]bYf`XYf`VYghYb`K UbXYfi b[ Yb`]b`DU\_]ghUb`[ YgY`Yb  
k YfXYb` 2 5bh`c`b`\_W`\_gcb`#G\i hYfghcW\_`8 Ug`VYfØ`a hY`F i dU`  
: UW`XYg`B Ub[ U`DUfVUh`

HfY\_\_Yf`i a fi bXYb`XYb`B Ub[ U`DUfVUh`Ui ZX]YgYa  
UhYa VYfUi VYbXYb`DZUX`ja `GW`UhYb`XYf`VYfØW`h][ hYb`F i dU`!  
: `Ub`\_Y`XYg`6Yf[ Ygž`X]Y`g]W`(` " \* \$ \$ `a `fP%) "\$ - \$ ZhŁ`ØVYf`]\a `Yf`YVh`  
HfY\_\_Yf` \ UVYb`X]Y`A Ò[ `]W`\_Y]hž`Yb`k YXYf`ni a `G`U][ ]f]!@U[ Yf

\]bUi Zni k UbXYfb'i bX'Ui Z'XYa '[`Y]WXYb'K Y[ 'ni fØW\_ni \_Y\fyb  
cXYf'ØVYf'XYb'A UnYbc!@U!DUgg'bUW': U]fmiA YUXck g  
k Y]hYfni [ Y\Yb"

8 Yf'F ØW\_k Y[ ' ]gh'\_ØfnYfž'gW bY`Yf'i bX'Y]bZUWYfž'k Å\fybX'XYf  
A UnYbc '@U'DUgg'Y]bY`Åb[ YfYž'Ubgdfi W'gj c`YfY'C dh]cb'a ]h'Y]bYf  
[ fØ» YfYb'5i gk U\`Ub'5i gg]W'hYb'V]YhYh"K Ybb'K UbXYfYf'g]W'ZØf  
XYb'A UnYbc '@U'YbhgWY]XYbž'YbXYh'XYf'K Y[ 'VY]'XYb'Xm`]gWYb  
: U]fmiA YUXck gž'k c'Y]bY'J Yf'Åb[ Yfi b[ 'ni a '6Ug]g`U[ Yf'XYg'B Ub[ U  
DUfVUh`Y]W'h'Ub[ Y\Åb[ h'k YfXYb'\_Ubb"

) "'6Ug]g`U[ Yf'B Ub[ U'DUfVUh'

8 Ui Yf. '&' 'HU[ YGWk ]Yf][ \_Y]h'A ]hY'A UI "<Ø\Y.' ("\$\$\$a  
f%: "%&' ZhŁ

'2 K ]hh\Uk UgSG]f]#G\i hhYfghcW\_8]Y'GWÅ Øb\Y]h'XYg'B Ub[ U'DUfVUh  
hÅi gW'h'ØVYf'gY]bY'; YZU\ f'\]bk Y[

B Ub[ U'DUfVUh]gh'Y]b'YfghUi b`]W'gWÅ ØbYf'6Yf[ "I a [ YVYb'j cb  
Ødd][ Yb'K Å'XYfb'i bX'; `YhgWYfgyYb'fU[ h'XYf'6Yf[ 'a ]h'Y]bYa  
[ Yk U'h][ Yb'j Yfh]\_U'Yb'F Y`Y]Z'ØVYf'XUg`c\_U'Y'; Y'ÅbXY'j]b'U`Y  
F ]W'hi b[ Yb"

5 VYf`UggYb'G]Y'g]W'j cb'gY]bYf'GWÅ Øb\Y]h'b]W'h'hÅi gWYb.'8 Yf  
B Ub[ U'DUfVUh]gh'b'c'hc'f]gW' [ YZÅ\ f']W'"9f'k Uf'Y]bgh'U'g  
?]`YfVYf[ 'VY\_Ubb'h'i bX']gh'bUW'5bbUdi fbU'i bX'?&'XYf  
Xf]hh[ YZÅ\ f']W'ghY'5W'hUi gYbXYf"J cf'%- - \$`UhhY'XYf'B Ub[ U  
DUfVUh'Y]bY'YfghUi b`]W'Y'G'hYfV`]W'\_Y]hg'fUhY'j cb'++'i ž'k Ug  
VYXYi hYhž'XUgg'; ]dZY`ghØfa Yf'Y\Yf'ghYfVYb'U'g'ØVYf'YVYb"

8]Y'K UbXYfi b[ 'ni a '6Ug]g`U[ Yf']gh'VY]'k Y]hYa 'b]W'h'gc  
Y]bgWÅ ØW'hYfbXž'XU'Yg'g]W'ZØf'Y]bYb', "\$\$\$'a 'c\Yb'; ]dZY`Ui Z  
Y]bYf'fY`Uh]j' b]YXf][ Yb'<Ø\Y'VYZ]bXYh'i bX'Y]W'h'ni 'YffY]WYb' ]gh"  
G]Y'VY[ ]bb'h'VY]'XYb'gdY\_hU\_i`Åfyb': U]fmiA YUXck gž'Y]bYa 'XYf  
VY`Y]VhYghYb'Hci f]ghYbn]Y`Y'DU\_]ghUbgž'i bX'\_Ubb'Ybhk YXYf'U'g  
, VYfbUW'hi b[ 'cXYf'U'g'Nk Y]!BÅW'hY!HfY\_\_\_]b[ 'UVgc'j ]Yfh'k YfXYb"

6YghY`K UbXYfi b[ Yb`]b`DU\_]ghUb.`XUg  
K YgYb`h`]WXY

K Ug.`8]Y`VYghYb`HfY\_g`]b`DU\_]ghUb`Yf`i bXYb"

K c.`9fk UfhYb`G]Y`k A\fybX`XYf`K UbXYfi b[ Yb`XUgg`G]Y`]b`Nk Y!  
A Ubb!NY`hYb`WJa dYb`i bX`bi f`Ni [ Ub[ `ni [ fi bX`Y[ YbXYb`fZU`g  
j cf\UbXYb`E`9]b]W]hi b[ Yb`\UVYb`"9g[ ]Vh`Y]bY`F Y]\Y`j cb  
I bhYf`\_0bZnYb`]b`G\_UfXi`i bX`; ][ ]h`K Ybb`G]Y`: U]fmA YUXck g  
VYgi WXYb`Z`Ya dZY`\Yb`k ]f`: U]fmA YUXck g`7chhU[ Yg"

≠`g`Ua UVUX`ØVYfbUW`hYhY`]W`]a`F Ua UXU`≠`Ua UVUX`"K Ybb`G]Y  
g]W`k ]f`\_]W`]i a gc f[ h`Z0\`Yb`a ØW`hYb`Z`XUbb`]gh`XUg`≠`Ua UVUX  
A Uff]ch`h`Y]bY`[ i hY`K U\`Z`X]Y`bi f`bcW`j ca`YI hfUj U[ UbhYb  
GYfYbU`ØVYfhfcZYb`k ]fX"

K Ubb.`8]Y`VYghY`NY]h`Z0f`HfY`\_]b[`]b`DU\_]ghUb`]gh]`cb`A ]hY`≠`b]  
V]g`A ]hY`GYdhYa VYf`Z`k cVY]`≠`]i bX`5i [ i gh`X]Y`cdh]a U`Yb  
A cbUhY`g]bX`"6]g`XU\]b`]gh`HfY`\_]b[`]bcW`a Ø[`]W`Z`UVYf`V]g`A ]hY  
≠`b]`V`Y]Vh`ØVYfa`A»][`j]Y`GW`bYY`Ui Z`XYb`D`AggYb`i bX  
BcfX`A`b[ Yb`Z`gcXUgg`U`Y`D`AggY`ØVYf`" "\$\$\$`a`i [ YgW`c`ggYb  
V`Y]VYb`"8]Y`a Y]ghYb`D`AggY`k YfXYb`V]g`9bXY`GYdhYa VYf  
[ YgW`c`ggYb`Z`k Ybb`XYf`ghUf`\_Y`GW`bYY`ni fØW`\_Y`fh"

K ]Y.`≠W`\UVY`a ]W`@`gh`<cf]ncb`HfY\_g`UbX`Hci fg`Ui Z`Y]bYa  
?&!6Ug]g`U[ Yf`i bX`Y]bYa`i; cbXc[ cfc`@U!HfY`\_Ub[ YgW`c`ggYb`  
@`gh`<cf]ncbg`\_Ubb`U`Y`cVYb`[ YbUbbhYb`K UbXYfi b[ Yb`gck ]Y  
a U»[ YgW`bY]XYfhY`F Y]gYfci hYb`cf[ Ub]g]YfYb"

: Øf`k Y]hYfY`≠Zcfa Uh]cbYb`cXYf`6i W`i b[ Yb`\_cbhU\_h]YfYb`G]Y`@`gh  
<cf]ncbg`i bhYf`Z`-`&`), %%`(`) ) \$%+`cXYf`Z`-`&`), %%`(`) +-`+`(" 5`hYfbUh]j`gYbXYb`G]Y`Y]bY`9!A U]`Ub`]bZc4`cgh`cf]ncb`hY`g`"W`a`"

≠W`V]b`a ]h`6f]h]g`\`5]fk Umg`X]fY`\_h]`cb`i; fc»Vf]hUbb]Yb`bUW`  
≠`Ua UVUX`]b`DU\_]ghUb`[ YZc[ Yb`"6i WXYb`G]Y`ØVYf`G`mgWUbbYf`ni  
XYb`VYghYb`DfY]gYb"

8 YfnY]h'g]bX`bi f`k Yb][ Y`U\_hi Y``Y`DU\_]ghUb!F Y]gYZØ\ fYf`j YfZØ[ VUf"  
8 U\Yf`Ya dZY\`Yb`k ]f`ZØf`XYb`? &!6Ug]g`U[ Yf!HfY`\_X]Y`k UggYfZYghY  
?UfU\_cfi a !HfY\_\_\_]b[ \_UfhY`j cb`HYffUE i Ygh`ja `A U» ghUV  
%.%+) "\$\$\$"

@Y]hV]`X. `5h`Ug/ `6cchg

.

8 YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z. `Y]bY!fY]gY"XY