

## < Y`XYb`\]bhYf`XYa `GhYi Yf. @i Xk ][ gVi f[ Yf 6i gZU\fYf ZØf N]j ]`Wci fU[ Y`[ YY\fh</pre>

@ Xk ][ gVi f[  $Y\fn6i$   $gZU\fYfA$  ] $WXUY\fni$  bXAi  $ghUZU^2$   $nmU_Ub^2ZØf^2\fY^1Ui *Yf[ <math>Yk$   $O\b^2$ ] $WXYb^2@Y$ ]ghi  $b[ Yb^2ibX N]j$  ] $WCifU[ Y^2]a^2$  DBJ"

=a '@UbX\_fY]g'@ Xk][gVi f['k i fXY'Ua 'A]hhk cW\ž'XYa '&%"'5i[i gh &\$&(ž'Y]bY'VYgcbXYfY'9\fi b['ZØf'nk Y]'Ui »Yf[Yk Ò\b`]W\Y 6i gZU\fYf'j Yf`]Y\Ybž'X]Y']a 'ÒZZYbh`]W\Yb'BU\j Yf\_Y\f'Y]bY YbhgW\Y]XYbXY'Fc``Y'gd]Y`Yb"'A]W\UY``5`VYfh'i bX'A i ghUZU 2 nmU\_Ub'k i fXYb'ZØf']\fY'\YfUi gfU[YbXYb'@Y]ghi b[Yb']a 6Yfi ZgU``hU['Ui g[YnY]W\bYhž'k cVY]'X]Y'JYfUbghU`hi b['Ui W\'ZØf]\fY'6YXYi hi b[']a 'ÒZZYbh`]W\Yb'JYf\_Y\fgbYhn'Ui Za Yf\_gUa a UW\hY"

A ]WX UY``5`VYfhž'XYf'gY]h'&( ` $\forall$ J\fYb'U`g'6i gZU\fYf'hÀh][ ']ghž'Yf\]Y`h X]Y'VY[ Y\fhY'5i gnY]WXbi b[ ' 6i gZU\fYf'XYg' $\forall$ J\fYg'&\$&( "'5`VYfhž ni j cf']a 'FY]gYj Yf\_Y\f'i bhYfk Y[ gž'ZÀ\fh'\Yi hY'\Ui dhgÀWX`]WX'Ui Z XYb'fY[ ]cbU`Yb'6i g`]b]Yb']a '6chhk UfhU`"'9f'\YVh'\Yfj cfž'k ]Y k ]WXh][ 'XYf'?cbhU\_h'ni 'XYb': U\f[ ÀghYb'ZØf']\b']gh'i bX'VYgWXfY]Vh X]Y'<YfUi gZcfXYfi b[ Yb'gY]bYg'6Yfi ZYg.' 8Yb'6i g'g]WXYf'Xi fWX XYb'X]WXhYb'J Yf\_Y\f'ni '`Yb\_Yb'i bX'XUVY]'XYb': U\fd`Ub Y]bni \U`hYbž']qh'b]WXh']a a Yf'Y]bZUWX"

## N]j ]`Wci fU[Y ]b XYf DfUl ]g

A i ghUZU  $^2$  nmU\_Ubž'XYf'ZØf'XUg'I bhYfbY\a Yb'@J@'À[Yf'UfVY]hYhž k i fXY'a ]h'XYa 'GcbXYfdfY]g'ZØf'N]j ]`Wci fU[Y']a  $^2$  DBJ Ui g[YnY]W\bYh"'5a '&&"'5df]`'&\$&( 'ghY``hY'g]W\'\YfUi gž'XUgg'Yf k À\fYbX'gY]bYf': U\fh'Ui Z'XYf'@]b]Y'(&) ']b'F]W\hi b['@ Xk][gVi f[!

C » k Y]`'Y]b'\_`Y]bYg'A ÀXW\Yb'VYa Yf\_hYž'XUg'i bVYUi Zg]W\h][ h nk ]gW\Yb'nk Y]'dUf\_YbXYb'5i hcg'ghUbX"'² nmU\_Ub'\]Y`h'gcZcfh'Ubž i a 'g]W\Yfni ghY``Ybž'XUgg'XUg'?]bX'b]W\h']b'; YZU\f'[ Yf]Yh"'9f U\_h]j ]YfhY'X]Y'K UfbV`]b\_Yf'i bX'k UfhYhY'[ YXi `X][ 'Ui Z'X]Y'A i hhYf XYg'A ÀXW\Ybgž'Y[ U`'k ]Y'gY\f'XYf'J Yf\_Y\f'g]W\'\]bhYf'gY]bYa '6i g ghUi hY"' 8]Y'G]W\Yf\Y]h'XYg'?]bXYg'\UhhY'J cffUb[ ž'Yf\_`ÀfhY'Yf gdÀhYf'VYgW\Y]XYb"

 $8 ]Y J J G!; YgWA AZhgZØ Yff]b .7 cfbY`]U .7 Yf]gh]Ub ``cVhY .^2 nmU_UbggW bY``Yg' < UbXY`b ii bX .VYhcbhY . . . <math>\pm$  Y]bYf .NY]hž']b .XYf'j ]Y`Y A YbgWX Yb 'k Y[ gWX Ui Ybž'ghUhh'ni `\UbXY`bž'gYhnh' < Yff'^2 nmU\_Ub 'Y]b XYi h`]WX Yg'NY]WX Yb " .8 Yf .9 fghY .@UbXYgVYUa hY .XYg .@UbX\_fY]gYg @i Xk ][ gVi f[  $\pm$  .%f[ Yb J c[ hž'k ]Yg'XUfUi Z'\]b ž'k ]Y 'k ]WX h][ .Yg']ghž gc`WX Yg'J Yf\U`hYb .OZZYbh`]WX 'ni 'k ØfX][ Yb . . .8 Yf'9]bgUhn'j cb' < Yffb ^2 nmU\_Ub']gh'Y]b 'J cfV]`X 'ZØf'i bg'U``Y"

## $8]YFc^YXYg^OZZYbh^WXb^BU^jYf_Y^fg$

 $8 ]Y `9 \ fi b [ `VY] XY f' 6 i g Z U \ f Y f' g h Y \ h' b] W h' b i f' Z Ø f' ] \ f Y '] b X] j ]X i Y ``Y b H U h Y b z' g c b XY f b `U i W `Z Ø f' X] Y `n Y b h f U `Y '6 Y XY i h i b [ `XY g' 6 Y f i Z g'] b XY f'; Y g Y ``g W U Z h'' C \ b Y 'e i U `] Z] n] Y f h Y g': U \ f d Y f g c b U ``k ] Y '< Y f f b 5 `VY f h i b X '< Y f f b '² n m U _ U b `k À f Y 'i b g Y f' [ i h' U i g [ Y V U i h Y g 6 i g U b [ Y V c h'] a `@ U b X _ f Y ] g' b] W h' a Õ [ `] W Z z' g U [ h Y 'J c [ h'' 8 Y f Ô Z Z Y b h`] W Y 'B U \ j Y f _ Y \ f' ] g h' Z Ø f' j ] Y `Y 'A Y b g W Y b `] a `@ U b X _ f Y ] g Y ] b k ] W h] [ Y f' H Y ] `` X Y g' 5 `` h U [ g z' k U g' X ] Y 'B c h k Y b X ] [ _ Y ] h' i b h Y f g h f Y ] W h z X ] Y '5 h h f U _ h] j ] h À h' X Y g' 6 Y f i Z g' n i 'Z Ô f X Y f b ''$ 

 $8 ]Y ``A \ f`]W Yb ``5 i gnY]W bi b [Yb \check{z}'X]Y 'j ca ``J Yf_Y \ fg! `i b X \\ HUf]Z YfV i b X ``Ghi hh[ Ufh ``fl J G L' j Yf[ YVYb ``k Yf XYb \check{z}' g]b X `Y]b ``NY]W Yb \\ XYf `K YfhgW Ahni b [ ``ZØf `X]Y ``6 i g Z U \ fYf \check{z}' X]Y ``XUZØf ``gc f [Yb \check{z}' X Ugg `X]Y : U \ f [ AghY ``g]W Yf `i b X ``ni j Yf ``Agg] [ ``Ub ``] \ f`N]Y `` [Y ``Ub [Yb "' \div Y]b Yf NY]h \check{z}' ]b ``XYf `'j ]Y ``Y ``XUg ``5 i [Yba Yf_ '`Ui Z ``XYb ``]b X]j ]X i U ``]g]Yfh Yb J Yf_Y \ f``Y [Yb \check{z}']gh ``Yg ``k ]W h][ \check{z}' X]Y `@Y]ghi b [Yb ``X]Yg Yf' < Y ``XYb ``XYg 5 ``hU [g ``b]W h `]b ``J Yf [Ygg Yb \ Y]h `[YfUh Yb ``ni ```Ugg Yb "'`5 ``VYfh ``i b X ^2 nm U_Ub ``g]b X ``XUVY] ``VY]gd]Y ``\ UZh Y ``J Yfh f Yh Yf ``ZØf ``X]Y ``j ]Y ``Yb A Ybg W Yb \check{z}' X]Y ``Xi f W ``] \ f Yb ``h A [`] W Yb ``9]bg Uhn ``ni f ``A c V]`]h A h `]b ``XYf F Y[]cb ``VY]h f U[Yb"$ 

Ni f'5bYf\_Ybbi b[']\fYf'@Y]ghi b[Yb'VY\_Ua Yb'VY]XY'DfY]ghfÀ[Yf; i hg\XY]b']a 'K Yfh'j cb'&\$\$'9i fcž'XYb'g]Y']b'j Yfg\X]YXYbYb; Yg\X\AZhYb']b'@ Xk][g\Vi f['Y]b'\OgYb'\_\ObbYb''8]Yg']gh'Y]bY'\_\Y]bY 'YghYž'i a ']\fY'VYa Yf\_Ybgk YfhYb'HUhYb'ni 'k \ØfX][Yb'i bX']\fY 5f\Y]h']b'XYb'JcfXYf[fi bX'ni 'ghY'`Yb''

Ni gàhn`]WX [ ]Vh'Yg']a '@UbX\_fY]g'@ Xk ][ gVi f[ '%' ' '6i g`]b]YbžX]Y j cb'bYi b'j YfgWX]YXYbYb'J Yf\_Y\fgi bhYfbY\a Yb'VYhf]YVYb k YfXYb"Ni gUa a Yb'VYX]YbYb'g]Y'ØVYf'%"%\$\$'<U`hYghY``Ybž'X]Y j cb'a Y\f'U`g'&- 'A ]``]cbYb': U\f[ ÀghYb'dfc'\*J\f'[ Ybi hnh'k YfXYb" 8 Ug'nY][ h'X]Y'HfU[ k Y]hY'XYf'5fVY]h'j cb'6i gZU\fYfb'i bX'k ]Y k ]WXh][ ']\fY', VYfk UWXi b[ 'i bX'G]WXYf\Y]h']a 'GhfU»Ybj Yf\_Y\f']gh"

 $8 ]Y'5i gnY]Whib['j cb'A]WhUY``5`VYfh'i bX'AighUZU'^2 nmU_Ub'i bhYfghfY]Wh'X]Y'GWh'ØggY`Zi b_h]cbž'X]Y'6i gZU\fYf']a '5``hU['XYfAYbgWhYb'Y]bbY\aYb'''G]Y'g]bX'b]Wh'bi f': U\fYfž'gcbXYfb'Ui Wh'bi f': U\fYfž'gcbXYfb'Ui Wh'bi f': U\fYfž'gcbXYfb'Ui Wh'bi h'Ya''6Y]gd]Y``j cfUb[Y\Ybi bX'XUVY]'\Y`ZYbž'F]g]_Yb'ni 'a]b]a]YfYb'i bX'XYb'`ÒZZYbh`]Wh'b' FUi a'g]WhYf'ni '[YghU`hYb''$ 

 $8]Y^6YXYihib[_jcb^6igZU\fYfb^]a^0ZZYbh^]WXYb^BU\jYf_Y\f$ 

 $6i gZU \setminus fYf \cdot gd]Y \cdot Yb \cdot Y]bY \cdot YggYbn]Y \cdot Y \cdot Fc \cdot Y \cdot ]a \cdot OZZYbh \cdot ]WX \cdot Yb \\ BU \setminus j \cdot Yf_Y \setminus fz \cdot b]WX h \cdot bi f \cdot Xi fWX \cdot XUg : U \setminus fYb \cdot j \cdot cb \cdot 6i ggYb z \cdot gcb XYfb \\ Ui \cdot WX \cdot Xi fWX \cdot ] \setminus fY : i b_h]cb \cdot U \cdot g \cdot 6]b \cdot XY[\cdot ]YX \cdot nk \cdot ]gWX \cdot Yb \cdot XYb \\ : U \setminus f[AghYb \cdot i bX \cdot XYb \cdot J \cdot Yf_Y \setminus fgi bh YfbY \setminus a Yb \cdot G]Y \cdot g]b \cdot X \cdot cZh \cdot X]Y \\ YfghYb \cdot 5b gd fY WX \cdot dUfhb Yf \cdot ZØf : fU[Yb \cdot i bX \cdot 5b \cdot]Y[Yb \cdot XYf \cdot DUggU[]YfY'' \\ 6i gZU \setminus fYf \cdot gcf[Yb \cdot b]WX \cdot h \cdot bi f \cdot XUZØf z \cdot XUgg : U \setminus f[AghY \cdot dØb_h \cdot ]WX \cdot Ub \\ | \setminus f \cdot N]Y \cdot [Y \cdot Ub[Ybz \cdot gcb XYfb \cdot hfU[Yb \cdot Ui WX \cdot Xi fWX \cdot ] \setminus fYb \cdot Ia [Ub[ghcb i bX \cdot ] \setminus fY \cdot <] \cdot ZgVYfY]hgWX \cdot UZh \cdot ni f \cdot U \cdot [Ya Y]b \cdot Yb \cdot Ni Zf]Y \cdot XYb \setminus Y]h \cdot VY]'' \cdot 8 \cdot Yf \\ dYfgOb \cdot ]WX \cdot Y \cdot ?cbhU_h \cdot ni \cdot XYb : U \setminus f[AghYb \cdot ZOfXYfh \cdot Y]b \cdot Y \cdot dcg]h]j \cdot Y \\ 5ha cgd \ AfY \cdot i b \cdot X \cdot ]gh \cdot Yb \cdot hgWX \cdot Y]XYb \cdot X \cdot ZØf \cdot X]Y \cdot 5_n Yd \cdot hUb n \cdot XYg \\ OZZYb h \cdot ]WX \cdot Yb \cdot B U \setminus j \cdot Yf_Y \setminus fg''$ 

# 18 Yi hgWX `Ub X `]gh `XY f `OZZY b h`]WX Y `B U\ j Y f\_Y\ f `Y]b `nY b hf U`Y f
6 Y gh Ub X hY]` `XY f `A c V]`]h A h" , VY f `%% `A ]``]Uf XY b : U\ f[ A gh Y `b i hn h Y b
] a `\*J\ f `& \$ & \$ `X] Y `8] Y b gh Y `XY g `OZZY b h`]WX Y b `B U\ j Y f\_Y\ f g ž k c VY]
6 i gg Y `Y] b Y b `Y f\ Y V `] WX Y b `5 b h Y]` `X U f U b `Ui ga UWX h Y b " 8] Y

JYfZØ[VUf\_Y]hii bX'Ei U`]hÀhij cb'6i g`]b]Yb']b'`ÀbX`]W\Yb'FY[]cbYbk]Y'XYa @UbX\_fY]g'@ Xk][gVi f['gcf[h'XUZØfž'XUgg'Ui W\'kYb][YfnYbhfU`Y'Kc\b[YV]YhY'[i h'Ub[YVi bXYb'g]bX"'8]Yg']gh'VYgcbXYfgk]W\h]['ZØf'AYbgW\Yb'c\bY'Y][YbYg': U\fnYi [ž'À`hYfY'DYfgcbYbcXYf'GW\Ø`Yf"

<YfUi gZcfXYfi b[Yb'ZØf'6i gZU\fYf']a 'a cXYfbYb'JYf\_Y\f</pre>

8]Y'5fVY]h'U`g'6i gZU\fYf']gh'a ]h'j YfgW\]YXYbYb

<YfUi gZcfXYfi b[Yb'j YfVi bXYb"Ni bY\a YbXYf'J Yf\_Y\fž
i bj cf\YfgY\VUfY'K YhhYfVYX]b[i b[Yb'i bX'X]Y'Bchk YbX][\_Y]hž
: U\fd`AbY'Y]bni \U`hYbž'ghY``Yb'cZh'[fc»Y'5bZcfXYfi b[Yb'Ub'X]Y
: U\f\_ØbghY'i bX'X]Y'dgmW\]gW\Y'6Y`UghVUf\_Y]h"'+b'ghAXh]gW\Yb
; YV]YhYb'\_Ubb'XUg': U\fYb']b'Yb[Yb'GhfU»Yb'a ]h'\c\Ya
:i »[Ab[YfUi Z\_ca a Yb'ni gAhn`]W\Y'GhfYggZU\_hcfYb'a ]h'g]W\
Vf]b[Yb"

9]b'k Y]hYfYf'k ]WXh][Yf'5gdY\_h']gh'X]Y'G]WXYf\Y]h"6i gZU\fYf
a ØggYb'YXYfnY]h'k UWXgUa 'gY]bž'i a '[YZÀ\f`]WXY'G]hi Uh]cbYb'ni
j Yfa Y]XYb"'8 UVY]'g]bX'g]Y'c Zh'Ui WX'?cbZfcbhUh]cbYb'a ]h
i b\_ccdYfUh]j Yb'cXYf'U[ [fYgg]j Yb': U\f[ ÀghYb'Ui g[ YgYhnh"'I a
XYa 'Ybh[Y[Ybni k]f\_Ybž']gh'Y]bY'i a ZUggYbXY'GWXi `i b[
bchk YbX][ž'X]Y'bYVYb': U\fhYWXb]\_'Ui WX'XYb'I a [Ub['a]h
GhfYggg]hi Uh]cbYb'i bX'?cbZ]\_hYb'i a ZUggh"'@Ui h'Y]bYf'Ghi X]Y'XYf
9i fcdÀ]gWXYb'I b]cb']gh'X]Y'G]WXYf\Y]h']a 'ÒZZYbh`]WXYb'BU\j Yf\_Y\f
Y]b'\Ài Z]['X]g\_i h]YfhYg'H\Ya Už'XUg'b]WXh'bi f'X]Y': U\fYfž'gcbXYfb
Ui WX'X]Y': U\f[ÀghY'VYhf]ZZhž'i bX'Yg'[]Vh'nU\`fY]WXY'=b]h]Uh]j Yb'ni f
J YfVYggYfi b['XYf'G]WXYf\Y]h'Ui Z'XYb'GhfU»Yb"

 $GhUh]gh]gWXY`8\,UhYb`ni\,f`B\,i\,hni\,b\,[~`XYg``OZZYb\,h`]WXYb``B\,U\setminus j\,Yf\_Y\setminus fg$ 

 $5_{hi} Y``Y`GhUh]gh]_Yb`nY][Yb`Y]bYb`_`UfYb`HfYbX`]b`F]WXhi b[`Y]bYf j YfghAf_hYb`Bi hni b[`XYg`OZZYbh`]WXYb`BU\j Yf_Y\fg"=a `$J\f`&$&' k i fXYb`]b`8Yi hgWX`UbX`fi bX`%&`A]``]UfXYb`: U\fhYb`a ]h`6i ggYb i bX`GhfU» YbVU\bYb`Xi fWX[YZØ\fh"8]Yg`i bhYfghfY]WXh`X]Y 6YXYi hi b[`j cb`[i h`cf[Ub]g]YfhYb`i bX`g]WXYfYb HfUbgdcfhX]Ybgh`Y]ghi b[Yb"'=b`@ Xk][gVi f[`]gh`XYf`OZZYbh`]WXY BU\j Yf_Y\f`VYgcbXYfg`[i h`Ui g[YVUi hžk Ug`g]WX`]b`XYf`\c\Yb$ 

NU\``jcb`&-`A]``]cbYb`: U\f[ ÀghYb`dfc`\\f`b]YXYfg\\``A[ h"\8]YgY\\\`Yb'j YfXYi h`]\\Yb'X]Y`Bchk YbX][\_Y]h`Z\\Øf`ei U`]Z]n]YfhYg: U\\XdYfgcbU`\z\XUg`]b`\XYf`@U[Y`]ghz\X]YgYb`5bZcfXYfi b[Yb`[YfY\\h\ni \k\YfXYb"

Ni gàhn`]W\`]gh'ni 'VYUW\hYbž'XUgg'X]Y'5`hYfgghfi \_hi f'XYf'6i gZU\fYf]b'8 Yi hgW\`UbX'Y]bYa 'K UbXY`i bhYf`]Y[h"J]Y`Y'YfZU\fYbY': U\fYfbà\Yfb'g]W\'XYa 'FYbhYbU`hYfž'k cXi fW\'Y]bY'@ØW\_Y'YbhghY\hž'X]Y Xi fW\'bYi Yž'[i h'Ui g[YV]`XYhY': U\f\_f\AZhY'[YZØ``h'k YfXYb'a i gg" \dip]h]Uh]j Yb'ni f'FY\_fi h]Yfi b['i bX'5i gV]`Xi b[''\hata b[Yf'A YbgW\Ybg]bX'XU\Yf'j cb'[fc\"Yf'6YXYi hi b[ž'i a 'XYb'6YXUfZ'Ub'6i gZU\fYfbUi W\']b'Ni \_i bZh'ni 'XYW\_Yb"

8 YhU]`q

6Ygi WXYb G]Y i bg Ui Z b!U[ "XY