

## $9g_U`Uh]cb']a `BU\Yb'CghYb.'=fUb'gWX`À[h ni fØW_' `8fc\bYb_f]Y[ `VY[ ]bbh'$

#Ub 'ghUfhY h'Y]bYb'8 fc\bYbUb[f]ZZ'Ui Z'=gfUY`'U`g'FYU\_h]cb'Ui Z
a ]`]hÀf]gWXY'5b[f]ZZY"'=bhYfbUh]cbU`Yg'9W\c'i bX'Gcf[Yb
k UW\gYb"



;  $\hat{O}f^*]hn\check{z}^*8Yi hgWk^*UbX^*!^*8]Y^*G]hi Uh]cb^*]a ^BU\Yb^*CghYb^*YffY]Wkh Y]bYb^*_f]h]gWkYb^*Di b_h"^8Yf^*=fUb^*\Uh^*Y]bYb^*; Y[YbUb[f]ZZ^*Ui Z =gfUY^*[YghUfhYhi bX^\infty*S^*8fc\bYb^*]b^*F]Wkhi b[^XYg^*@UbXYg [YgWk]W_h"^8cWk^*=gfUY^*\Uh^*U^*Y^*8fc\bYb^*UV[YZUb[Yb\check{z}^*k Ug^*Y]bY j cfØVYf[Y\YbXY^6Yfi\][i b[^VfUWkhYž^*k Å\fYbX^*X]Y^6Yj <math>\hat{O}^*$ \_Yfi b[Ui Z[YZcfXYfh^\*k i fXYž^\*g]Wk^\*]b^\*GWki hnfÅi a Yb^\*Ui Zhi \U^\*hYb^\*\*GWki Yb i bX^\*?]bXYf[ÅfhYb^\*g]bX^\*[YgWk^\*cggYbž^\*i bX^\*XYf^\*]gfUY^\*]gWkY^@i ZhfUi a k i fXY^\*[YgdYffhz^\*VYf]WkhYh^\*A 8 F "

8]YgYf'?cbZ']\_h'Yg\_U`]Yfh'b]W\h'j cb'i b[YZÀ\f"'=gfUY`'\UhhY'ni j cf Uhca Ub`U[YbgdYn]Z]gW\Y'i bX'a ]`]hÀf]gW\Y'9]bf]W\hi b[Yb']a '=fUb Ub[Y[f]ZZYb"'=b'XYb']gfUY`]gW\Yb'5b[f]ZZYb'ki fXYb'ZØ\fYbXY ]fUb]gW\Y'5hca k]ggYbgW\UZh`Yf'i bX'A]`]hÀfg'[YhÒhYhž'k Ug'j cb'XYb JfUb]gWXYb GhUUhga YX]Yb VYghÀh][ h'k i fXY" =gfUY`fYWXhZYfh][ h gY]bYb J cfghc» a ]h'XYf 5bbU\a Yž'XUgg XYf =fUb \_i fn XUj cf ghY\hž 5hca k UZZYb ni 'dfcXi n]YfYb" 8Yf ]gfUY`]gWXYb JYfhY]X][ i b[ ga ]b]ghYf =gfUY`? Uhn f]YZ'XUfUi Z\]b 'XYb 5i gbU\a Yni ghUbX'Ui g'i bX'cfXbYhY'X]Y 'GWX`]Y» i b[ 'XYg @ ZhfUi a g'ZØf GhUfhg'i bX'@UbXi b[ Yb'Ub"

## =bhYfbUh]cbU`Y`FYU\_h]cbYb`i bX`6Ygcf[b]g

8]Y`]bhYfbUh]cbU`Y`; Ya Y]bgW\UZh`nY][h`g]W\`VYgcf[h`ØVYf`X]Y
9g\_U`Uh]cb`XYf`; Yk U`h"`6i bXYg\_Ubn`Yf`: f]YXf]W\`A Yfnž`gck]Y
J YfhfYhYf`XYf`Vf]h]gW\Yb`i bX`ZfUbnÒg]gW\Yb`FY[]Yfi b[ž`fi ZYb
VY]XY`GY]hYb`ni f`Ni fØW\_\U`hi b[`Ui Z"I B!; YbYfU`gY\_fYhÀf`5bhcb]c
; i hYffYg`Ài » YfhY`YVYbZU``g`gY]bY`6Ygcf[b]g`ØVYf`X]Y
9bhk]W\_`i b[Yb"`K À\fYbXXYggYb`\cZZh`I G!DfÀg]XYbh`8cbU`X
Hfi a d`Ui Z`Y]bY`FØW\_\_Y\f`XYg`\JUbg`Ub`XYb`JYf\UbX`i b[gh]gW\
i bX`VYhcbhž`XUgg`XYf`\JUb`\_Y]bY`5hca Vca VYb`VYg]hnYb`XØfZY"

## A ]`]hÀf]gWXY'CZZYbg]jY'i bX'ghfUhY[]gWXYN]Y`Y

=gfUY``gYhnhY`VY]`gY]bYb`@ ZhUb[f]ZZYb`Ui Z'=fUb`Yhk U`&\$\$
?Ua dZZi[nYi[Y`Y]b`i bX`n]Y`hY`Ui Z'a Y\f`U`g`%\$\$`j YfgW\]YXYbY
a ]`]hÀf]gW\Y`N]Y`Yž`XUfi bhYf`X]Y`I fUb!5bfY]W\Yfi b[gUb`U[Y`]b
BUhUbg"; YbYfU`a U^cf'<i ggY]b`GU`Ua ]`i bX; YbYfU`ghUVgW\YZ
A c\Ua a YX`6U[\Yf]ž`nk Y]`XYf`ZØ\fYbXYb`? ÒdZY`XYg`]fUb]gW\Yb

A ]`]hÀfgž'gc``Yb'XUVY]'[YhÒhYh'k cfXYb'gY]b"'BYhUbmU\i VYnY]W\bYhY'XYb'5b[f]ZZ'U`g'gY\f'YfZc`[fY]W\Yb 9fÒZZbib[ggW\`U[ibX'\_ØbX][hY'Ubž'X]Y'5b[f]ZZY'gc`Ub[Y ZcfhnigYhnYbž'V]g'X]Y'6YXfc\ib['VYgY]h][h'gY]"

8]Y'9g\_U`Uh]cb`Vf]b[h`nU\`fY]WXY'I b[Yk]gg\Y]hYb`a]h`g]WX"'=fU\_i bX'xcfXUb]Yb`\UVYb`Ui Z[fi bX'XYf`fY[]cbU`Yb`GdUbbi b[Yb']\fYb@i ZhfUi a `[YgdYffh"'A]`]hÀfg`k UfbYb'j cf`a Ò[`]WXYb`CdZYfb`Ui ZVY]XYb`GY]hYb"`Ni XYa `g]bX'X]Y'GdUbbi b[Yb`nk]gWXYb'XYbBUh]cbYb'b]WXh'bYi /'VYfY]hg`]a ``YhmhYb`\*J\f`ghUbXYb`=gfUY``i bX=fUb`aY\fZUWX`Ua `FUbX'Y]bYg`?f]Y[Yg"K]Y'g]WX'X]YgY'G]hi Uh]cbkY]hYfYbhk]W\_Y`b'k]fXž'V`Y]Vh'UVni k UfhYbži bX'X]Y'K Y`h`gWXUi h[YVUbbh'Ui Z'X]Y'9bhk]W\_`i b[Yb']a `BU\Yb'CghYb"

8 Y hU]`g	
Cfh	; Òf`]hnž'8 Yi hgW\`Ub X
EiY``Yb	• k k k "a Xf"XY
	• k k k "fh`"XY
	• k k k "gfZ"W

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