

## BUW Zc`[Yfgi W Y']b'GhfUi V]b[.'6]c! GØ» k UfYb!7\YZ'\_Àa dZh'i a 'gY]bY': ]fa U

 $6 \ \ \, \text{UmYf} \ \ \, \text{gW,YZ'fh'} \ \, \text{E'gi W,h'gY]h'} \ \ \, \text{h'Yb'Y]bYb} \\ B \ \ \, \text{UW,Zc`[Yf'ZØf'gY]bY'6]c!GØ** k UfYbZ]fa U']b'GhfUi V]b['' \\ V]g\ \ \, \text{Yf'YfZc`[`cg''}$ 

8]Y'<YfUi gZcfXYfi b[žY]bYb'dUggYbXYb'BUW\Zc`[Yf'ni 'Z]bXYbž VYgW\AZh][h'nU\`fY]W\Y'I bhYfbY\a Yf']b'8Yi hgW\`UbXž ]bgVYgcbXYfY']b'`AbX`]W\Yb'FY[]cbYb"'9]b'Y]bXf]b[`]W\Yg'6Y]gd]Y` ]gh'; Ycf['FÒgbYfž'; YgW\AZhgZØ\fYf'Y]bYf'JYfhf]YVg[YgY``gW\UZh'ZØf 6]c!GØ» k UfYb']b'GhfUi V]b[ž'6UmYfb"'GY]bY''U\fnY\bhY`Ub[Y ?Uff]YfY'ghY\h'Ui Z'XYf'?]ddYž'XU']\a 'Y]b'[YY][bYhYf'BUW\Zc`[Yf ZY\`hž'i bX'XUg'\_ÒbbhY'k Y]hfY]W\YbXY': c`[Yb'ZØf'gY]b I bhYfbY\a Yb'i bX'X]Y'A]hUfVY]hYf'\UVYb"

### 8 Ug 8 ] Ya a U XYf B UW Zc [ Yfgi W Y

; Ycf[ 'F ÒgbYfž'+' '\*J\fY'U`hi bX'gY]h'ØVYf'' \$'\*J\fYb']b'XYf
GØ» k UfYbVfUbW\Y'hÀh][ ž'\_Àa dZh'gY]h'UW\h'\*J\fYb'XUfi a ž'gY]bYb
Fi \YghUbX'Y]bni `Y]hYb"' =\W\'V]b'+' 'i bX'\UVY']a a Yf
k Y]hYf[ Ya UW\h ž'Yf\_`Àfh'Yf']b'Y]bYa '; YgdfÀW\"'8cW\'X]Y'Gi W\Y
bUW\'Ya UbXYa ž'XYf'XUg'I bhYfbY\a Yb'a ]h'%, 'A ]hUfVY]hYfb'i bX
Y]bYf'YhUV`]YfhYb'DfcXi \_h`]b]Y'j cb'6]c!GØ» k UfYb'ØVYfbY\a Yb
\_Ubbž'[ YghU`hYhg]W\'Ài » Yfgh'gW\k ]Yf][ "

# 9fZcfXYf`]W\Y'EiU`]Z]\_Uh]cbYb'ZØf'XYbBUW\Zc`[Yf

 $\label{thm:condition} F\ \grave{O}gbYf'VYgW\&fY]Vh'gY]bYb'5bZcfXYfib[Yb'Ub'Y]bYb'dchYbn]Y``YbBUW\&Zc`[Yf'a]h'BUW\&XfiW_.' 9f'aigg'F]g]_c'ibX'JYfUbhkcfhib[ØVYfbY\&aYb'_<math>\grave{O}bbYb\check{z}$ : UW&k]ggYb'nif'DfcXi\_h]cb'gck]Y'ni'6]c!

Fc\ghcZZYb'bUW\kY]gYb" '8]YgYf'5bgUhn'gd]Y[Y`hY'X]Y
<YfUi gZcfXYfi b[Yb'k]XYfžj cf'XYbYb'j]Y`Y']b'À\b`]W\Yb
Dcg]h]cbYb'ghY\Yb"8Ybb'b]W\h'bi f'i bhYfbY\a Yf]gW\Y': À\][\_Y]hYb
g]bX'[YZfU[hž'gcbXYfb'Ui W\'Y]b'; YgdØf'ZØf'A Uf\_hhfYbXgž'k]Y'XYb
ni bY\a YbXYb'K i bgW\'bUW\'j Y[UbYb'i bX'ni W\_YffYXi n]YfhYb
DfcXi \_hYb"

## 8]Y?cbgYeiYbnYb'XYf'BUWXZc`[YfgiWXY

FÒgbYf']gh'g]W\'U``ni '[i h'VYk i gghž'XUgg'X]Y'Ub\U`hYbXY'Gi W\Y
bUW\'Y]bYa 'BUW\Zc`[Yf'b]W\h'bi f'gY]bY'Y][YbY'Ni \_i bZh'VYhf]ZZhž
gcbXYfb'Ui W\'XUg'K c\`'gY]bYf'A]hUfVY]hYf"' \(\frac{1}{2}\)W\'\UVY'Y]bY

JYfUbhk cfhi b['[Y[YbØVYf'i bgYfYa 'DYfgcbU`'i bX'XYa
?i bXYbghUa a \(\frac{1}{2}\)VYhcbh'Yf"'6Y\_Ubbh`]W\'\_Ubb'XUg': Y\`Yb'Y]bYf
[YY][bYhYb': Ø\fi b[gdYfgcb'ni f'@]ei]XUh]cb'Y]bYg'I bhYfbY\a Ybg
ZØ\fYbž'k Ug'k]YXYfi a '5fVY]hgd`AhnY'[YZÀ\fXYh"

# GhUf\_Yf'K YhhVYk YfV'i a '[YY][bYhY BUWX Zc`[Yf

±b 'Y]b Ya 'I a ZY`Xž']b 'XYa ']a a Yf 'k Yb][ Yf 'B UW Zc`[ Yf 'VYfY]h 'g]b Xž J Yf Ub hk cfhi b [ 'ni 'ØVYfb Y\a Ybž'gh Y``h 'g]W\'X]Y ': f U [ Yž'k ]Y I bh Yfb Y\a Yb 'k ]Y 'X Ug 'j cb 'F Ògb Yf 'V Ygh Y\b' \_Òbb Yb "'9f 'gY`Vgh \Uh 'g]W\'VYfY]hg 'Ub 'X]Y '±b Xi ghf]Y! 'i b X' < Ub XY`g\_Ua a Yf '[ Yk Ub Xhž X]Y ']\a 'j Yfg W\]Y XYb Y '? Ub X]X Uh Yb 'j cf [ Yg W\`U[ Yb '\ Uhž'X c W\ \_Y]b Yf 'Yb hgd f U W\'gY]b Yb 'J cfgh Y``i b [ Yb "' 9]b 'D Ud]Yfh][ Yf ']gh '\]Yf ZY\``Ua 'D`Uhn ž'Z Uggh 'Yf 'gY]b Y 'G] W\ hk Y]g Y'ni g Ua a Yb "

#### < c ZZbi b[ 'Ui Z'bYi Y'6Yk YfVYf</pre>

Hfchn:XYf:GWk ]Yf][ \_Y]hYb:[ ]Vh:F ÒgbYf:X]Y:<c\(ZZ\)bi b[ 'b]Wkh:Ui Z' BUWk:U\_hi Y:`Yb:6Yf]WkhYb:\Uh:Yf:Y]bY:FY]\Y:bYi Yf:6Yk YfVi b[ Yb Yf\U:hYb:i bX:; Ygdf\)AWkY:a ]h:dchYbn]Y:`Yb:BUWk\\Zc:[ Yfb:`Ui \ZYb" GWk\Ui Yb:k ]f:a U:\Z'k\Ug:g]Wk:'Yf[ ]Vh\\Z'gU[ h:Yf:cdh]a ]gh]gWk:" I\\ bhYfghØhni b[ 'VY]:XYf:9]bUfVY]hi\\b[ 'Y]bYg:bYi\Yb:7\Y\Zg:\_\ObbY:Yf\\g]Wk:[ i\\hij\cfghY:`Yb\Z'Yf\_\Ybbh:UVYf:Ui\Wk\Z'XUgg:X]Yg:NY]h:VfUi\Wk\Yb\\k\\ØfXY"

8]Y'<YfUi gZcfXYfi b[žX]Y'FÒgbYf'Yf'YVhž']gh'Y]b'\Ài Z][Yg
D\Àbca Yb']b'8Yi hgW\`UbXž'k c'nU\`fY]W\Y'\_`Y]bY'i bX
a ]hhY`gh\AbX]gW\Y'I bhYfbY\a Yb'a ]h'XYf'[`Y]W\Yb'DfcV`Ya Uh]\_
\_cbZfcbh]Yfh'g]bX"'8Yf'XYa c[fUZ]gW\Y'K UbXY`i bX'X]Y'g]W\
j Yf\AbXYfbXYb'5fVY]hga Uf\_h\_cbX]h]cbYb'ZØ\fYb'XUni ž'XUgg'j ]Y'Y
I bhYfbY\a Yf'bUW\'K Y[Yb'gi W\Yb'a ØggYbž']\fY'@YVYbgk Yf\_Y'ni
ØVYf[YVYb"'9g'V`Y]Vh'UVni k UfhYbž'cV'; Ycf['FÒgbYf'VU`X'Y]bYb
dUggYbXYb'BUW\Zc`[Yf'Z]bXYh'i bX'gY]b'I bhYfbY\a Yb
k Y]hYfZØ\fYb'\_Ubb"

8 UgʻGW\]W\_gU``XYgʻVUmYf]gW\Ybʻ: ]fa YbW\YZgʻ\_ÒbbhYʻY]bYb A ]WfcWcga cgʻk ]XYf\U``YbžʻXYf`X]Yʻ< YfUi gZcfXYfi b[ Ybʻi bX I bg]W\Yf\Y]hYbʻk ]XYfgd]Y[ Y`hž'a ]h`XYbYbʻj ]Y`YʻÀ\b`]W\Y I bhYfbY\a Ybʻ]a `[ UbnYbʻ@UbXʻ\_cbZfcbh]Yfh`g]bX"

B 5;

8 Y hU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z 'b!U[ "XY