

: fU[Yb 'X]Y 'a Ub 'x̄ b [g'ghY``Yb ' _Ub b .
; Ygd fÅW gUb fY [i b [Yb 'ZØf 'h]YZY
; Ygd fÅW Y

9bhXYW_Y'dgmW c`c []gW Y : fU[YghY``i b [Yb 'ZØf
DYfgØb`]W_Y]hi bX'9a ch]cbYbž?ca a i b]_Uh]cbghYW b]_Yb
ZØf'6Yn]Y\i b [Yb 'i bX'9a dUh\]YZFU[Yb 'ni f'GY'VghfYZYI]cb"
; DgmW c`c []Y' . ?ca a i b]_Uh]cb' . 9a ch]cbYb



⊕XYf'dgmW c`c []gW Yb : cfgW i b ['gd]Y'hX]Y'5bU`mgY'j cb
DYfgØb`]W_Y]hi bX'9a ch]cbYb'Y]bY'YbhgW Y]XYbXY'Fc`Y'VY]XYf
I bhYfgi W i b ['XYg'a YbgW`]W_Yb'JYf\U'hYbg'i bX'XYf
nk]gW Yba YbgW`]W_Yb'6Yn]Y\i b [Yb''8i fW'X]Y'5bk YbXi b []
j YfgW]YXYbYf'?ca a i b]_Uh]cbghYW b]_Yb' _ØbbYb'6Yn]Y\i b [Yb
j Yfh]YZhi bX'JYfhfUi Yb'Ui Z[YVUi h'k YfXYb''Ni XYa' _ØbbYb
Ya dUh\]gW Y : fU[Yb 'XUni 'VY]hfU[Ybž'C ZYb\Y]hi bX
GY'VghfYZYI]cb'VY]⊕X]j]Xi Yb'ni 'ZØfXYfb''⊕X]YgYa '5fh]_Y'
k YfXYb'k]f'X]YgY'H\Ya Yb' [YbUi Yf'i bhYfgi W Yb'i bX'X]g_i h]YfYbž
k]Y'g]Y'ni f'9bhk]W_i b ['Y]bYg'VYggYfYb'JYfghÅbXb]ggYg'XYf
a YbgW`]W_Yb'BUhi f'VY]hfU[Yb' _ØbbYb"

DgmW c`c []gW Y : fU[YghY``i b [Yb 'ZØf 'X]Y
5bU`mgY'j cb 'DYfgØb`]W_Y]hi bX'9a ch]cbYb

8]Y'5bU`mgY'j cb'DYfgØb`]W_Y]hi bX'9a ch]cbYb']gh'Y]b'k]W h] [Yf

6YghUbXhY]`XYf`DgmWc`c`[]Y"8i fW`XUg`GhY`Yb`j`cb`[Yn]Y`hYb
dgmWc`c`[]gWYb` : fU[Yb`_ObbYb`DgmWc`c`[Yb`h]YZf`]b`X]Y
DYfgOb`]W`_Y]hY]bYg`bX]j]Xi i a g`Y]bXf]b[Yb`i bX`Ya`ch]cbU`Y
A i ghYf`Yf`_YbbYb"8]YgY` : fU[Yb`X]YbYb`XUni`z`X]Y`<]bhYf[fObXY
j`cb`J`Yf`U`hYbgk`Y]gYb`ni`j`YfghY`Yb`i`bX`]bX]j]Xi Y`Y`Gh`f`_Yb`i`bX
GWk`AWYb`ni`j]XYbh]Z]n]YfYb"

9]b`6Y]gd]Y`ZOf`Y]bY`dgmWc`c`[]gWY` : fU[YghY`i`b`[`ni`f`5bU`mgY
j`cb`DYfgOb`]W`_Y]h`_ObbhY`Ui`hYb.`K]Y`fYU[]YfYb`G]Y`]b
ghfYgg][Yb`G]hi`Uh]cbYb3`8]YgY` : fU[Y`_Ubb`5i`ZgW`i`gg`XUfOVYf
[YVYb`z`k`]Y`Y]bY`DYfgcb`a`]h`<YfUi`gZcfXYfi`b[Yb`i`a`[Y`h`i`bX
k`Y`W`Y`6Yk`A`h][i`b[gghfUhY[]Yb`g]Y`bi`hnh"8i fW`X]Y
6YUbhk`cfhi`b[`X]YgYf` : fU[Y`_ObbYb`DgmWc`c`[Yb`F`OW`gW`OggY
Ui`ZX]Y`DYfgOb`]W`_Y]h`XYg`bX]j]Xi i a g`n]Y`Yb"

K`Y]hYfY` : fU[Yb`z`X]Y`VY]`XYf`5bU`mgY`j`cb`DYfgOb`]W`_Y]h`i`bX
9a`ch]cbYb`]\`ZfY]W`gY]b`_ObbYb`z`g]bX.`K`Ug`g]bX`A`fY`[fO`hYb
Yb[ghY`i`bX`Gcf[Yb3`i`bX`K`Y`W`Y`K`YfhY`g]bX`A`bYb`VYgcbXYfg
k`]W`h][3`8]YgY` : fU[Yb`Yfa`O[`]W`Yb`Yg`z`X]Y`]bbYfYb`A`ch]j`Y`i`bX
?`cbZ]_hY`Y]bYf`DYfgcb`ni`Yf`_YbbYb`i`bX`Y]bYb`9]bV`]W`_]b`]\`fY
Ya`ch]cbU`Y`K`Y`h`ni`Yf`U`hYb"

DgmWc`c`[Yb`j`Yfk`YbXYb`Ui`W`]\`Ai`Z][` : fU[YghY`i`b[Yb`ni`f
GY`VghfYZYI`]cb`z`i`a`]\`fYb`?`]YbhYb`ni`]\`Y`ZYb`z`]\`f`Y][YbYg
J`Yf`U`hYb`ni`]\`bhYfZfU[Yb`i`bX`ni`j`YfghY`Yb"9]b`6Y]gd]Y`ZOf`Y]bY
gc`W`Y`Ya`dUh\]gWY` : fU[Y`_ObbhY`Ui`hYb.`K]Y`Z0`Yb`G]Y`g]W`z
k`Ybb`G]Y`Ub`j`Yf[Ub[YbY`9fZU`fi`b[Yb`ni`fOW`XYb`_Yb3`8i`fW
XUg`F`YZY`_h]YfYb`OVYf`j`Yf[Ub[YbY`9f`YVb]ggY`i`bX`9a`ch]cbYb
_ObbYb`A`YbgW`Yb`]\`fY` ; YZ0`Y`VYggYf`j`YfghY`Yb`i`bX
j`YfUfVY]hYb"

Ni`gUa`a`YbZUggYbX`_ObbYb`dgmWc`c`[]gWY` : fU[YghY`i`b[Yb`Y]bY
k`Yfh`c`Y`A`Yh`cXY`gY]b`z`i`a`X]Y`DYfgOb`]W`_Y]h`i`bX`9a`ch]cbYb
Y]bYg`A`YbgW`Yb`ni`UbU`mg]YfYb"bX`Ya`DgmWc`c`[Yb`[Yn]Y`hY
 : fU[Yb`ghY`Yb`z`_ObbYb`g]Y`9]bV`]W`_Y]b`XUg`Ya`ch]cbU`Y`@YVYb
Y]bYg`A`YbgW`Yb`[Yk`]bbYb`i`bX`]\`a`]\`Y`ZYb`z`g]W`VYggYf`ni
j`YfghY`Yb"

?ca a i b]_Uh]cbghYWX b]_Yb'ni f'J Yfh]YZi b [
j cb'6Yn]Y\i b[Yb'i bX'J YfhfUi Yb

?ca a i b]_Uh]cb]gh'Y]b'Yb'hgWX Y]XYbXYf'5gdY_h]b
nk]gWX Yba YbgWX]WX Yb'6Yn]Y\i b[Yb'"8i fWX 'YZY_h]j Y
?ca a i b]_Uh]cbghYWX b]_Yb'_0bbYb'6Yn]Y\i b[Yb'j Yfh]YZi bX
J YfhfUi Yb'Ui Z[YVUi h'k YfXYb'"9g]gh'k]WX h][ž'gck c\`j YfVU`U`g
Ui WX'bcblj YfVU`ni`_ca a i b]n]YfYbž'i a`A]ggj Yfgh`bXb]ggY`ni
j Yfa Y]XYb'i bX'Y]bY'dcg]h]j Y'6Yn]Y\i b[gYVYbY`ni`gWX UZZYb"

9]bY'k]WX h][Y`HYWX b]_ni f'J Yfh]YZi b[j cb'6Yn]Y\i b[Yb']gh'XUg
U_h]j Y`Ni` \0fYb'"8 UVY][Y`h'Yg'b]WX h'bi f'XUfi a ž'X]Y`K cfhY`XYg
; Ygd f`WX gdUfhbYfg'ni` \0fYbž'gcbXYfb'Ui WX'ni`j YfghY`Ybž'k Ug
Yf#g]Y`k]f_]WX`gU[h'"8i fWX`B UWX ZFU[Yb'i bX`DUfUd`fUg]YfYb`_Ubb
g]WX Yf[YghY`h'k YfXYbž'XUgg'a Ub`XYb`UbXYfYb`hUhg`WX`]WX
j YfghUbXYb`h'Uh'"8]Yg'nY][h'XYa` ; Ygd f`WX gdUfhbYfž'XUgg'a Ub
g]WX`Z0f'gY]bY` ; YXUb`Yb'i bX` ; YZ0`Y`]bhYfYgg]Yfh"

9]b'k Y]hYfYf'k]WX h][Yf'5gdY_h]b'XYf'?ca a i b]_Uh]cb]gh'X]Y
?0fdYfgdfUWX Y'"Bcb!j YfVU`Y`G][bU`Y`k]Y`A]a]_ž; Ygh]_i bX
?0fdYf`U`h' b[]gd]Y`Yb`Y]bY`Yb'hgWX Y]XYbXY`F c`Y`VY]`XYf
, VYfa]h'i b[j cb'9a ch]cbYb'i bX`; YZ0`Yb'"`X`Y`a`a Ub`VYk i ggh
Ui Z'gY]bY`Y][YbY`?0fdYfgdfUWX Y`UWX hYh'i bX`Ui WX`X]Y`XYg
; Y[Yb0VYfg']bhYfdYh]Yfhž`_Ubb'a Ub`X]Y`?ca a i b]_Uh]cbgYVYbY
j Yfh]YZi b'i bX`XUg`J YfhfUi Yb`gh`f`_Yb"

9a`dUh\]Y`]gh'Y]bY'k Y]hYfYf'k]WX h][Y`HYWX b]_]b'XYf
?ca a i b]_Uh]cb'ni f'J Yfh]YZi b[j cb'6Yn]Y\i b[Yb'"`X`Y`a`a Ub
g]WX`]b`X]Y`@U[Y`XYg`UbXYfYb`j YfgYhnh'i bX`gY]bY`DYfgdY_h]j Y
Y]bb]a`a hž'nY][h'a Ub`J Yfgh`bXb]g'i bX`K YfhgWX`hmi b[]Z0f'gY]bY
; YZ0`Y`i bX`6YX0fZb]ggY'"9a`dUh\]Y`_Ubb`XUni`VY]hfU[Ybž'Y]bY
\Ufa cb]gWX Y`6Yn]Y\i b[gYVYbY`Ui Zhi VUi Yb'i bX`XUg`J YfhfUi Yb
nk]gWX Yb`XYb`; Ygd f`WX gdUfhbYfb'ni`gh`f`_Yb"

I a`6Yn]Y\i b[Yb'ni`j Yfh]YZi b'i bX`J YfhfUi Yb'Ui Zhi VUi Ybž']gh'Yg
Ui WX`k]WX h][ž'cZYb'i bX`Y`f`]WX'ni`_ca a i b]n]YfYb'"8i fWX
Ui h`Yb]g]gWX Yg`J Yf`U`hYb'i bX`_UfYž'j Yfgh`bX`]WX Y`5i ggU[Yb`_Ubb
a Ub`Y]bY`5ha`cgd`h`fY`XYg`J YfhfUi Ybg`gWX UZZYb'"9g]gh'k]WX h][ž

Ui Wk ØVYf'gWk]Yf][Y'H\Ya Yb'ni 'gdfYWkYb'i bX'?cbZ]_hY
_cbghfi _hj'ni ''ØgYbž'i a 'Y]bY''Ub[Zf]gh]['ghUV]Y'6Yn]Y\i b[
Ui Zni VUi Yb"

Ni gUa a YbZUggYbX'g]bX'?ca a i b]_Uh]cbghYWk]_Yb'k]Y'U_hj] Yg
Ni \ØfYbž'VYk i gghY'?ØfdYfgdfUWkYž'9a dUh\]Y'i bX'9\]'Wk_Y]h
YbhgWkY]XYbX'ZØf'X]Y'J Yfh]YŽ b['j cb'6Yn]Y\i b[Yb'i bX'XYb
5i ZVUi 'j cb'J YfhfUi Yb"'bXYa 'a Ub'g]Wk'VYk i ggh'a]h'X]YgYb
HYWk]_Yb'Ui gY]bUbXYfgYmhi bX'g]Y'j b'XYb'5'hU['j]bhY[f]Yfhž
_Ubb'a Ub'dcg]hj] Y'i bX'Ub['YV][Y'6Yn]Y\i b[Yb'Ui ZVUi Yb"'9]bY
cZYbY'i bX'fYgdY_hj c''Y'?ca a i b]_Uh]cb'gh'XYf'GWk'ØggY''ni
Y]bYf'YfZc'[fY]WkYb'nk]gWkYba YbgWk'WkYb'6Yn]Y\i b["

9a dUh\]gWk Y': fU[Yb'ni f': ØfXYfi b['j cb
C ZYb\Y]h'i bX'GY'VghfYZ'YI]cb

9a dUh\]gWk Y': fU[Yb'gd]Y'Yb'Y]bY'YbhgWkY]XYbXY'F c''Y'VY]'XYf
: ØfXYfi b['j cb'C ZYb\Y]h'i bX'GY'VghfYZ'YI]cb'j]b
nk]gWkYba YbgWk'WkYb'6Yn]Y\i b[Yb"'8i fWk'Y]bZØ\`gUa Y'i bX
ni ['Y]Wk' [Yn]Y'hY': fU[Yb'_ØbbYb'k]f'XUg'J YfhfUi Yb'i bgYfYg
; Y[YbØVYfg[Yk]bbYb'i bX'g]Y'Yfa i h][Ybž'g]Wk'gY'Vgh'VYggYf'ni
j YfghY\Yb"'8]YgY'5fh]j cb': fU[Yb'\]Zh'b]Wk'h'bi f'XUVY]ž'Y]bY
h]YZfY'J YfV]bXi b['\Yfni ghY''Ybž'gcbXYfb'ZØfXYfh'Ui Wk'XUg
6Yk i gghgY]b'ZØf'X]Y'Y][YbYb'; YXUb_Ybž'9a ch]cbYb'i bX
J Yf\U'hYbgk Y]gYb"

9]b][Y'6Y]gd]Y'Y'ZØf'Ya dUh\]gWk Y': fU[Ybž'X]Y'ni f': ØfXYfi b['j cb
C ZYb\Y]h'i bX'GY'VghfYZ'YI]cb'VY]hfU[Yb'_ØbbYbž'g]bX.

- ? Ubbgh'Xi 'a]f'a Y\ f'XUfØVYf'YfnÅ\`Ybž'k]Y'Xi 'X]Wk
]b'X]YgYf'G]hi Uh]cb'[YZØ\`h'\ Ugh3
- K Ug'XYb_g'h'Xi 'ØVYf'X]Wk'gY'Vgh']b'X]YgYa
A ca Ybh3
- K Y'WkY'6YXØfZb]ggY'\Ugh'Xi ž'X]Y'j]b'X]YgYf
G]hi Uh]cb'b]Wk'h'YfZØ`h'k i fXYb3
- K]Y'k ØfXYgh'Xi '[YfbY'a]h'X]YgYf'<YfUi gZcfXYfi b[
i a [Y\Yb3
- K Ug'_Ubbgh'Xi 'Ui g'X]YgYf'9fZU\fi b[''YfbYb3

8i fW\`X]Y`J Yfk YbXi b[`gc`W\Yf`Ya dUh\]gW\Yf': fU[Yb`_`ObbYb`k]f
i bgYf'; Y[YbØVYf`XUni `Yfa i h][Ybž]b`g]W\`ni` [Y\Yb`i bX`ØVYf
]\fY'; YXUb_Yb`i bX'; YZØ\`Y`bUW\`ni XYb_Yb"8]Yg`ZØfXYfh`b]W\`h
bi f`X]Y`GY`VghfYZYI]cbž`gcbXYfb`Yfa Ò[`]W\`h`Yg`Ui W\`ž`cZZYbYf
a]hY]bUbXYf`ni` _ca a i b]n]YfYb`i bX`?cbZ]_hY`_cbghfi _hj`ni
`ÒgYb"

9]b`k]W\`h][Yf`5gdY`h`VY]a `GhY``Yb`Ya dUh\]gW\Yf': fU[Yb`]gh`Ygž
U_hj]`ni ni \`ÖfYb`i bX`X]Y`5bhk cfhYb`i bgYfYg'; Y[YbØVYfg`Yfbgh`ni
bY\`a Yb" `X`Ya `k]f`]\`bYb`XUg'; YZØ\` [YVYbž] YfghUbXYb`ni
k YfXYbž`gW\`UZZYb`k]f`Y]bY`5ha cgd\`ÅfY`XYg`J YfhfUi Ybg`i bX`XYf
CZZYb\`Y]hž`X]Y`Yg`Yfa Ò[`]W\`hž`h]YZYf[Y\`YbXY'; YgdFÅW\`Y`ni`ZØ\`fYb
i bX`g]W\` [Y[YbgY]h][`VYggYf`_YbbYbni `YfbYb"

9g`]gh`Ui W\`k]W\`h][ž`Ya dUh\]gW\Y': fU[Yb`VY\`i hgUa `i bX
fYgdY`_hj`c``ni`ghY``Ybž`i a `g]W\Yfni ghY``Ybž`XUgg`k]f`i bgYfYa
; Y[YbØVYf`FUi a ` [YVYbž`i a `]\fY'; YXUb_Yb`i bX'; YZØ\`Y
Ui gni XfØW_Yb"8i fW\`X]YgY`5fhj cb`?ca a i b]_Uh]cb`_`ObbYb`k]f
Y]bY`i bhYfghØhnYbXY`i bX`Y]bZØ\`gUa Y`6Yn]Y\`i b[`Ui ZVUi Ybž`X]Y
Ui Z[Y[YbgY]h][Ya `J YfghÅbXb]g`i bX`FYgdY`_h`VUg]Yfh"

`bg[YgUa `hg]bX`Ya dUh\]gW\Y': fU[Yb`Y]b`a ÅW\`h][Yg`K Yf_nYi [ž
i a `CZZYb\`Y]h`i bX`GY`VghfYZYI]cb`]b`nk]gW\Yba YbgW\`]W\Yb
6Yn]Y\`i b[Yb`ni`ZØfXYfb" `X`Ya `k]f`i bgYf'; Y[YbØVYf`Yfa i h][Ybž
ØVYf`]\fY'; YXUb_Yb`i bX'; YZØ\`Y`bUW\`ni XYb_Ybž`_`ObbYb`k]f
b]W\`h`bi f`Y]bY`h]YZYfY`J YfV]bXi b[`YfghY``Ybž`gcbXYfb`Ui W\`XUni
VY]hfU[Ybž`XUgg`g]Y`g]W\`gY`VghVYggYf`j YfghY\`Yb`i bX`dYfgØb`]W\`
k UW\`gYb`_`ObbYb"

GW\`i ggZc` [Yfi b[.

`X]YgYa `5fh]_Y``\UVYb`k]f`Y]b][Y`k]W\`h][Y': fU[Yb`]c f[YghY``hž
X]Y`XUVY]`\Y`ZYb`_`ObbYbž`h]YZ[fY]ZYbXY'; YgdFÅW\`Y`a]h`ž b[g`ni
ZØ\`fYb"J cb`dgmW\`c`c []gW\Yb': fU[YghY``i b[Yb`ni f
DYfgØb`]W\`_Y]hgUbU`mgY`V]g`\]b`ni` _ca a i b]_Uh] Yb`HYW\`b]_Yb`ni f
J Yfh]YZ] b[`j cb`6Yn]Y\`i b[Yb`i bX`J YfhfUi Ybž`V]YhYb`X]YgY
; YgdFÅW\`gUbYfY[i b[Yb`Y]bY`j]Y`gW\]W\`h][Y`A Ò[`]W\`_Y]hž`X]Y
J YfV]bXi b[`ni`UbXYfYb`ni`ghÅf`_Yb"9a dUh\]gW\Y': fU[Yb`_`ObbYb

ni XYa '\Y`ZYbž`C ZZYb\Y]hi bX`GY`VghfYZYI]cb`ni `ZØfXYfb`i bX
gca]h`ini `Y]bYa `h]YZfYb`J Yfgh`AbXb]g`i bX`Y]bYf`VYggYfYb
6Yn]Y\i b[gYVYbY`VY]hfU[Yb" `Bi hnYb`G]Y`X]YgY`i: fU[Yb`U`g
K Yf_nYi [ži a `≠fY`i; Ygdf`ÅWY`a]h`ž b[g`ni `VYfY]WYfb`i bX`bYi Y
9f_Ybbhb]ggY`ØVYf`g]W`gY`Vghi bX`≠fY`i; Ygdf`ÅWgdUfhbYf`ni
[Yk]bbYb"

8YhU]`g

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