

GUW VYgW ÅX][i b['Ub '?]fW Y. NYi [YbUi Zfi Z'bUW : YbghYf!J UbXU`]ga i g]b`F Yb[gXcfZ

ϕ`F Yb[gXcfZk i fXYb`nk]gW Yb`XYa `&' "i bX`&("5i [i gh
&\$&(`a Y\ fYfY `?]fW YbZYbghYf`VYgW ÅX][h`<]bk Y]gY`Ub`X]Y
Dc`nY]`YfVYhYb"

F Yb[gXcfZ`f`hgk

ϕ`Y]bYa `VYgcf[b]gYffY[YbXYb`J cfZU``k i fXYb`nk]gW Yb`XYa `&' "
i bX`&("5i [i gh&\$&(`a Y\ fYfY : YbghYf`Y]bYf`?]fW Y`]b`XYf
: f]YXf]W!9VYfh!GhfU» Y`VYgW ÅX][h`K Å\ fYbX`Y]bYf`NY]hgdUbbY
j cb`%, `I \f`Ua `&' "V]g`%- `I \f`Ua `&("5i [i gh\UVYb`V]g\Yf
i bVY`UbbhY`HÅhYf`cZYbg]W h]W`a`]h`GhY]bYb`X]Y : YbghYfgW Y]VYb
Y]b[Yk cfZYb"8]YgY`5fh]j cb`J UbXU`]ga i gžVY]`XYa `[Yn]Y`hUi ZY]b
_]fW`]W Yg; YVÅi XY`Y]b[Yk]f`h`k i fXYž`a UW h`XYi h]W ž`XUgg`Yg
g]W`b]W h`i a`Y]bYb`ni ZÅ``[Yb`J cfZU``\UbXY`h"

8]Y`9fa`]h`i b[Yb`XYf`Dc`nY]`\UVYb`Yf[YVYbž`XUgg`Ua`Zc`[YbXYb
HU[ž`XYa`&) "5i [i ghž`nk Y]`k Y]hYfY : YbghYf`YbhXYW`h`k i fXYbž`X]Y
]b`XYf`B UW h`ni j cf`VYgW ÅX][h`k cfXYb`g]bX"9g`V`Y]Vhi b`_Ufž`cV
X]YgY`HUhYb]j cb`XYbgY`VYb`HÅhYfb`VY[Ub[Yb`k i fXYb`cXYf`cV`Yg
g]W`i a`gYdUfUHY`J cfZÅ``Y`\UbXY`h"?`UfYg`5i [Yba Yf`_]Y[h`Ui Z
XYf; fU[Yž`k Ufi a`Ui g[YfYW`bYh`X]YgYg; YVÅi XY`]bg`J]g]Yf
[Ybca`a` Yb`k i fXYž`k Ug; fU[Yb`VYnØ[`]W`XYf`G]W Yf\Y]h`i bX`XYg
F YgdY`hg`ZØf`X]Y`Öfh]W Y; Ya Y]bgW UZh`Ui Zk]fž"

8 YhU]`g`XYf`J cfZÅ``Y

8]Y`5b[f]ZY`Ui Z`X]Y`?]fW Y`g]bX`b]W h`bi f`U`g`GUW VYgW ÅX][i b[

ni`k YfhYb/g]Y`VYfØ\fyb`Ui W`X]Y`5VbY][i b[` [Y[Yb`ÖZYbh]WXY
i bX`fY`][]ÖgY`GhÄhhYb" `Gc`WXY`HUhYb`g]bX`ZØf`X]Y`VYhfc ZYbY
; Ya Y]bXY`Äi » Yfgh`gW`a Yfn`UZh`XU`g]Y`b]W`h`bi`f`a`UhYf]Y`Y
GW`ÄXYb`j`Yfi`fgUW`Yb`ž`gcbXYfb`Ui W`Y]bYb`Ya`ch]cbU`Yb`GW`U[
ZØf`X]Y`; `Äi`V][Yb`XUfghY`Yb" `?]fW`Yb`g]bX`c`Zh`NYb`hfYb`XYg
gcn]U`Yb`@YVYbg`i`bX`XYg`; `Ui`VYbg`ž`k`Ug`X]Y`GW`k`YfY`X]YgYf
8Y`_]hY`j`Yfgh`Äf`h"

8]Y`Dc`]nY]]bgdY`_h]cb`GhfU»Yb`Ui`g`U`h`X]Y`9fa`]h`i`b[Yb
Ui`Z[Ybca`a`Yb`i`bX`V]hhYh`X]Y`6Yj`Ö`_Yfi`b[`i`a`A`]h`]ZY" `5`Y`ž`X]Y
Yj`Yb`hi`Y`<]bk`Y]gY`ni`XYb`HÄhYfb`c`XYf`XYa`J`cfZU`UVYb`ž
k`YfXYb`Ui`Z[Yfi`ZYb`ž`g]W`ni`a`Y`XYb" `8]Y`?`cb`hU`_h]b`Zcfa`Uh]cb`]gh
HY" ` \$&*` (#) &\$`c`XYf`d`Yf`9!A`U]`Ub
d]ghfUggYb`Ui`g4`dc`]nY]"`f`d`XY"

9g`ZÄ`h`Ui`Z`XUgg`X]YgYf` : U`b]W`h`]gc`]Yfh`]gh" `a`a`Yf`k`]YXYf
_ca`a`h`Yg`]b`j`YfgW`]YXYbYb`Gh`Ä`hYb`8Yi`hgW`Ub`Xg`ni`Ä`b`]W`Yb
J`Ub`XU`]ga`i`gU`_hYb`ž`X]Y`[YgY`gW`UZh]W`Y`8]g`_i`gg]cbYb`ØVYf
F`YgdY`_hi`bX`Hc`Yf`Ub`n`Ub`g`hc»Yb" `K`Ug`VYk`Y[hi`A`YbgW`Yb`X`Uni`ž
gc`W`XYghfi`_h]j`Yg`J`Yf`U`hYb`Ub`XYb`HU[`ni`Y[Yb`3`C`Zh`ghY`Yb
`]b`hYf`gc`W`Yb`HUhYb`h]Y`ZYfY`gcn]U`Y`H`Y`a`Yb`i`bX`Dfc`V`Ya`Y`ž`X]Y
b]W`h`][bcf]Yfh`k`YfXYb`gc`hYb"

9]b`5i`Zfi`Z`ni`f`Gc`]XUf]hÄh

: Øf`X]Y`VYhfc ZYbYb`A`YbgW`Yb`]b`F`Yb[gXcfZ`ghY`h`g]W`bi`b`Ui`W`X
X]Y` : fU[Yž`k`]Y`]fY` ; Ya Y]bgW`UZh`Ui`ZX]YgYb`J`cfZU`fYU[]Yfh" `9]b
ni`VYgc`f[b]gYffY[YbXYg`H`Y`a`Už`XUg`X]Y`6Øf[Yf
ni`gUa`a`YbVf]b[Yb`_ÖbbhY`8]Y`J`YfhY]X][i b[`j`cb[Ya Y]bgUa`Yb
K`YfhYb`i`bX`XYf`F`YgdY`_hj`cf`_i`hi`fY`Yb`i`bX`fY`][]ÖgYb`GhÄhhYb"
8Yf`J`cfZU`_ÖbbhY`Y]bY` ; Y`Y[Yb`Y]h`gY]b`ž`XYb`8]U`c[`]bbYf`U`V
XYf` ; Ya Y]bXY`ni`ZØfXYfb`i`bX`Y]b`[Ya Y]bgUa`Yg`NY]W`Yb`[Y[Yb
J`Ub`XU`]ga`i`g`i`bX`hc`Yf`Ub`ni`gY`h`Yb"

; Ygd`fÄW`Y`ØVYf`gc`W`Y`J`cfZÄ`Y`gc`hYb`b]W`h`bi`f`]a`F`U`a`Yb`j`cb
Dc`]nY]!DfYgga`]hY]i`b[Yb`ghUhhZ]bXYb`ž`gcbXYfb`Ui`W`]b`XYf
2`ZYbh]W`_Y]h" `9g[]VhY]bY`k`]W`h][Y`B`chk`YbX][_Y]hž]b`XYf
; Ya Y]bgW`UZh`Ni`gUa`a`Yb`U`h`ni`ghÄf`_Yb`i`bX`XUg`6Yk`i`gghY]b

ZØf`XYb`fYgdY_hj c`Yb`l a [Ub[`a]h`XYb`9]bf]W`hi b[Ybž`X]Y`X]Y
; Ya Y]bgW`UZh`fYdf`ÀgYbh]YfYbž`ni `ZØfXYfb"

8]Y`GW`UZZi b[`j cb`⊕]h]Uh]j Yb`cXYf`J YfUbg`hU`hi b[Ybž`X]Y`XUg
J Yfgh`ÀbXb]g`ZØfY]bUbXYf`ZØfXYfbž`_Òbb`hY`b]W`h`bi f`Y`ZYbž`XUg
J YfhfUi Yb`]b`X]Y`B`UW`VUfb`k]YXYf`Yfni ghY`Ybž`gcbXYfb`Ui W`Y]b
_`UfYg`G][bU`gYbXYbž`XUgg; Yk U`h[Y[Yb`9][Ybhi a`b]W`h
[YXi`XYh`k]fX`9g`V`Y]Vh`ni `cZZYbž`XUgg`X]Y`9fa]h`i b[Yb`VU`X`ni
Y]bYf`5i Z`Àfi b[`XYf`HUH`yb`ZØ`fYb`k YfXYb`i bX`XUfØVYf`Y]bUi gž
XUgg`X]Y; Ya Y]bgW`UZh`U`g; Ub`nYg`[Ygh`Àf`h`Ui g`X]YgYf`G]hi Uh]cb
Yfj`cf[Y`h"

5i gk]f`_i b[Yb`j cb`J UbXU`]ga i g`Ui Z`X]Y
; Ya Y]bgW`UZh

J UbXU`]ga i gž`k]Y`XYf`J cfZU`Ub`XYf`?]fW`Y`]b`F`Yb[gXcfZ`U`h
b]W`h`bi f`d`mg]gW`Yž`gcbXYfb`Ui W`d`gmW`c`c[]gW`Y`5i gk]f`_i b[Yb
Ui Z`X]Y`VYhfcZZYbYb; Ya Y]bgW`UZhYb`?]fW`Yb`g]bX`c`Zh`k]W`h][Y
_i`hi fY`Y`i bX`gcn]U`Y`NYbhYbž`i bX`5b[f]ZZY`Ui Z`gc`W`Y
⊕gh]hi h]cbYb`_ÒbbYb`XUg`J YfhfUi Yb`]bbYf`U`V`XYf; Ya Y]bXY
YfgW`Ø`hYfb`C`Zh`ZØ`fh`X]Yg`ni `Y]bYa`Yf`Ø`hYb; YZØ`XYf
l bg]W`Yf`Y]hi bX`5b[ghž`]bgVYgcbXYfY`i bhYf`XYb`A]h[`]YXYfbž`X]Y
g]W`a`]h`XYf`?]fW`Y`]XYbh]Z]n]YfYb"

⊕j]Y`Yb; À`Yb`a`cV`]g]YfYb`gc`W`Y`J cfZ`Y`X]Y; Ya Y]bgW`UZh
ni f`Gc`]XUf]h`À`hi bX`K]YXYf`YfghY`i b[``6Øf[Yf]b]h]Uh]j Yb`i bX
Zi bXfU]g]b[g`k`i`fXYb`VYfY]hg`]b`XYf`J Yf[Ub[Yb`Y]h]bg`@YVYb
[Yfi ZYbž`i a`VYgW`ÀX][hY`9]bf]W`hi b[Yb`ni`fYdUf]YfYb`i bX`XUg
; Ya Y]bgW`UZhg[YZØ`ni`gh`Àf`Yb``8Yf`K]YXYfUi ZVUi`bUW`Y]bYa
gc`W`Yb`J cfZU`V]YhYh`X]Y`A`Ò[`]W`_Y]hž`b]W`h`bi f`a`UhYf]Y`Y
GW`ÀXYb`ni`VY`YVYbž`gcbXYfb`Ui W`XUg`gcn]U`Y`A]hY]bUbXYf`ni
ZØfXYfb"

F YU`_h]cbYb`XYf`6Y`ØfXYb`i bX`XYf

2 ZZYb h`]Wk _Y]h

5i ZJcfZÄ`Y`k]Y`X]YgYb`fYU[]Yfh`X]Y`Dc`nY]`b]Wk h`bi f`a]h
9fa]hni b[Ybž`gcbXYfb`Ui Wk`Xi fWk`5i Z`Äfi b[`i bX
DfÄj Ybh]cbga U» bU`a Yb`"8]Y`GYbg]V]]g]Yfi b[`XYf`2 ZZYb h`]Wk _Y]h
ZÖf`J UbXU`]ga i g`i bX`XYggYb`?cbgYei YbnYb`gd]Y`hY]bY`k]Wk h][Y
Fc`Y`" ð`X]YgYa `gdYn]Y`Yb` : U`"U`h`X]Y`Dc`nY]]bgdY`h]cb
GhfU» Yb`U`i g`VYfY]hg`Ui Z`X]Y`A Ö[`]Wk _Y]h`]b[Yk]YgYbž`<]bk Y]gY
ni `XYb`J cfZÄ`Yb`ni `a Y`XYbž`k Ug`Y]b`gdYn]Z]gWk Yf`GWk f]h`ni f
5i Z`Äfi b[`XYf`GhfUZhUhYb`]gh"

8]Y`FYU`h]cbYb`XYf`2 ZZYb h`]Wk _Y]h`ÖbbYb`j Uf]]YfYb`"9]b][Y
DYfgcbYb`_ÖbbYb`a]h`9a dÖfi b[`cXYf`HfUi Yf`Ui Z`gc`Wk Y`5b[f]ZZY
fYU[]YfYbž`k Ä`fYbX`UbXYfY`a Ö[`]Wk Yfk Y]gY`U`h]j Y`A U» bU`a Yb
]b`9fk Ä[i b[`n]Y`Ybž`i a `XYb`CdZfb`ni `Y`Zb`i bX`XUg
; Ya Y]bgWk UZhg[YZÖ`"ni `ghÄf`Yb`"6Y]gd]Y`gk Y]gY`_ÖbbhYb`"c`U`Y
Cf[Ub]gUh]cbYb`J YfUbghU`hi b[Yb`d`UbYbž`i a `GdYbXYb`ni
gUa a Y`b`cXYf`i a `ØVYf`J UbXU`]ga i g`i bX`gY]bY`5i gk]f`i b[Yb`ni
]bZcfa]YfYb"

GhUh]gh]_Yb`ni a `J UbXU`]ga i g`]b

8 Yi hgWk `UbX

@Ui h`XYa `6i bXYg`_f]a]bU`Ua h`f6?5É`UVYb`X]Y`GhfUZhUhYb`]a
6YfY]Wk`J UbXU`]ga i g`]b`8Yi hgWk `UbX`]b`XYb`"YhnhYb`"Ä`fYb
gWk k Ub`_YbXY`HYbXYbnYb`[YnY][h`"a `Ä`f`&\$&&k i fXYb`fi bX
%\$`\$`\$`\$` : Ä`Y`j cb`GUWk VYgWk ÄX][i b[`fY[]ghf]Yfhž`k Ug`Y]bYb
`Y]Wk hYb`5bgh]Y[` [Y[YbØVYf`XYb`J cf`U`fYb`XUfghY`"h`"9g`]gh
k]Wk h][`ni `VYUWk hYbž`XUgg`?]fWk Yb`i bX`fY`][]ÖgY` ð`gh]hi h]cbYb
`Äi Z][`N]Y`gc`Wk Yf`HUhYb`g]bXž`k Ug`Y]bY`gdYn]Y`Y`6YUWk hi b[
]`fYf`GWk i hna U» bU`a Yb`YfZcfXYf`]Wk `a UWk h"

8]Y`HUhgUWk Yž`XUgg`ØVYf`) \$`i `X]YgYf`HUhYb`j cb`i bVY`_UbbhYb
HÄhYfb`j YfØvh`k YfXYbž`nY][h`X]Y`<YfUi gZcfXYfi b[Ybž`X]Y`VY]`XYf
DfÄj Ybh]cb`i bX`5i Z`Äfi b[`VYghY`Yb`"8]Y`ghUh]gh]gWk Yb`8UhYb
XYi hYb`XUfUi Z`]bž`XUgg`dfcU`h]j Y` ð`hYfj Ybh]cbYbž`k]Y
BUWk VUfgWk UZhgk UWk Yb`cXYf`j YfghÄf`hY`Dc`nY]dfÄgYbn`]b

gYbg]V`Yb ; YV]YhYbž`bchk YbX][`g]bXž`i a `X]Y`G]W\Yf\Y]h]j cb
?]fW\Yb`i bX`À\b`]W\Yb` ðgh]hi h]cbYb`ni `Yf\Ò\Yb"

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z. `X]Y!bUW\ f]W\ hYb"bYh