



7 ci fgY`Cj Yfj]Yk

`GHUZZ`7 cbhUW`i8YHJ`g`

`7 cbj Ybcfg`

B Ua Y	9a Uj`			

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
HYI hUbU`mg]g`YI Ua`	(\$i	: cfa U`YI Ua`dYf]cX	%ž(
HYI hUbU`mg]g`hYghg`	&\$i	&, # \$' #&\$%- '\$- .\$\$'5A	%ž(
F YZYW]j Y`YggUm`	(\$i	\$* # \$) #&\$%- '\$- .\$\$'5A	&ž

5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`HYI hUbU`mg]g`YI Ua`

GhUfhXUH. : cfa U`YI Ua`dYf]cX

@Yb[h. %) ` \ci fg

8YHJ]`g. Gh XYbhg`Wta d`YH`Ub`YI Ua`]bU]cb`hc`XYa`cbghfUH`h`Y]f`UV`]hmc`UbU`mgY`Wta d`YI` [fUa`a`Uh]WU`ZYUhi`fYg`cZ]hI`hg`Gh XYbhg`fYW]j`Y`U`gi`a`a`Uh]j`Y`[fUXY"

Hi fb]h]b`gYH]b[. H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh

5ggYgga Ybh&`HYI hUbU`mg]g`hYghg`

GhUfhXUH. &, # \$' #&\$%- '\$- .\$\$'5A

@Yb[h. ' \$`a`]bi`hYg`dYf`hYgh

8YHJ]`g. Gh XYbhg`Wta d`YH`h`c`hYghg`hc`XYa`cbghfUH`h`Y]f`UV`]hmc`UbU`mgY`VUg]W[fUa`a`Uh]WU`ZYUhi`fYg`cZ]hI`hg`Gh XYbhg`fYW]j`Y`U`gi`a`a`Uh]j`Y`a`Uf`_`k`]h`]bX]j`]Xi`U`ZYXVUW`"

Hi fb]h]b`gYH]b[. H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh

5ggYgga Ybh' . F YZYW]j Y`YggUm`

GhUfhXUH. '\$- # \$) #&\$%- '\$) .\$\$'DA

@Yb[h. ' \$\$\$`k`cfXg

8YHJ]`g. Gh XYbhg`k`f]h`Ub`YggUmifl`ž\$\$\$`k`cfXg`hc`XYa`cbghfUH`h`Y]f`UV`]hmc`Udd`mi]hI`hUbU`mg]g`_bck`YX`[Y`UbX`g_]`g`hc`hUbg`U]cb`Gh XYbhg`fYW]j`Y`]bX]j`]Xi`U`Wta`a`Ybhg`UbX`[fUX]b[`i`g]b[`U`fi`Vf]WH\]g`]g`h`Y`Z]bU`UggYgga`YbhZ`f`UhY`bXUbW`di`fdcgYg`"

Hi fb]h]b`gYH]b[. H\]g`Ugg][ba Ybh]g`gi`Va`]hYX`h`fci`[\`Hi fb]h]b`UbX`ghi`XYbhg`WU`b`g`YY`Hi fb]h]b`g]a`]Uf]hm`fYdcfng`"

5 HbXUbW F Yei]fYa Ybhg

Gh XYbhg UfY gfc b [mYbWci fU[YX hc UHbX U WUggYg UbX fYj]Yk YWfi fY fYWcfX]b [g"

7 ci fgY GWXYXi Y

[J Yk WUgg ha YhUVY](#)

Hja YhUVY

8 UHr	HmdY	7 cbHrYbh
K YY_% % : YVfi Ufm! & (: YVfi Ufm	@YWfi fY Hi hc f]U`	HYI h hmdYg UbX fY []ghYf F Y []ghYf UbU`mg]g
K YY_& . &) : YVfi Ufm! " A UfWx	@YWfi fY Hi hc f]U`	; fUa a Ufz A YUb]b [`UbX 7 cbHrI h A i `h]X]a Ybg]cbU`a YUb]b [`UbU`mg]g
K YY_ " . (` A UfWx ! % \$ A UfWx	@YWfi fY Hi hc f]U`	7 `UggYg UbX Z bW]cbg` 7 cbgh]h YbWniUbU`mg]g
K YY_ (. % % A UfWx ! % + A UfWx	@YWfi fY Hi hc f]U`	9I dYf]Ybh]U`a YUb]b [HF 5 B G # I J # H M UbU`mg]g
K YY_) . % ` A UfWx ! ` & (A UfWx	F YUX]b [
K YY_ * . &) ` A UfWx ! " % A UfWx	@YWfi fY Hi hc f]U`	@c []WU`a YUb]b [`UbX HYI h5bU`mg]g HYgh% 7 `Ui gY!Wca d`YI]b [`UbUmg]g
K YY_ + . % 5df] ` ! + ` 5df]`	@YWfi fY Hi hc f]U`	HYI h U`a YUb]b [H\Ya Y `UbU`mg]g
K YY_ , . ; ` 5df] ` ! % { ` 5df]`	@YWfi fY Hi hc f]U`	hYfdYfgcbU`a YUb]b [`UbX HYI h5bU`mg]g HYgh& A C C 8 `UbU`mg]g
K YY_ - . %) ` 5df] ` ! % & ` 5df]`	@YWfi fY Hi hc f]U`	hYfdYfgcbU`a YUb]b [5ddfU]gU`UbU`mg]g
K YY_ % \$. & & ` 5df] ` ! ` & , ` 5df]`	@YWfi fY Hi hc f]U`	B c ` YWfi fY Xi Y hc ` 5bnUW8 Um B c ` h hc f]U`g Xi Y hc ` 5bnUW8 Um
K YY_ % % ` & - ` 5df] ` ! % A Um	@YWfi fY Hi hc f]U`	5dd]WU]cb hc hfUbg Uh]cbz]bhYfdYf]b [`UbX #c f X]gWci fgY `UbU`mg]g fHi YgXUm' \$ ` 5df] ` - `Ua ` ! % & ` da t E i Ygh]cbg UVci h h Y Z]bU`YI Ua ` fHi YgXUm' \$ ` 5df] ` % & ! % da z ` ! (` da t

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

A Ufhjbž>F žA UH\]YggYbž7 A =/ `DU]bhfž7 "f&\$%\$Ł'6Wb`ak[Y 8g` Uf[a` S^9 dS_ _ Sd

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]hb`Gi Va]gg]cb

≠mci`YbWci`bhYf`U`dfcV`Ya`k`Yb`U`H`Ya`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]hb`z`d`YUgY`
H`Y`d`l`cb`Y`9I`H`f`b`U`Gi`ddcfh`cb`-`,`),`"`,`'`,`%`cf`Ya`U`]`h`Ya`i`cb`YI`H`f`b`U`H`f`gi`ddcfh`4`i`bgk`"YXi`"Ui`"Gi`ddcfh`
`l`ci`fg`UfY`,`.\$`\$Ua`i`-%`\$.`\$\$da`i`cb`k`YY`XUmg`UbX`-`.`.\$`\$Ua`i`-`i`.\$`\$da`i`cb`k`YY`YbXg`f`l`*)`XUmg`U`m`Y`Uf`l`"≠mci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`Xi`Y`hc`U`Z`U`i`h`k`]h`Hi`fb]hb`mci`i`a`Um`Udd`m`Z`f`Ub`YI`H`f`bg]cb`z`Vi`hmc`i`
a`i`gh`f`Y`h]b`mci`f`h]W`Y`h`bi`a`VY`f`Z`ca`i`9I`H`f`b`U`Gi`ddcfh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`j`Ub`h`X`c`W`a`Y`b`h`g`l`hc`
]b`W`i`X`Y`U`g`Y`j`]X`Y`b`W`hc`gi`ddcfh`mci`f`YI`H`f`bg]cb`Udd`]W`h]cb"≠mci`Ya`U`]`9I`H`f`b`U`Gi`ddcfh`mci`k`]`
Ui`h`ca`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`h`bi`a`VY`f`z`Vi`h]Z`mci`H`Y`d`l`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z`W`U`m`Ug`_`Z`f`cb`Y`
Hi`fb]hb`U`gc`d`fc`j`]X`Y`g`i`d`X`U`H`Y`g`i`cb`h`Y`j`f`g`m`g`h`Ya`i`g`h`U`h`g`i`cb`H`k`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Y`bh`h`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]hb`cf`U`A`cc`X`Y`
Ugg][`ba`Y`b`h`i`b`]b`g`h`U`b`W`g`k`Y`f`Y`h`l`g`]g`b`c`h`i`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`H`X`i`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`f`b`U`h]j`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`c`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Y`b`h`g`i`cb`]b`Y`j`]U`A`cc`X`Y`.\`h`td`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`ack`!
gi`Va`]h`Ugg][`ba`Y`b`h`a`cc`X`Y`"

5 WUXYa]W<c bYghmUbX`D`U[]Uf]ga

D`U[]Uf]ga]g`i g]b[`hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[`hYa`Ug`mci`f`ck`b`" #WUbb`hU`Y`a`Ubm`Z`fa`g`z`Z`ca`XY`]VYfUHY`WXYU]b[`h`UW]XYbhU`mW`dm]b[`Z`ca`U`gci`fW`k`]h`ci`hUW`bck`YX[`Ya`Ybh`

I BGK ` [fci dg`d`U[]Uf]ga `]b`h`Y`Z`ck`]b[`WU]Y[`cf]Yg.

7cdm]b[.`i`g]b[`hY`gUa`Y`cf`j`Yfmg]a`]Uf`k`cfXg`h`c`h`Y`cf][]bU`hY`hcf`]XYU`k`]h`ci`hUW`bck`YX[]b[`hY`gci`fW`cf`i`g]b[`ei`chU]cb`a`Uf`g`"H`]g`U`gc`Udd`Yg`h`c`]a`U[`Yg`z`Uf`h`UbX`XYg][`b`dfc`YW]g`z`Ug`k`Y`"Ug`dfYgYbhU]cbg`k`Y`fY`gca`YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k`cfXg`k`]h`ci`hW]YX]h`

#Uddfcdf]UHY`dUfUd`fUg]b[.`7`U`b[]b[`U`Z`k`k`cfXg`UbX`d`fUgYg`k`Y`a`cghmifYU]b]b[`hY`cf][]bU`g]fi`W`fY`UbX`#`f`dfc[`fYgg]cb`cZ]XYUg`cZ`h`Y`cf][]bU`z`UbX`]bZ`fa`U]cb`k`]h`ci`hUW`bck`YX[`Ya`Ybh`"H`]g`U`gc`Udd`Yg`]b`dfYgYbhU]cbg`k`Y`fY`gca`YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k`cfXg`k`]h`ci`hW]YX]h`UbX`h`c`d]YW]b[`h`c[`Y`h`Y`f`ei`chYg`UbX`dUfUd`fUgYg`]b`h`c`U`b`Y`k`k`Y`c`Y`z`k`]h`ci`hUddfcdf]UHY`fY`ZY`fY`bW]b["

7c`i`g]cb.`k`cf_]b[`k`]h`c`h`Y`fg`Vi`hdUgg]b[`cZ`h`Y`k`cf_]Ug`U`d`Y`fgcb`g`]bX]j`]Xi`U`k`cf_"`7c`i`g]cb`U`gc`]bW`i`XYg`dfcj`X]b[`mci`f`k`cf_]h`c`UbchYf`g]h`XYbhVY`Z`fY`h`Y`Xi`Y`XU]h`z`cf`Z`f`h`Y`di`fdcgY`cZ`h`Ya`d`U[]Uf]g]b[`Uh`Ubm]h`a`Y`z`dUm]b[`UbchYf`d`Y`fgcb`h`c`d`Y`Z`fa`Ub`UW]XYa`]W]Ug`z`gh`U`]b[`cf`UW`ei`]f]b[`UbchYf`d`Y`fgcb`g`UW]XYa`]Wk`cf_]UbX`W`dm]b[`]h`c`Z`Y]f]b[`h`c`W`a`d`Y`h`UbchYf`d`Y`fgcb`g`k`cf_]cf`g`YY_]b[`dU`ma`Y`bh`Z`f`W`a`d`Y`h]b[`UW]XYa`]Wk`cf_]`

#Uddfcdf]UHY`W]h]cb.`7`h]b[`gci`fW]g`k`Y`W`U`j`Y`bchVYYb`fYUX`z`k`]h`ci`hUW`bck`YX[]b[`hY`"gY`W`bXUfm`gci`fW`Z`ca`k`Y`W`_`bck`YX[`Y`cZ`h`Ya`U`g`VYYb`cV]h]bYX`

8i`d`]W]h]cb`f`f`gY`Z`d`U[]Uf]ga`"L`gi`Va`]h]b[`mci`f`ck`b`k`cf`z`]b`k`Y`c`f`]b`d`Uf`z`k`Y`fY`]h`Ug`d`fYj`]ci`g`m`VYYb`d`fY`d`UfYX`c`f`gi`Va`]h]X`Z`f`UbchYf`UggY`gga`Y`bhcf`W`i`fgY`U`h`I`BGK`c`f`UbchYf`i`b]j`Y`fg]m`

7c`fY`W`i`fY`ZY`fY`bW]b[`d`fUW]W]g.

- DUfUd`fUg]b[`z`gi`a`a`Uf]g]b[`z`YggUm`k`f]h]b[`UbX`h`a`Y`a`UbU[`Ya`Ybh`
- 5ddfcdf]UHY`i`gY`cZ`UbX`U]h]f]Vi`h]cb`Z`f`U`fU]b[`Y`cZ`a`U]h]f]U`g`]bW`i`X]b[`hY`i`h`z`]a`U[`Yg`z`Z`fa`i`UY`UbX`W`b`W`d]g`"

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wcdmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5Ww'dhUV'Y'I gY'cZ I BGK '⇒H'F Ygci fW'g'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dYW'X'cZYj Yfmcby']b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj]Wg'UbX']bZcfa Uh'cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh'YgY'UfYUg'k]`VY'ZJa]]Uf'hc'mci ž'ch'Yfg'k]`VY'byk " ; U]b]b['U'gc`X'i bXYfghUbx]b['cZU`h'Y fY'UH'X'UgdYW'g'cZ9@G9'k]`Y'd'mci 'a U_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK "

[\hhd.##ji V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #` \]gY#JVci h' \]gY](#)

5 WUXYa]WbZcfa Uhcb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uhcb`fY`Uh]b[`hc.

- fYei Yghg`ZcfYI hYbg]cb/
- `UH`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I B GK `<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua]bUh]cb`dfcVWXi fYg/
- gdYW]U`Vc]bg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
- ghi XYbhYei]m]UbX`X]gUV`]m/
- UbX`chYf`YggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\hdg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbhghi XYbh\]bZcfa Uhcb`dfc\]Vc`g!\[i \]XY`\]bYg#](#)

⇒ U[Y`7 fYX]h

D\chc`VmG\UVi `5bck Yf`cb`I bgd`Ug\

7F ⇒ CG

7F ⇒ CG`Dfcj]XYf`7cXY.`\$\$\$- ;