



7ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWU]hcb	D\cbY
DYHf`G`YnU_	d"g`YnU_4 i bgk "YXi "Ui	6mUddc]bha Ybh	Fcca " % ž A cfj Yb`6fck b	- ' ,) ! & (&&

GW\cc``7cbhUWhi`bZcfa U]hcb

GW\cc``cZ<i a Ub]hYg`UbX`@Jb[i U[Yg

@cWU]hcb. `GW\cc``C Z]W žA cfj Yb`6fck b`6i]X]b[ž`@Yj Y``&ž&),

CdYb]b[`<ci fg.`A cbXUm!`: f]XUmž`- Ua `!`) da

D\cbY. `ž`*%&`- ' ,) `)%*, %

: U! . `ž`*%&`- ' ,) `; , +\$)

9a U]. [\U`4 i bgk "YXi "Ui](#)

7 ci fgY'8YHJ]g

7 fYX]hDc]bmg *`

Gi a a UfmicZhY'7 ci fgY

H\Y'5ftg/`GcWU`GWYbWg'7UdgrcbY]g'U'a i`h!X]gWd]bUfmVei fgY`hUhdrcj]XYg'mei`k]h`Ub`cddcfh b]m
rc`fYZYWhcb'mei`fX]gWd]bUfmgh X]Yg'cj`Yf`hY`dfYj]ci`g`h`fY`Yj`Y`g`cZgh Xn`'d`UffW`Ufz`hY`Vei`fgY`k`j`
Vebg]XYf`WUgg]Vg`]b`hY`]'h`fU`fY`cZ`]VYfU`YXi`W]hcb`rc`Ug`_`rc`k`U`hYI`h`bhmei`f`gh`Xm`Ug`]'j`YX`i`d`rc`hY`
j`Uf]ci`g`VebW`dhcbg`UbX`]XYU`g`cZU`i`b]j`Yfg]mYXi`W]hcb`"Mci`Uj`Y`U`W`UbW`rc`h`]b`UVci`hmei`f`ck`b`
X]gWd]bY`]b`Vebj`YfgU]hcb`k`]h`gh`XYbmg`Zca`c`hYf`X]gWd]bYgzk`\\]Y`XYj`Y`cd]b[`mei`f`ck`b`Uk`UFYbYgg`cZ`
hY`X]gWd]bUfm_bck`YX[`Y`UbX`i`bXYfghUbX]b[`mei`Uj`Y`UVei`]fYX"

H\Y`Vei`fgY`]g`U]a`YX`UhUgg]gh]b[`mei`k`]h`hY`fUbg]hcb`Zca`mei`f`W`ffYbhXY[`fY`rc`mei`f`fc`Y`]b`hY`k`cfX`
Ug`W]h`hYbg]b`Ya`d`cma`Ybhc`f`Z`f`hYf`YXi`W]hcb`"

BchY.`H\Y`Vei`fgY`k`]'VY`a`UXY`Uj`U]UV`Y`Zcf`Gi`a`a`Yf`gYgg]cb`dfcj`]X]b[`a`cfY`ZYI`]V]`]miZcf`gh`XYbmg`
a`YY]b[`h`]g`fYei`]fYa`YbhcZhY]f`dfc[`fUa`#`U`cf`ghfYUa`":`cf`gh`XYbmg`Zcf`k`ca`gi`a`a`Yf`]g`bchmei`f`Ugh`
gYgg]cb`cZYbfc`a`Ybhc`mei`a`i`ghcVhU]b`Uddfcj`U`Zca`mei`f`a`U`cf`Vebj`Ybcf`rc`Ybfc`]'b`hY`W]dgrcbY`
dfcj`]XYX`mei`Uj`Y`Vea`d`YhX`hY`bYW`ggUfmVei`fgYg`]b`mei`f`a`U`cf`ghfYUa`"9bfc`a`Ybh]b`hY`W]dgrcbY`
fYei`]fYg`ZUW`]mUddfcj`U`"D`YUgY`VebhUWh`hY`[:UW`hmGh`XYbh7YbhfY`"](#)

7 ci fgY@YUfb]b[`Ci`hVca`Yg

%`5ftg`U`hY`Ub`i`bXYfghUbX]b[`cZ`hY`h`Yc`fY]W`U`UbX`a`Y`h`c`X`c`c[`]WU`df]bWd`Yg`cZ`hY`f`X]gWd]bY`
&"`8`Ya`cbghfU`h`Vea`dfY`Ybg]cb`cZY`h`]WU`UbX`gcWU`fYgdcbg]V]`]hYg`]b`hY`dfUW]W`cZ`hY`f`X]gWd]bY`
'`"5ftg`U`hY`hY`k`Um]g`]b`k`\\]W`hY`f`X]gWd]bUfm]fU]b]b[`Vei`X`VY`i`gYX`]b`Z`f`hYf`gh`Xmcf`hY`k`cfX`
cZk`cf`
("7ftg]W`mYj`U`i`U`hY`UbX`fYZYWhcb`_YmUf[`i`a`Ybmg`UbX`XYVU`h`g`]b`hY`\\i`a`Ub]hYg`UbX`gcWU`
gWYbWg`"

HYUW]b[`GhfU`h[`]Yg`

H\Y'5ftg/`GcWU`GWYbWg'7UdgrcbY`dfcj`]XYg`gh`XYbmg`k`]h`hY`cddcfh`b]mrc`fYZYWhcb`hY]f`
X]gWd]bUfmgh`X]Yg`cj`Yf`hY`dfYj`]ci`g`h`fY`Yj`Y`g`cZgh`Xm`5g`k`Y`Ug`XYa`cbghfU]b[`hY]f`i`bXYfghUbX]b[`
cZ`hY`a`U`cf`hYc`fY]W`U`UbX`a`Y`h`c`X`c`c[`]WU`df]bWd`Yg`k`]h`]b`hY`f`X]gWd]bY`Z`gh`XYbmg`k`]'Vebg]XYf`hY`
Yh`]WU`UbX`gcWU`fYgdcbg]V]`]hYg`UggcWU`hY`X`k`]h`hY`f`UfYU`cZgh`Xm`UbX`k`]'`cc`_`rc`hY`Z`h`fY`rc`
i`bXYfghUbX`\\ck`hY]f`gh`X]Yg`Uj`Y`dfYdUfYX`hY`a`Zcf`U`WUfYf`cf`Z`f`hYf`gh`Xm`

H\Y`Vei`fgY`k`]'VY`gh`XYbhW`bhfYX`UbX`gYa`]bUf`Xf]j`Yb`"H\Y`a`U`cf`UggYgga`YbhtUg`_k`]'VY`U`fYgYUfW`
YggUm`k`\\]W`k`]'U`ck`'gh`XYbmg`rc`XYa`cbghfU`h`hY]f`UW`]Yj`Ya`YbhcZ`hY`';`fUXi`U`h`5ftf]Vi`h`g`Zcf`hY]f`
UfYU`cZgh`Xm`5`'ei`fbU`dcfZc`]c`k`]'VY`_Ydhi`h`fci`[`\\`hY`Vei`fgY`k`\\]W`k`]'U`ck`'gh`XYbmg`rc`fYZYWhcb`
hY]f`YUfb]b[`cj`Yf`hY`h`fY`Yj`Y`g`cZ`hY`]f`a`U`cf`"

H\Y`Vei`fgY`k`]'`]b`c`j`Y`gYa`]bUf]gmiY`]bh`fUW]j`Y`X]gW`gg]cb`VUgYX`cb`hY`]XYUg`UbX`gh]a`i`i`g`cZk`YY`_m`
fYUX]b[`g`"DUff]W]dUbhg`k`]'VY`fYei`]fYX`rc`a`U`_Y`rk`c`dfYgYbU]hcbgZ`YUX]b[`X]gW`gg]cb`Vm[`]j`]b[`U`W]h]W`
UbU`mg]g`UbX`cj`Yf`]Yk`cZ`_Ym]XYUg`]b`hY`fYUX]b[`g`Ug`h`YgY`VYUf`cb`hY]f`ck`b`X]gWd]bY`UbX`j`]Yk`g`
7ftg]W`z`UbU`m]W`h`]b`_b[`k`]'U`gc`VY`XYj`Y`cdYX`h`fci`[`\\`Ub`YI`h`bXYXz`W]h]WU`UWXYa`]WYggUmcb`U`
rcd]Wrc`VY`W`cgYb`]b`Vebgi`fU]hcb`k`]h`hY`Y`W`i`fYf`"

fYdcfng"

5ggYgga Ybh' . 'A]X!hYfa 'hU_Y!\ca Y'Ugg][ba Ybh

GHUfhXUHY. '

@Yb[h. '%) \$\$'k cfXg

8YHU]`g. %) \$\$'k cfXg" Gh XYbhg'a i ghWfh]WU`mUbU`mgY'Ugg][bYX'Ufh]WYg": YYXVUW_j]U']bX]j]Xi U`
Wca a Ybhg"

5XX]h]cbU`XYHU]`g.

5fh]WYg'Zcf`Wfh]WU`UbU`mg]g'k]`VY'a UXY'Uj U]UV`Y'cb'A ccX`Y"

Hi fb]h]b'gYfh]b[. H\]g'Ugg][ba Ybh]g'gi Va]hYX'hfci [\ 'Hi fb]h]b'UbX'ghi XYbhg'WU'gYY'Hi fb]h]b'g)a]Uf]hm
fYdcfng"

5ggYgga Ybh(. 'FYZYW]j Y'Ugg][ba Ybh

GHUfhXUHY. 'Bch5dd`]WUV`Y

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

8YHU]`g. ; \$\$'k cfXg" Gh XYbhg'a i ghUfh]W`UHY'hY'k Umg']b'k \]Wk'hY]f'X]gW]d']bUfmi]U]b]b['Wci`X'VY'i gYX
]b'Z fhYf'ghi Xmicf'hY'k cfX'cZk cf_"

5XX]h]cbU`XYHU]`g.

Hc`Y`d'a U_Y'hY'Ugg][ba Ybhia cfY'ZcW'ggYXž'gca Y'Ufh]WYg'k]`VY'dfcj]YX'cb'A ccX`Y'k \]W'k'a UmVY
fYZffYX'hc"

Hi fb]h]b'gYfh]b[. H\]g'Ugg][ba Ybh]g'gi Va]hYX'hfci [\ 'Hi fb]h]b'UbX'ghi XYbhg'WU'gYY'Hi fb]h]b'g)a]Uf]hm
fYdcfng"

--	--	--

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

7ci fgY`fYUX]b[g`k]`VY`Uj U]UV`Y`cb`]bY`]b`A ccX`Y"

F YWca a YbXYX`F Ygci fWg

BchiUj U]UV`Y

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

Gh XYbhZYXVUW`k]`VY`h`fci [\`h`Y`Ubcbmā ci g`cb`]bY`A m9I dYf]YbW`gmgf`a "

H\Y`dfYgYbhWci fgY`\Ug`VYYb`a cX]ZYX`hc`fYZYWh`Y`dZ``gh XYbhZYXVUW`fY[UfX]b[`fUb[Y`cZUi h`c`fg`hc]bWl XY`bchicb`mXYUX`k`\]h`a U`Yg`Zca`h`Y`K`Ygh`fb`7`Ubcb`

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]h]b`Gi Va]gg]cb

Ẓmci `YbWci bhYf`U`dfcV`Ya `k \Yb`U`H`Ya dh]b[`hc`gi Va]hmc i f`Ugg][ba YbhHfci [\`Hi fb]h]bžd`YUgY
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` ,) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`hgi ddcfh4 i bgk "YXi "Ui ``Gi ddcfh
\ci fg`UfY` , .\$\$Ua `--`%\$. \$\$da `cb`k YY_XUmg`UbX`- . \$\$Ua `--`) . \$\$da `cb`k YY_YbXg`fI *) `XUmg`U`m`Y`UfL` Ẓmci
UfY`i bUV`Y`hc`gi Va]hmc i f`Ugg][ba YbhXi Y`hc`U`ZU`i`hik]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc i
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[`k]H`Ubmch`Yf`fY`Yj UbhXcW a YbHgk`hc
]bWi XY`Ug`Yj]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k]`

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" `hWUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mW`dm]b[`Zca `U`gci fW`k]h`ci hUW_bck`YX[Ya Ybh`

I BGK `[fci dg`d`U[]Uf]ga `]bhc`hY`Zc`ck]b[`WUHY[cf]Yg.

7cdm]b[.`i g]b[`hY`gUa Y`cf`j Yfmg]a]Uf`k cfXg`hc`hY`cf][]bU`hYI 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`hc`]a U[Ygž`UfhUbX`XYg][b`dfc`YWgž`Ug`k Y`Ug
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`Ub[]b[`U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmifYU]b]b[`hY`cf][]bU`
ghfi W`i fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`UbX`]bZcfa U]cb`k]h`ci hUW_bck`YX[Ya Ybh`H\]g`U`gc
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]hU`bX`hc
d]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk `k \c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7c`i g]cb.`k cf_]b[`k]h`chYfg`Vi hdUgg]b[`cZ`hY`k cf_]Ug`U`dYfgcb`g`]bX]j]Xi U`k cf_]7c`i g]cb`U`gc
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wc'dmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'U'g'U'f'X'g'c'Z'V'Y'\U'j]ci f'Y'I d'Y'W'X'c'Z'Y'j Y'f'm'c'b'Y'']b'U'Y'I BGK 'W'c'a a i b]m
- 'c'W'U'h'g'Y'f'j]W'g'U'bx'j'b'Z'c'f'a U'h'c'b'U'V'c'i h'i BGK 'U'bx'I BGK '@]V'f'U'f'm

Gca Y'cZ'U'g'Y'U'f'Y'U'g'k]''V'Y'Z'J'a]]U'f'U'c'm'c'i ž'c'h'Y'f'g'k]''V'Y'b'Y'k "; U]b]b['U'g'c'X'i bXYfghUbx]b['cZU''U'Y'f'Y'U'h'X'U'gd'Y'W'g'c'Z'9@-G'9'k]''\Y'd'm'c'i 'a U_Y'U'Y'a c'g'h'c'Z'm'c'i f'g'h X]Y'g'U'hl BGK ""

[\h'c'.#\]j V'Y'W'f'i \]X'Y'g''\]V'f'U'f'm'i b'g'k "Y'X'i "U'i #' \]g'Y'#\]V'c'i h' \]g'Y](#)

5 WUXYa]WbZcfa Uh]cb`

: cf`YggYbh]U`gh XYbh]bZcfa Uh]cb`fY`Uh]b[`rc.

- fYei Ygh`Zcf`YI h`bg]cb/
- `Uh`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua]bUh]cb`dfcVWXi fYg/
-