



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]bHg '\*

Gi a a UfmicZhY'7 ci fgY

H\Y'5ftg/ 'GcWU'GWYbWg'7UdghcbY]g'U'a i 'h!X]gWd]bUfmVei fgY'hUhdfcj ]XYg'mei 'k ]h'Ub'cddcfh b]m  
lc'fYZYWhcb'mei f'X]gWd]bUfmigh X]Yg'cj Yf'hY'dfYj ]ci g'hfYY'Yj Y'g'cZgh Xm'f'dUff]W'Ufz'hY'Vei fgY'k ]'  
Vebg]XYf'WUgg]Vg ]b'hY' ]h'fUhi fY'cZ'VYfU'YXi W]h'cb'lc'Ug\_ 'lc'k \UhYi h'bhmei f'gh Xm\Ug' ]j YX'i d'lc'hY  
j Uf]ci g'Ve'bWdh'cbg'UbX' ]XYU'g'cZU'i b]j Yfg]hmYXi W]h'cb" M'ei '\Uj Y'U'W'UbW'lc'h' ]b\_ 'UVci h'mei f'ck b  
X]gWd]bY' ]b'Ve'b] YfgU]h'cb'k ]h' gh' XYbhg'Z'ca 'c'hYf'X]gWd]bYg'zk \ ]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]h'cb'Z'ca 'mei f'W'ffYbhXY[ fY'lc'mei f'fc'Y' ]b'hY'k cfX  
Ug'W]h'Ybg' ]b'Ya d'cma Ybhc'f'Z' f'hYf'YXi W]h'cb"

BchY. 'H\Y'Vei fgY'k ]'VY'a UXY'Uj U]UV'Y'Z'f'Gi a a Yf'gYgg]cb'dfcj ]X]b[ 'a cfY'ZYI ]V']m'Z'f'gh' XYbhg  
a YH]b[ 'h' ]g'fYei ]fYa YbhcZ'hY]f'dfc[ fUa #a U'cf'ghfYUa "' : cf'gh' XYbhg'Z'f'k \ca 'gi a a Yf' ]g'bchmei f'Ugh  
gYgg]cb'cZYbfc'a Yb'h'mei 'a i g'hcVhU]b'Uddfcj U'Z'ca 'mei f'a U'cf'Ve'b] Ybcf'lc'Ybfc' ]b'hY'W]dghcbY  
dfcj ]XYX'mei '\Uj Y'Ve'a d'Yh'X'hY' bYW'ggUfm'Ve'i fgYg' ]b'mei f'a U'cf'ghfYUa "'9bfc'a Ybh]b'hY'W]dghcbY  
fYei ]fYg'Z]W' ]m'Uddfcj U'"D'YUgY'Ve'b]UWh'hY' : [UW'hmGh'XYbh'7YbhY](#)"

## 7 ci fgY'@YUfb]b[ 'Ci hVca Yg

%' 5ft]W'Uh'Ub'i bXYfghUbX]b[ 'cZ'hY'h'YcfYh]W'UbX'a Y'h'cX'c'c[ ]WU'df]bWd'Yg'cZ'hY]f'X]gWd]bY  
&" 8Ya cbghfU'h'Ve'a dfY\Ybg]cb'cZYh' ]WU'UbX'gcWU'fYgdcbg]V']h]Yg' ]b'hY'dfUW]W'cZ'hY]f'X]gWd]bY  
' "' 5ft]W'Uh'hY'k Um]g' ]b'k \]W'hY]f'X]gWd]bUfm]fU]b]b[ 'Ve'i 'X'VY'i gYX' ]b'Z' f'hYf'gh' X'm'cf'hY'k cfX  
cZk cf\_  
( " 7ft]W'm'Yj U'i Uh'UbX'fYZYWhcb'\_YmUf[ i a Ybhg'UbX'XYVUh'g' ]b'hY'\i a Ub]h]Yg'UbX'gcWU'  
gWYbWg"

## HYUW ]b[ 'GhfU'h[ ]Yg'

H\Y'5ftg/ 'GcWU'GWYbWg'7UdghcbY'dfcj ]XYg'gh' XYbhg'k ]h'hY'cddcfh b]m'lc'fYZYWhcb'hY]f  
X]gWd]bUfmigh X]Yg'cj Yf'hY'dfYj ]ci g'hfYY'Yj Y'g'cZgh Xm'f'5g'k Y''Ug'XYa cbghfU]h]b[ 'hY]f'i bXYfghUbX]b[  
cZ'hY'a U'cf'hYcfYh]W'UbX'a Y'h'cX'c'c[ ]WU'df]bWd'Yg'k ]h' ]b'hY]f'X]gWd]bY'Z'gh' XYbhg'k ]'Vebg]XYf'hY  
Yh' ]WU'UbX'gcWU'fYgdcbg]V']h]Yg'UggcWU'h'X'k ]h'hY]f'UfYU'cZgh' Xm'UbX'k ]'cc\_'lc'hY'Z' h' fY'lc'  
i bXYfghUbX'\ck 'hY]f'gh' X]Yg'\Uj Y'dfYdUfYX'hYa 'Z'f'U'WUfYf'cf'Z' f'hYf'gh' Xm'

H\Y'Vei fgY'k ]'VY'gh' XYbh'W'bhfYX'UbX'gYa ]bUf'Xf]j Yb''H\Y'a U'cf'UggYgga Ybh]Ug\_'k ]'VY'U'fYgYUfW  
YggUm'k \]W'k ]'U'ck 'gh' XYbhg'lc'XYa cbghfU'h'hY]f'UW' ]Yj Ya YbhcZ'hY' ; fUXi Uh'5ft]Vi h'g'Z'f'hY]f'  
UfYU'cZgh' Xm'f'5' 'ei fbU'dc'f'Z' ]c'k ]'VY'\_Ydhi'f'ci [ \ 'hY'Ve'i fgY'k \]W'k ]'U'ck 'gh' XYbhg'lc'fYZYWhcb  
hY]f'YUfb]b[ 'cj Yf'hY'h'fYY'Yj Y'g'cZ'hY]f'a U'cf"

H\Y'Vei fgY'k ]' ]b' c]j Y'gYa ]bUf]g'mY' ]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'lc'a U\_Y'lc'c'dfYgYbh'cbg'Z'YUX]b[ 'X]gW'gg]cb'Vm[ ]j ]b[ 'U'W]h]WU'  
UbU'm]g]g'UbX'c]j 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"  
7ft]W'z'UbU'm]h]W' ]h' ]b\_ ]b[ 'k ]'U'gc'VY'XYj Y'cdYX'h'f'ci [ \ 'Ub'Yi h'bhXYX'z'W]h]WU'UWXYa ]WYggUm'cb'U  
lc'd]W'lc'VY'W'cgYb' ]b'Ve'b]g' ]h' ]h'cb'k ]h'hY'Y'W'i fYf"

# 5ggYgga Ybh

Gi [ [ YghYX`YggUmhcd]Mg`k ]`VY`dfcj ]YXX`cb`A ccXY"

5bmWt`bj Ybh]cbU`UWJXYa ]WfYZfYbW]b[ `gmghYa `]g`UWWY`dHUV`Y"

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	8i Y`8UH`	Gh XYbh@YUfb]b[ Ci hWta Yg`5ggYggYX
F YgYUfWX `9ggUm	( \$	%* #\$, #&\$%-`%%\$\$`DA	%z&
GYa ]bUf`dfYgYbhU]cb`k f]hY! i d`	&\$	\$- #\$, #&\$%-`%%\$\$`DA	(
A ]X!hYfa `hU_Y!\ca Y Ugg][ ba Ybh	&\$	%&# \$ + #&\$%-`%%\$\$`DA	(
F YZYW]j Y`Ugg][ ba Ybh			

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 ghW]h]WU`miUbU`mgY`Ugg][ bYX`Ufh]WYg": YYXVUW\_j ]U`]bX]j ]Xi U`  
Wca a Ybhg"

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

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

Hi fb]h]b`gYh]b[ . H\]g`Ugg][ ba Ybh]g'gi Va ]h]X`h'fci [ \ `Hi fb]h]b`UbX`gh XYbhg`WU]b`gYY`Hi fb]h]b`g)a ]Uf]hm  
fYdcfng"

5ggYgga Ybh( . 'F YZYW]j Y`Ugg][ ba Ybh

GHUfhXUHY. 'Bch5dd`]WUV`Y

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

8YHU]`g. ; , \$\$'k cfXg" Gh XYbhg'a i ghUfh]W`UHY`h`Y`k Umg`]b`k \ ]Wk`h`Y]f`X]gW]d`]bUfm]fU]b]b[ `Wci`X`VY`i gYX  
]b`Z`fh]Yf`gh Xmicf`h`Y`k cfX`cZk cf\_"

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

Hc`Y`d`a U\_Y`h`Y`Ugg][ ba Ybhia cfY`Zc`W`ggYXz`gca Y`Ufh]WYg`k ]`VY`dfcj ]XYX`cb`A ccX`Y`k \ ]Wk`a UmVY  
fYZffYX`h"

Hi fb]h]b`gYh]b[ . H\]g`Ugg][ ba Ybh]g'gi Va ]h]X`h'fci [ \ `Hi fb]h]b`UbX`gh XYbhg`WU]b`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`  
]bWi 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 ghfY`H]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`Ubmch`Yf`fY`Yj UbhXcW a Yb`hgL`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.

7 cdm]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`U`b[ ]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[ "

7 c`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\_]7 c`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'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX' ]bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]''VY'ZJa ]]Uf'hc'mci ž'c'h'Y'f'g'k ]''VY'bYk "'; U]b]b[ 'U'gc`]X'i bXYfghUbx]b[ 'cZU''h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k ]''\Y'd'mci 'a U\_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'i \]X'Y'g" \]VfUfm'i bgk "Y'X'i "U'i #' \]gY#\]V'ci h' \]gY](#)

5 WUXYa ]WbZcfa Uh]cb`

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

- 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/
-