



MECH9420

7 ca dcg]hY 'A UhYf]U`g`UbX`A YWU Ub]Wg

HYfa `C.bY`##`&\$&%

GWXcc`cZA YWU Ub]WU`UbX`A Ubi ZUW`f]b[`9b[]bYYf]b[`##`I BGK `9b[]bYYf]b[

7 ci fgY`Cj Yfj]Yk

GhJZ`7 cbhJW`8YhJ]`g

7cbj Ybcfg

9a U]

[9b\[\]bYYf\]b\[\]Gh.XYbhGi ddcfhGYfj.\]Wg](#) - W ffYbhghi XYbhYbei]f]Yg

- Y"["Ybfc`a Ybž`dfc[fYgg]cbžWUg\`fYei YgřžWci fgY`]ggi Yg`cf`dfc[fUa !fY`UhYX`ei Yf]Yg

[9b\[\]bYYf\]b\[\]Xigf\]U`HfU\]b\]b\[\]](#) - Xigf]U`HfU]b]b[]ei Ygh]cbg

[\]BGK`Gh.Xm5VfcUX](#) -`gh XmiUVfcUX`gh XYbhYbei]f]Yg`fZcf`]bVci bX`gh XYbhgŁ

[\]BGK`9\]WU\]b\[\]Y](#) -`gh XYbhYI WU]b[]Y`Ybei]f]Yg`fZcf`]bVci bX`gh XYbhgŁ

[\]BGK`:\]h`fY`Gh.XYbhg](#) -`dchYbh]U`gh XYbhYbei]f]Yg

-

7 ci fgY'8YHJ]`g

7 fYX]h'Dc]bhg '*`

Gi a a UfmcZ\hY'7 ci fgY

% @YVh fYg'hc']bffcXi VW'dfcdYfh}Yg'cZWta dcg]h' a UHf]U'gža]Wc'UbX'a UWc!a YWUub]WU'ghi X]Yg
&" < UbXg!cb`UVcfUhcfmUbX'hYUa !k cf_'hc'Udd'mZ bXUa YbHU'WcbWdthg']b']b' i bXYfghUbX]b['hY
a UHf]U'dfcdYfh}Yg'UbX'hY]f'i gY']b'Yb[]bYYf]b['Udd']WU}cbg"



	WébfUghYX'UbX'WébbYVWYX'hc'YUWX'cH.Yf3
A U]b'HYI h	5 fY'hY'WkcgYb'Ufh]WYg'WcgY'mdYfh]bYbhrc'hY']b]hU']bei]fmei Ygh]cb'XYgWf]VYX]b'hY']b]fcXi W]cb3
	< Ug'hY'Ui h'cf'gi VVWggZ'`ma UbU[YX'hc'XY'j] Yf'hY'a U]b'Uf[i a YbhUbX a YUb]b[Z'`Z]bX]b[g'cZUfh]WYg'fYj]Yk YX3
	5 fY'Uf[i a Ybhg'UbX'UbU'ngYg'Zfca' a i 'h]d'Y'gci fWg']b'hY']]hYfUhi fY'Wé\YfYbhm]b]hY[fUHYX'hc']]b_'Ui h'cf'g'a U]b'hcd]WUbX'Uf[i a Ybhrc[Yh.Yf3
	5 fY'U'`Uf[i a Ybhg'UbX'WébhYbhg'Yj]XYbVWX'i g]b['WéffYWhiFYZYfYbW'g'Zcf'hY UWUXYa]W]b]hY[f]hm3
	5 fY'U'`gja]Uf]hYg'UbX'X]ZYfYbW'g'cZ]XYUg'UbX'fYgYUfW'ci h'Wéa Yg'fY'UHYX'hc'hY hcd]WcZU']]hYfUhi fY'fYj]Yk 'WéffYWhim]XYbh]ZYX'UbX'XYa cbghfUHYX'Zfca' U fYZYfYbW'hc'U'fYZYfYbW'3
	< Ug'hY'Ui h'cf'gi VVWggZ'`mj Yf]ZYX'h'fci [\ Yj]XYbVW'UbX'ZUWg3'Mci' a i gh fYa U]b'cV'YVW]j Y'h'fci [\ 'gWYbh]ZVZUW'g'cf'Yj]XYbVW'UbX'ghUgh]Vg"

Mci f'Ug_k]`VY'[fUXYX'ci hcZ%\$\$'VUgYX'cb'hY'Zc`ck]b['[i]XY`]bY.

%" b'fcXi W]cb. fA Uf_. '%\$Ł

%" 8YgW]dh]cb'cZ'hY'YI dYf]a Ybh fA Uf_. ' \$Ł

!bWi X]b['a Ubi ZUWi f]b['dfcW'gg'cZ'hY'dUbY'ž'hY']bZi YbW'g'cZ'hY'd'mghUW_]b[']b'YUWX'hmdY'cZ
Zc'fW'g'h'Uh'UfY']bj c'j YXž'UbX'h'Y'gYh' d'cZYI dYf]a YbHJ'h'Y'g'g"

%" F Ygi `hUbU'mg]g'UbX'a YWX Ub]W]'WX UfUWYf]gUh]cb'k]h'X]gW'gg]cbg. fA Uf_. (' \$Ł

%" 7 UfVcb#9dcl m

%" FW e[WF'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

&" 5a_ bd'Wee[hW'f'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

' " E Z'Wsd'f'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

&" 9![`Ugg#9dcl m

%" FW e[WF'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

&" 5a_ bd'Wee[hW'f'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

' " E Z'Wsd'f'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

' " ? Yj `Uf#9dcl m

%" FW e[WF'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

&" 5a_ bd'Wee[hW'f'Wef d'Weg'fe, 6 dSi E fd'Wee he E fdS[S` V US'Ug'SfWE fdW YfZ / fiS` V ? aVg'ge /7 fi

7ca dUfY'h'Y'h'Ybg]Yž'Wca dfYgg]cb'UbX'g\YUf'h'Y'gh'fYgi `hg'cZ'7 UfVcb#9dcl mž'9 [`Ugg#9dcl mUbX
? Yj `Uf#9dcl mWca d'cg]hY

%" 7cbWi g]cb'UbX'Wca a Ybh'g'VUgYX'cb'h'Y'fYgi `hg'c'VHU]bYX'fA Uf_. '%) Ł

)"FYZYW]cb. fA Uf_. ') Ł

Gi Va]gg]cb' bchYg. 'Gi Va]gg]cb' A ccX'Y'cb'm

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'Xc' bchgYY'Hi fb]h]b
g]a]'Uf]mifYdcfHj"

5ggYgga Ybh' . '5gg][ba Ybh' 'fk'UbXg'cbŁ

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

@Yb[h. '%&'dU[Yg'Z'5XX]h]cbU') 'dU[Yg'Zcf[fUd\g#d'chg'UbX'X]gW gg]cbg

8YHJ]g.: S' VeZa` _ S' gSufgdWaX'Sdr'WUa_ bae[fWbS` WeI Wj bWd_ W fe a` Uagba` et dWbad' i dff[Y S` V
Ua__g` [USf[a` e] [e

5XX]h]cbU'XYHJ]g.

E i Ygh]cb'%' '&\$'a Uf_g

f%' &'dU[Yg'Ug'U' i]XYŁ

5ggi a Y'h'Y'Z'ck]b['ZVfYz'Ua]bUH' d'mUbX'WcfY'XUH.

[#a &		K Z	: 'f%\$99' _[#a ' Ł
&\$ \$	K cj Yb'WJfVcb	*\$	%, %
*%&	86'9! ['Ugg	*)	&"))

%" 7 U'W'UH' h'Y'UFYU'a Ugg]b' _[#a &'cZ'h'Y'W'fYX'Ua]bUH' Zcf'h'Y'g]b['Y'g_]b'dcfh]cb'cZ'h'Y'dUbY'
cb'dU[Y'%UbX'&"

&" 7 U'W'UH' h'Y'UFYU'a Ugg]b' _[#a &'cZ'h'Y'gUbXk]W' dcfh]cb'cZ'h'Y'dUbY'"

' " G\ck 'Xg' i ad] [Ye XadWSUZ W fck'Z'h'Yb'Wca d'YH' h'Y'Z'ck]b['HUV'Y'Zcf'h'Y'&\$ \$[#a &'k cj Yb
WJfVcb'd'mffYZf'hc'h'Y'? 75: +&\$" O8[TdW8dSuf[a` ;' fWba'Sfad'l' gl' gdfYUXg\YYhcb'h'Y'7 ci fgY
A ccX'YŁ

%" I g]b['h'Y'gdFYUXg\YYh? 75: +&\$" O8[TdW8dSuf[a` ;' fWba'Sfad'l' gl' Z'dYfZ'fa' h'Y'gUa Y
WJ'W'UH]cbg'Ug]b'fW'UVCj Y'Zcf'h'Y' *%&[#a &'86'9! ['Ugg'd'm'8c'' af'g\ck 'Z' 'k cf_]b[g''>i gh
dfcj]XY'U'W'dmcZ'h'Y'Wca d'YH'X'gdFYUXg\YYhZcf'h'Y'gY' h'c' WJgYg"

&" 7 ca d'YH' h'Y' [fYm]g\UXYX'W'g]b' h'Y'Z'ck]b['HUV'Y'hc'&'XYW]a U' d'UWg.

E i Ygh]cb'&' '&\$'a Uf_g

f%' &'dU[Yg'Ug'U' i]XYŁ

;]j Yb'h'Y'Z'ck]b['XUH.

HfUbgZ'fa' h'Y'gYW]cb'UW'cfX]b[.....((*) 1 * "+

7UfVcb'd'mh]W_bYgg'\$"&a a 'UbX'; 'Ugg'd'mh]W_bYgg'\$") %a a

5bX'cVgYfj]b['h'Y'LL'UbX'MM'UI Yg'Wcbj Ybh]cb'g\ck b'cb'h'Y'XfUK]b['cb'dU[Y' %/

%" 7 U'W'UH' h'Y'a ca YbhcZ]bYfh]Uz' + I 'cZ'h'Y'gUbXk]W'Ua]bUH']b'a a (#a a 'k]X'h'Ł

&" 7 U`W`UH`h`Y`gYW]cb`a`cXi`i`gZ`NI`I`cZ`h`Y`gUbXk`jW`Ua`]bUH`]b`a`a`'#a`a`k`]Xh`E`
' " 7 U`W`UH`h`Y`a`ca`YbhcZ]bYfh]Uz`+I`cZ`h`Y`g]b[`Y`g_]b`]b`a`a`(#a`a`k`]Xh`E`
(" 7 U`W`UH`h`Y`gYW]cb`a`cXi`i`gZ`NI`I`cZ`h`Y`g]b[`Y`g_]b`]b`a`a`'#a`a`k`]Xh`E`

< B.H.`Hc`W` Y`fUE`tc`fX`E`gi`Ww`ggZ`mz`mci`a`i`ghZ]fghmi` fU`b]gZ`cfa`YX`Yei`Jj`U`Y`b]h]g`YW]cb`
cZ`h`Y`Ua`]bUH`W`cgg!gYW]cb`Ug`h`Y`%` Yg`cZ`h`Y`Ua`]bUH`Xc`bch`Uj`Y`h`Y`gUa`Y`Mci`b[`'g`Y`Ugh]Wa`cXi`i`g`
]b`h`Y`I`!!`X]fYW]cb`fP`V`I`I`O`DUQ`F`YZ`f`tc`6`W`e[`Y`Q`_`g`f[Sk`d`S`_[`SfW`e`[`XW]gdW`%`Z]b`5gg][`ba`Ybh`
gYW]cb`cZ7`ci`fgY`A`ccX`Y`Z`c`f`Y`%`k`]h`h`Y`a`Y`h`c`X`"

% " 7 U`W`UH`h`Y`VYbX]b[`gh]ZbYgg`fUa`]bUH`ZYI`i`fU`f][`jX]mi`Ua`•+I`E`cZ`h`Y`Ua`]bUH`"K`U`h`W`b`VY`
gU]X`UVci`h`h`Y`VYbX]b[`gh]ZbYgg`cZ`h`Y`g]b[`Y`g_]b`fY[`]cb`W` fYX`tc`h`Y`VYbX]b[`gh]ZbYgg`cZ`h`Y`
gUbXk`jW`Ua`]bUH`fY[`]cb`]b`h`Y`I`!!`X]fYW]cb`3`K`U`h]g`h`Y`a`U]b`fY`Ugcb`Z`c`f`h`Y`X]ZY`fY`b`W`3`

E i Ygh]cb`(` `&\$`a`Uf_g`

f%`&`[`Yg`Ug`U`[`i`]XYE`

J`UW`i`a`fYg]b`]bZ`g]cb`]g`U`k`]XY`m`UXcd`h`Y`X`W` g]h`Y`g`d`f`c`W`gg]b[`a`Y`h`c`X`"

%`@]ghZci`f`UXj`Ubh`[`Yg`UbX`X]gUXj`Ubh`[`YgZ`h`Y`a`Y`h`c`X`"
&"`K`f]h`U`ddfc]`ja`Uh`m`%`\$`k`c`f`X`g`X`Y`g`W`f]V]b[`h`Y`a`Y`h`c`X`Z`Ug`Zci`bX`]b`c`b`Y`YI`]gh]b[`Udd`]W]h]cb`
h`Uh`mci`Uj`Y`fY`g`Y`U`f`W`Y`X`UbX`Zci`bX`]b`h`f`Y`gh]b[`" `W`i`X`Y`U`d`l`c`h`[`f`U`d`U`b`X`#`f`X]U[`f`Ua`]b`W`i`X]b[`
f`Y`Z`f`Y`b`W`]b`5`D`5`g`h`m`Y`"
' "`Gi`[[`Y`gh`U`" `ah`W`U`dd`]W]h]cb`cZ`h`Y`j`UW`i`a`fY`g]b`]bZ`g]cb`d`f`c`W`gg]b[`a`Y`h`c`X`Z`c`f`U`W` g]h`Y`
W` b`Y`b`h`h`Uh`mci`W`U`b`h`]b`_`c`Z`Ug`c`d`d`c`g`Y`X`tc`Ub`Y`g`h`U`V`]g`Y`X`a`Y`h`c`X`" `6`f]Y`Z`m`YI`d`U]b`k`U`h`
U`X`j`U`b`h`[`Y`g`h`Y`i`g`Y`c`Z`h`Y`a`Y`h`c`X`k`ci`X`V`f]b[`tc`h`Y`U`dd`]W]h]cb`]b`U`dd`f`c`l`"%`\$`k`c`f`X`g`"

E i Ygh]cb`(` `&\$`a`Uf_g`

K`f]h`U`f`Y`d`c`f`h`f`l`(` `[`Y`g`U`g`U`[`i`]X`Y`E`c`b`h`Y`a`Y`W`U`b]W]h`Y`g]h]b[`h`Uh`mci`%`f]h]W`%`h`Y`X`k`b`[`f`ci`d`
f`Y`gi`h`g]b`]b`Xi`f]b[`h`Y`%`f]c`X`K`Y`_`(!`%`\$`" `M`ci`f`f`Y`d`c`f`h`g`e`f]b`W`i`X`Y`h`Y`Z`c`ck`]b[`Y`Y`a`Y`b`h`g`]X`Y`b`h]Z`Y`X`]b`
V`c`X`.

%`K`f]h`h`Y`YI`d`Y`f]a`Y`b`h`U`

gcZk UfY'ci hdi hfCk b' [fci d'fYgi 'hgE"

- 7 Ub'mci 'UhtYa dhU'W'W'Uh]cb'cZhY'h'bg]Y'ghfYggž'h'bg]Y'ghfU]b'UbX'h'bg]Y'W'cfX'a cXi' i'g'fgYY 5GHA'8' '\$' - 'Uh% "%ž% "&'UbX'% "' "%#% "' "%%"fYgdYW]j Y'm'cZmci f'ck b' [fci d'fYgi 'hg3'žgcž d'YUgY']bWi XY'mci f'UhtYa dh'
- 7 Ub'mci 'UhtYa dhU'W'W'Uh]cb'cZa cXi' i'g']b'VYbX]b['fgYY'5GHA'8+- '\$'Uh% "%%&'ftUb[Ybh a cXi' i'g'cb'm'UbX'ZYI i fU'ghfYgg'UhVfYU_]b' % "%%) Ł3'žgcž d'YUgY']bWi XY'mci f'UhtYa dh'

%" Gi a a Uf]gY'h'Y' _YmC VgYfj Uh]cbg'mci 'a UXY"

&" K f]h' i' d'U'8]gW'gg]cb'cZF Ygi 'hg"

' " GHU'Y'mci f'7 cbWi g]cbg"

(" K f]h' U'GHU'Ya YbhYI d'U]b]b['k \Uhmci ' \Uj Y'YUfbYX'UVci h'h'Y' bUh' fY'cZhm]W'ZU]i fY'a cXYg']b W'a d'cg]h'g'W'a d'UfYX'k]h'ž'Z'f'YI Ua d'Yž'a YH'g' " Q']bh'7 cbg]XYf'h'Y' i' gY'cZgi W' h'fa g'Ug' Td'f'W' UbX'VgUf'WQ

E i Ygh]cb') ' '&\$'a Uf_g

f%'dU[Y'Ug'U' [i]XYE

K f]h' U'Vf]YZfYZYW]cb'cb'k \Uhmci 'gY'Ug'h'Y'YUfb]b['ci h'W'a Yg'cZh'g'Ugg][ba Ybhf]b'Vi 'YH'dc]bh'Z'fa / a UI ") \$\$'k cfXgE"

Gi Va]gg]cb' bch'g. 'Gi Va]gg]cb'j]U'A ccX'Y'cb'm

Hi fb]h]b'gYh]b[. H\]g'Ugg][ba Ybh]g'gi Va]h'X'h'fci [\ 'Hi fb]h]b'UbX'gh' XYb'g'Xc' bch'gY'Y'Hi fb]h]b' g]a]Uf]m'fYdc'f'g"

5ggYgga Ybh(. 'HYgh%

GHUfhXUH' . '\$, #' #&\$&%'\$* . \$\$'DA

8YH]g.C b]bY'h'ghf'cbY'\ci f'Xi fUh]cb'W'j Yf]b['h'Y'Y'W'h' fY'a U'h'f]U'g'Xi f]b['K _'%'

5XX]h]cbU'XYH]g.

C b]bY'h'ghf'cbY'\ci f'Xi fUh]cb'W'j Yf]b['h'Y'Y'W'h' fY'a U'h'f]U'g'Xi f]b['K _'%' "

: cfa i 'U'g\YYhk]'VY'dfcj]XYX"

Gi Va]gg]cb' bch'g. 'A ccX'Y'cb!]bY'h'gh

Hi fb]h]b'gYh]b[. H\]g'g' bchU'Hi fb]h]b'Ugg][ba Ybh

5ggYgga Ybh) . 'HYgh&

GHUfhXUH' . %- #' (#&\$&%'\$* . \$\$'DA

8YH]g.C b]bY'h'ghf'cbY'\ci f'Xi fUh]cb'W'j Yf]b['h'Y'Y'W'h' fY'a U'h'f]U'g'Xi f]b['K _'(!-

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

C.b`bY`hYghfcbY`\ci f`Xi fU]cbE`Wcj Yf]b[`h.Y`YWhi fY`a UHf]U`g`Xi f]b[`K _`(!-

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

Gi Va]gg]cb'cZ5ggYgga YbhiHUg_g

5ggYgga Ybhigi Va]gg]cb'UbX'a Uf_]b['Wf]hYf]U

G\ci 'X'h\Y'Wci fgY'\Uj Y'Ubmbcb!Y'YVWfcb]WUggYgga Ybhigi Va]gg]cbž'h\YgY'g\ci 'X'\Uj Y'U'ghUbxUfX
GWkcc'Wcj Yf'g\YYH'

5`gi Va]gg]cbg'UfY'YI dYWYX'hc'VY'bYUhiUbX'WYUfmgYhici H'Mci f'fYgi 'hg'UfY'h\Y'd]bbUWY'cZU`mci f'\UfX
k cf_'UbX'g\ci 'X'VY'hYUhiX'k]h'Xi Y'fYgdYWf'DfYgYbh]b['fYgi 'hg'WYUfm[]j Yg'h\Y'a Uf_Yf'h\Y'VYghWUbxWY
cZi bXYfgtUbx]b['mci f'a Yh\cX/Yj Yb']Zh\Y'bi a Yf]WU'fYgi 'hg'UfY']bVc'ffYWf'

A Uf_]b[[i]XY']bYg'Zcf'Ugg][ba Ybhigi Va]gg]cbg'k]`VY'dfcj]XYX'Uhih\Y'gUa Y'h]a Y'Ug'Ugg][ba YbhXYH]g
hc'Ugg]ghk]h'a YH]b['UggYggUV'Y'fYei]fYa Ybhg" Gi Va]gg]cbg'k]`VY'a Uf_YX'UWVc'fX]b['hc'h\Y'a Uf_]b[
[i]XY']bYg'dfcj]XYX"

@UHY'dc`]Wm

K cf_gi Va]hYX'`UHY'k]h\ci hUb'Uddfcj YX'YI hYbg]cb'Vmih\Y'Wci fgY'Wc'fX]bUhc'f'cf'XY'Y[UHYX'Ui h\cf]hm]g
gi VYWihc'U'UHY'dYbU'hmZ&\$'dYfW'bhf&\$i 'cZh\Y'a U]]a i a 'a Uf_'dcgg]V'Y'Zcf'hUhiUggYgga Ybh]hYa ž
dYf'WU'YbXUf'XUm'

H\Y'`UHY'dYbU'hm]g'Udd'YX'dYf'WU'YbXUf'XUm]bWi X]b['k YY_YbXg'UbX'di V]W\c'XUmg'U'Uhih\Y
UggYgga Ybh]g'c] YfXi Y'"H\YfY'g'bc'dfc!fUfU'cZh\Y'`UHY'dYbU'hm]Zcf'gi Va]gg]cbg'a UXY'dUfhk Umih\ci [\ 'U
XUm'

K cf_gi Va]hYX'UZfY'h\Y'XYUX']bY'Zcf'UVgc'i hY'ZU]']g'bcUWVW'dhYX'UbX'U'a Uf_'cZnYfc'k]`VY'Uk UfXYX
Zcf'hUhiUggYgga Ybh]hYa "

: cf'gca Y'UggYgga Ybh]hYa gžU'`UHY'dYbU'hmia UmibchVY'Uddfcdf]UHY'"H\YgY'UfY'WYUfm]bX]WUHYX']b'h\Y
Wci fgY'ci h]bYž'UbX'gi W'UggYgga Ybhg'fYW'j Y'U'a Uf_'cZnYfc']ZbchWca d'YhX'Vmih\Y'gdYW]ZYX'XUHY"
9I Ua d'Yg']bWi XY.

% K YY_'micb']bY'hYgh'cf'UVcfUhc'fmik cf_'k cffh'U'ga U`dfc'dcf]cb'cZh\Y'gi VYWia Uf_ž'cf
&" C b']bY'ei]nnYg'k \YfY'Ubgk Yfg'UfY'fY'UgYX'hc'gfi XYbhg'cb'Wca d'Yh]cbž'cf
' " DfcZYgg]cbU'UggYgga YbhHUg_gžk \YfY'h\Y']bhYbh]cb]g'hc'WYUHY'Ub'Ui h\Ybh]WUggYgga Ybh'hU
\Ug'Ub'UVgc'i hY'gi Va]gg]cb'XUHY'ž'cf
(" DUgg# U]'UggYgga YbhHUg_g"

9I Ua]bUH]cbg

UggYgga YbhdYfZcfa UbWžmci 'UfY'Y'[]V'Y'hc'Udd'mZcf'GdYWU'7 cbg]XYfUhc'b'df]cf'hc'gi Va]h]b['Ub
UggYgga Ybhcf'g]h]b['Ub'YI Ua "

I BGK 'bck '\Ug'U': [\]h\]c'G\]h#Gi Va \]h\]f' Yžk \\]W'a YUbg'hUh\]Zmci 'UthYa dhUb'YI Ua 'cf'gi Va \]hU'd\]YW'cZ](#)
UggYgga Ybhž'mci 'UfY'XYWUf]b['mci fgY'Z]hYbci [\ 'hc'Xc'gc'UbX'W]bbch'Uthf'Udd'mZcf'GdYWU'
7 cbg]XYfUhc'b"

: cf'XYHU]g'cZUdd'm]b['Zcf'GdYWU'7 cbg]XYfUhc'b'UbX'W]bX]h]cbg'Zcf'hY'Uk UfX'cZgi dd'Ya YbhUfm
UggYgga Ybhž'd'YUgY'gYY'hY']bZcfa Uhc'b'cb'I BGK 'g' [GdYWU'7 cbg\]XYfUhc'b'dU\] Y"](#)

bch

D'YUgY'bc'hY'hUhighi XYbh]k]'bchVY'fYei]fYX'hc'dfcj]XY'UbmXcW a YbhUfmYj]XYbW'hc
gi ddcfhUVgYbW'g'Zca 'UbmWUggYg'a]ggYX'VYW]i gY'cZ7CJ -8!%- 'di V']W\YU'h'a YUgi fYg'gi W'Ug

5 WUXYa]W< cbYgmiUbX`D`U[]Uf]ga

I BGK `Ug`Ub`cb[c]b[`Wca a]ha Ybhlc`ZcghYf]b[`U`W`h`fY`cZ`YUfb]b[`]bZcfa YX`VmiUWUXYa]W]bhY[f]m`5`
I BGK `gh`XYbhg`Uj`Y`U`fYgdcbg]V`]hmlc`UX`YfY`hc`h`g`df]bW]d`Y`cZUWUXYa]W]bhY[f]m`D`U[]Uf]ga
i bXYfa]bYg`UWUXYa]W]bhY[f]m]UbX`]g`bchlc`YfUHX`Uhl`BGK`"B`SY[Sde_`SfG@E|`[e VWX` VW`Se ge[`Y`
fZWi`ad/e`ad[VWSe`aXafZW`S`V`bSee[`Y`fZW_`aXSe`kagdai``ž

D`U[]Uf]ga`]g`U`hmdY`cZ]bhY`YW`i`U`h`YZ`h`#`hW]b`hU`_`Y`a`UbmiZcfa`gž`Zca`XY`]VYfUHX`WX`YU]b[`hc`UWUXYbH`U`m`
W`dm]b[`Zca`U`gci`fW`k`]h`ci`hUW`bck`YX[`Ya`Ybh`I`BGK` `Ug`dfcXi`WX`U`k`YVg]h`k`]h`U`k`YU`h`cZ`
fYgci`fW`g`hc`gi`ddcfhgh`XYbhg`hc`i`bXYfgHbX`UbX`Uj`c]X`d`U[]Uf]ga`ž`]g]h`[gh`XYbh`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`"](#)
H`Y`@YUfb]b[`7`YbhY`Ugg]ghg`gh`XYbhg`k`]h`i`bXYfgHbX]b[`UWUXYa]W]bhY[f]m]UbX`ck`bchlc`d`U[]Uf]gY`
H`Y`mi`U`gc`lc`X`k`cf_g`l`cdg`UbX`W]b`Y`d`gh`XYbhg`cbY!`cb!`cbY`"

Mci`U`fY`U`gc`fYa`]bXYX`h`UhWUfYZ`h`a`Y`a`UbU[`Ya`Ybh]g`Ub`]a`dcfHbhdUfHcZgh`XmiUbX`cbY`cZ`h`Y`
]XYbh]Z`YX`W]i`gYg`cZ`d`U[]Uf]ga`]g`d`ccf`h`a`Y`a`UbU[`Ya`Ybh`Gh`XYbhg`g`l`ci`X`U`ck`gi`Z`W]Ybh]h`a`Y`Z`c`f`
fYgYUfW`ž`X`fU]h]b[`UbX`h`Y`dfcdYf`fY`Z`fY`bW]b[`cZ`gci`fW`g`]b`dfY`dUf]b[`U`UggYgga`Ybh]Ug_g`"

ž`d`U[]Uf]ga`]g`Zci`bX`]b`mci`f`k`cf`_`k`Y`b`mci`U`fY`]b`Z`fghmY`Ufž`mci`f`Y`W`h`fY`f`k`]`c`Z`Y`f`mci`Ugg]ghU`bW`hc`
]a`dfcj`Y`mci`f`UWUXYa]Wg_]`g`"H`Y`ma`UmUg_`mci`hc`cc_`Uhgca`Y`cb`]bY`fYgci`fW`gž`U`h`Y`bX`h`Y`@YUfb]b[`
7`YbhY`ž`cf`gca`Y`h`a`Yg`fYgi`Va`]h`mci`f`k`cf`_`k`]h`h`Y`dfcV`Ya`Z]`YX`"<ck`Yj`Yf`a`cfY`gYf]ci`g`]bgHbW`g`]b`Z`fgh`
mY`Ufž`gi`W`Ug`gh`U`]b[`UbchYf`gh`XYbhg`k`cf`_`cf`dU]b[`gca`YcbY`hc`Xc`mci`f`k`cf`_`ž`a`UmVY`]bj`Ygh[`UH`X`
i`bXYf`h`Y`Gh`XYbhA`]gW`bXi`W`h`DfcW`Xi`fYg`"

F`YdYUH`X`d`U[]Uf]ga`fYj`Yb`]b`Z`fghmY`Ufž`d`U[]Uf]ga`U`Z`Y`f`Z`fghmY`Ufž`cf`gYf]ci`g`]bgHbW`gž`a`UmU`gc`VY`
]bj`Ygh[`UH`X`i`bXYf`h`Y`Gh`XYbhA`]gW`bXi`W`h`DfcW`Xi`fYg`"H`Y`d`Yb`U`h`Y`g`i`bXYf`h`Y`dfcW`Xi`fYg`W]b`]bW`i`XY`
U`fY`Xi`W`h`cb`]b`a`Uf_gž`Z]`]b[`U`W`i`fgY`cf`Zc`f`h`Y`a`cghgYf]ci`g`a`UH`Y`fg`f]`_`Y`d`U[]Uf]ga`]b`Ub`l`cbci`fg`
h`Y`g]g`L`Yj`Yb`gi`gdYbg]cb`Zca`h`Y`i`b]`Yfg]m`H`Y`Gh`XYbhA`]gW`bXi`W`h`DfcW`Xi`fYg`UfY`Uj`U]UV`Y`Y`fY`.

[k`k`k`"\[g`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`\]gW`bXi`W`h`DfcW`Xi`fYg`"dXZ`](#)

5 WUXYa]W**z**Zcfa Uh]cb

7 fYX]hdc]bhg

⇒ dcfhUbh@]b_g

