

EDST2002

DfcZYgg]cbU`9b[U[Ya Ybh

GI a a YIZ&\$&&



5W_bck `YX[Ya YbhcZ'7ci blfm

I BGK `5fjz8Yg][b'UbX'5fWk]fYWi fY?Ybg]b[hcb'UbX'DUXX]b[hcb'Wla di gYg'UfY'Vi]hcb'5Vcf][]bU`

7ci fgY'8YHJ`g

I b]hg'cZ7fYX]h*`

K cf_`cUX

% \$` \ci fg]bWl X]b[`WUgg`Wc bHUWl\ci fgžfYUX]b[gžWUgg`dfYdUfU]cbžUggYgga YbžZc`ck`i d`UW]j]hYgž YHw

Gi a a UfmicZ`hY`7ci fgY

Gi VYWh5fYU.`7UfTRē`_

H\]g`Wci fgY`dfcj]XYg`Ub`cddcfh b]mZcf`gh XYbhg`hc`i bXYfgHUbX`hY`gfi Wl fY`UbX`dfUW]W`cZYXi WU]cb`]b BGK`UbX`UddfYW]U]h`hY`Wc`[b]h] Y`UbX`gcW]YU`ZJWc`fg`h Uhg\UdY`gh XYbhgfYI dYf]YbW]g`UbX`YXi WU]cbU`ci hWca Yg`" H\ci [`U`i b]j Yfg]mVUgYX`gYa]bUf`UbX`%`XUmg`cZgW]cc`!VUgYX`Z]Y`Xk cf`ž`hY`Wci fgY YbUV`Yg`gh XYbhg`hc`cVgYfj Y`UbX`]bhYFUW]k]h`U`X]j YfgY`fUb[Y`cZgh XYbhg`UbX`dfcZ]gg]cbU`YXi WU]c`fg UbX`hc`UW]j Y`mfYZYW]cb`hY`hYUW]b[`UbX`YUfb]b[`hUh]g`hU`_b[`d`UW]`]b`Ub`YXi WU]cbU`]bgh]h`hcb`"

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

"` ðXYbh]ZmUbX`XYgW]VY`hY`YUfb]b[`ghfYb[h`g`UbX`bYXXg`cZgh XYbhg`Zca`X]j YfgY`]b[i]gh]Wž W`h`fU`žfY`][`ci`g`UbX`gcW]cYW]bca]WUW]_[`fci`bXg`UbX`hY`ja`d`]WU]cbg`Zcf`hYUW]b[&":`c`ck`hY`_Ym]df]bW]d`Yg`XYgW]VYX`]b`Wc`XYg`cZYh`W]g`UbX`Wc`bXi`W]Zcf`hY`hYUW]b[`dfcZ]gg]cbž UbX`hY`fY`Yj`Ubh`Y`[]g`U]j`Yž`UXa`]b]ghfU]h] Y`UbX`cf[Ub]gU]cbU`dc`]W]Yg`UbX`dfcW]ggYg`fYei]fYX`Zcf`hYUW]Yfg`UW]c`fX]b[`hc`gW]cc`g]hU`[Y`"

5i ghfU`]Ub`DfcZ]gg]cbU`GHUbXUfXg`Zcf`HYUW]Yfg

GHUbXUfX		5ggYgga Ybh#g
%" "%	8Ya cbghfU]h`_bck`YX[Y`cZ]hYUW]b[`ghfU]h[]Yg`hUhUfY`fYgdc]bg] Y`hc`hY`YUfb]b[`ghfYb[h`g`UbX`bYXXg`cZgh XYbhg`Zca`X]j YfgY`]b[i]gh]Wž W`h`fU`žfY`][`ci`gž`UbX`gcW]cYW]bca]WUW]_[`fci`bXg`"	%
&)" "%	? bck`UbX`i`bXYfgHUbX`]hYFUW]mUbX`bi`a`YFUW]hYUW]b[`ghfU]h[]Yg`UbX`hY]f`Udd`]WU]cb`]b`hYUW]b[`UfYUg`"	%
' ") "%	8Ya cbghfU]h`fUb`i`bXYfgHUbX]b[`cZU`fUb[Y`cZ] YfVU`UbX`bcb]j YfVU`Wca`a`i`b]WU]cb`ghfU]h[]Yg`hc`gi`ddcf]gh XYbhYb[U[Ya`Ybh`"	%
("%" %	ðXYbh]Zm]ghfU]h[]Yg`hc`gi`ddcf]bW]`g]j`Y`gh XYbh]dU]h]W]dU]cb`UbX`Yb[U[Ya`Ybh]b`WUgg]cca`UW]j]hYg`"	%
) "&" %	8Ya cbghfU]h`Ub`i`bXYfgHUbX]b[`cZ]hY`di`fdcgY`cZdfc]]X]b[`h]a`Y`mUbX`Uddfcd]f]U]h`Z]YXVUW`_hc`gh XYbhg`UVci`h`hY]f`YUfb]b[`"	%
*"%" %	8Ya cbghfU]h`Ub`i`bXYfgHUbX]b[`cZ]hY`fc`Y`cZ]hY`5DGH`]b`]XYbh]Zm]b[`dfcZ]gg]cbU`YUfb]b[`bYXXg`"	

8	@hYfUWmUbX`Bi a YfUWm	%ž &ž' ž(ž) ž* ž+ž, 'ž- ž%ž%ž%ž%ž%ž % ž%(ž%) ž%* ž%+ž% ž%-	%ž &
9	Gh XYbhg`k]h`GdYWjU` 9Xi WjhcbU`BYYXg	%ž &ž' ž(ž) ž* ž+ž, ž-	%
:	HYUW]b[`Gh XYbhg`Zca `Bcb! 9b[`]g\!GdYU_]b[`6UW_[fci bXg	%ž &ž' ž(ž) ž* ž+ž, 'ž- ž%ž%ž%ž%ž%ž	%

HYUW]b[`GhFUH[]Yg`

DfcZygg]cbU`Yb[U[Ya YbhVcbg]ghg`cZU`%)`XUmid`UW`a Ybh]b`gWkcc`gžk`YhYf`cbY`cf`hk`c`XUmg`U`k`YY`
Xi`f]b[`gYa`Yghf`#Yfa`cf`U`V`cW`cZ`h`fY`k`YY`g`Zi`bXYfU`Yb`Xi`f]b[`h`Y`gi`a`a`Yf`gYa`Yghf`H`fci`[`h`g]
d`UW`a`Ybh`h`UW`Yf`YXi`Wjhcb`gh`XYbhg`UfY`dfcj`]XYX`k`]h`ghf`W`fYX`cddcfh`b]h]Yg`h`VY]b[`h`Yb[U[Y`k`]h`
h`UW`]b[`UbX`YUfb]b[`]b`Ub`YXi`WjhcbU`gYh]b["H`Y`cf]Yb`h]cb`gYgg]cb`UbX`cb`]bY`gi`ddcfh`UfY`XYg][`bYX`
h`gi`ddcfh`h]g`Yb[U[Ya`Ybh`H`YgY`UW]j`]h]Yg`k`]`c`W`f`]b`U`W]a`U`h`h`U]g`gi`ddcfh]`Y`UbX`]bW`g]j`Y`cZU`
`YUfbYfg"

H`g`W`i`fgY`[]j`Yg`@Y`Y`&`gh`XYbhg`h`Y`cddcfh`b]m]h`c`VgYf]`Y`UbX`gi`ddcfh]gh`XYbh`YUfb]b[`]b`B`G`K`
YXi`WjhcbU`]bg]h`h]cbgž`h`Yi`dYf]YbW`h`Y`X]j`YfgY`fUb[Y`cZgh`XYbhg`UbX`\ck`h`Ym`YUfbž`UbX`h`k`cf`
h`Y]f`W`cdYfU]b[`h`UW`Yf`h`XYj`Y`cd`h`Y`Zci`bXU]cb`_bck`YX[Y`UbX`g_]`g`bYW`ggUfm`Zcf`gi`W`ggž`
dfcZygg]cbU`h`UW`]b["

5ggYgga Ybh

Gh XYbfg'UFY'fYei]fYX'hc'Zc`ck'h.Y]f`YWfi fYf'g']bghfi W]cbg'k \Yb'gi Va]h]b['h.Y]f'k cf_'Zcf'UggYgga Ybh'5` UggYgga Ybhk]`VY'gi Va]hYX'cb']bY'j]U'A ccX'Y'Vm) da "'Gh XYbfg'UFY'U'gc'fYei]fYX'hc'_YYd'U`XfUzgz cf][]bU'XUfU'UbX'ch.Yf'Yj]XYbW'cZ'h.Y'Ui h.Ybh]W]micZ'h.Y'k cf_'Zcf'Uh'YUghcbY'mYUf'UZf'YI Ua]bU]cb"'Z Ub'UggYgga Ybh]g'a]g'U]X'h.Y'gh XYbh]g'fYgdcbg]V'Y'Zcf'dfcj]X]b['U'Z fh.Yf'Wcdm'D'YUgY'gYY'h.Y'Gh XYbh Dc']W]Yg'UbX'DfcW'Xi fYg'Zcf']bZcfa Uh]cb'fY[UfX]b['gi Va]gg]cbZ'YI h'bg]cbgz'gdYW]U'W'cbg]XYfU]cbZ'Uh dYbU'h]Yg'UbX'\i fX'Y'fYei]fYa Ybfg'YH] [\hdg.##YXi W\]hcb"Ufng"i bkg "YXi "Ui #gh XYbfg#Wci fgYg#Wci fgY!ci h\]bYg#](#)

5ggYgga YbhUg_	K Y][\h	8i Y'8UHY	7ci fgY'@YUfb]b[Ci hW'a Yg'5ggYggYX
%`HYUW]b['Ugg]ghUbW'UbX Zcfi a 'dcghg) \$i	K]h]b') 'XUmg'cZd'UW'a Ybh W'a d'Y]cb	& &
&"9j]XYbW'cZ			

X]gW ggYX'k]h' h\Y'HYUWX'Yf'9Xi W]h]cb'Gh' XYbhd]cf'hc']hVY]b['g][bYX'"H\Y'fYdcfhg\ci 'X'VY'Wcbg]ghYbh
k]h' ghfYb[h]g#UfYUg'Zc'f'WcbWfb'X]gW ggYX'h'fci [\ci h'hY'DfcZYgg]cbU'9b[U[Ya Ybhd'UW'a Ybh'

H\Y'7ccdYfU]h]b['h'UWX'Yf#g'k]'UggYgg'YUWX'HYUWX'Yf'9Xi W]h]cb'Gh' XYbhU[U]bgh'hY'; fUXi UH'HYUWX'Yf'
GHUbXUfX'XYgW]d]h]cf]g]bW' XYX'\YfY'Ug'k Y''Ug'h'Y'_YmiU]h]f]Vi h'g'"H\Y'HYUWX'Yf'YXi W]h]cb'gh' XYbhk]'Vi]X
h'Y]f'i bXYfghU]bX]b['cZ'h'Y'gY'YW'YX'[fUXi UH'ghUbXUfX'XYgW]d]h]cf]g'h'fci [\dU]h]W]dU]h]cb']b'cb']bY'Zc'fi a g
Ug'k Y''Ug'h'fci [\cVgYf] U]h]cb'cZ'h'UWX]b['k \]ghcb'h'g'YI dYf]YbW'"H\Y'HYUWX'Yf'YXi W]h]cb'gh' XYbh
g\ci 'X'VY'UV'Y'hc'X]gW gg'h'Y]f'i bXYfghU]bX]b['cZ'h'Y'gY'XYgW]d]h]cf]g'k \Yb'mci 'Ug_'h'Ya "'; cf'YUWX
ghUbXUfX'XYgW]d]h]cf]g'U]bX'_YmiU]h]f]Vi h'z'h'Y''Yj Y''cZUWX]Yj Ya Ybh]g'UggYggYX'Ug.

B8.'Bch8Ya cbghfU]h]X

K H.'K cf_]b['Hck UfXg

8.'8Ya cbghfU]h]X

H\Y'7ccdYfU]h]b['h'UWX'Yf#g']g'U'gc'Ug_YX'hc'dfcj]XY'U'ei U']h]h] Y'W'a a Ybhcb'h'Y'XY[fYY'cZdfcZYgg]cbU'
Yb[U[Ya Ybh'h'Y'HYUWX'Yf'9Xi W]h]cb'Gh' XYbhXYa cbghfU]h]X'Xi f]b['h'Y'%) 'XUmg'cZDfcZYgg]cbU'
9b[U[Ya Ybhd'UW'a Ybh'

5XX]h]cbU'XYh]g

5hYbXUbWV`F`YeI`JfYa`Ybhg

GW`cc``cZ9Xi`WU`hcb`5hYbXUbWV`F`YeI`JfYa`Ybh

H\Y`GW`cc``cZ9Xi`WU`hcb`fG98`fYeI`JfYg`gh`XYbhg`a`YYhU`a`Jb`j`a`i`a`U`hYbXUbWV`fYeI`JfYa`Ybh`cZ,`\$i`cZU`gW`YXi`YX`WU`ggYg`f`f`%`Y`W`i`fYg`z`h`h`c`f`J`U`g`z`k`c`f`_`g`c`d`g`z`g`Ya`Jb`U`f`g`z`c`f`U`W`i`f`g`Y`g`5hYbXUbWV`Jb`d`Y`f`g`c`b`J`g`fYeI`JfYX`z`c`f`h`h`c`f`J`U`g`z`g`Ya`Jb`U`f`g`z`U`b`X`k`c`f`_`g`c`d`g`k`Y`b`W`i`f`g`Y`U`f`Y`X`Y`J`Y`f`Y`X`Jb`Z`U`W`!`h`c`!`Z`U`W`a`c`X`Y`"`#`j`g`h`Y`f`Y`g`d`c`b`g`J`V`J`h`m`c`Z`g`h`X`Y`b`h`g`h`c`Y`b`g`Y`9`Y`f`Y`X`Jb`Z`U`W`!`Y`!`%`o`X`i`%`Y`b`

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

GYY`A ccX`Y`zcf`fYUX]b[g"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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

Ʒmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`
HY`Yd`cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`"``'``%cf`Ya`Uj`h`Ya`cb`YI`HYfbU`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`""Gi`ddcfh`
`lci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`f1`*)`XUmg`U`mY`Uf2`Ʒmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`a`UmUdd`m`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`ghf`Yh]b`mci`f`h]W`Yhbi`a`VYf`Z`ca`9I`HYfbU`Gi`ddcfh`f`U`cb[`k`]h`Ubmc`h`Yf`fY`Yj`Ubh`Xc`W`a`Yb`hg`L`hc`
]b`Wi`XY`Ug`Yj`]XYb`V`hc`gi`ddcfh`mci`f`YI`HYbg]cb`Udd`]W]h]cb`"Ʒmci`Ya`Uj`9I`HYfbU`Gi`ddcfh`mci`k`j`
Ui`hc`a`U]W]m`f`Y`W]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Z`mci`HY`Yd`cbY`mci`k`j`b`Y`Y`X`hc`gd`Y`W]Z]W]m`Ug`_`Zc`f`cbY`"
Hi`fb]h]b`U`gc`dfc]`]XYg`i`dXU`HY`g`cb`h`Y]f`gm`gh`Ya`g`h`U`h`g`cb`Hk`]h`Y`f`"

;`YbYfU`m`z`UggYgga`YbhiUg_g`a`i`gh`VY`gi`Va`]h`Y`X`Y`Y`W`f`cb]W]m`j`]U`Y`]h`Y`f`Hi`fb]h]b`cf`U`A`cc`X`Y`
Ugg][`ba`Yb`h`-`b]bg`h`Ub`W`g`k` \Y`fY`h`l`g`]g`b`ch`d`c`gg]V`Y`z`]h`k`]`VY`g`h`U`H`X`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`HY`fb`U`h]`Y`gi`Va`]gg]cb`XY`h]g`"

:`cf`]b`Z`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg]cb`]b`Y`j`]U`A`cc`X`Y`.`h`hdg`#`gh`XYb`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

5WUXYa]W< cbYgmiUbX'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" #WUb'fU_Y'a Ubm
Z'ca gZ'Zca 'XY'jVYfUHY'WXUhf]b['hc'UWw]XYbhU'mWcdm]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[. 'l 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']bW' XYg'Wcdm]b['a UHYf]U'gZ]XYUg'cf'WcbW'dhg'Zca 'U'Vcc_ž'Ufh]WYž
fYdcfhcf'chYf'k f]HYb'XcW'a Ybhž'dfYgYbhU]cbž'Wca d'cg]h]cbž'Ufh'cf_žXYg][bžXfUk]b[ž'WfW]fmx'Wca di h'f
dfc[fUa 'cf'gcZk UfYžk YVg]h'ž]bh'fbYhž'chYf'Y'YVfcb]WfYgci fW'ž'cf'UbchYf'dYfgcb'f]g] Ugg][ba Ybhk]h'ci h
Uddfcdf]UHY'UW_bck`YX[Ya Ybh'

#Uddfcdf]UHY'dUfUd\ fUg]b[. '7 \Ub[]b['U'Zk 'k cfXg'UbX'd\ fUgYg'k \]Y'a cghm'fYU]b]b['hY'cf][]bU'
]bZ'ca U]cbž'gh' W' fY'UbX'cf'dfc[fYgg]cb'cZ]XYUg'cZchY'cf][]bU'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 hWfYX]h'UbX'hc
d]YW]b['hc[YhYf'ei chYg'UbX'dUfUd\ fUgYg']bhc'U'bYk 'k \c'Yžk]h'ci hUddfcdf]UHY'fYZYfYbW]b["

7c`i g]cb. 'K cf_]b['k]h'chYfg'Vi hdUgg]b['cZchY'k cf_'Ug'U'dYfgcb'g']bX]]Xi U'k cf_"7c`i g]cb'U'gc
]bW' XYg'dfcj]X]b['mci f'k cf_'hc'UbchYf'gh' XYbhZ'f'hY'di fdcg'Y'cZhYa 'd`U[]Uf]g]b[ž'dUm]b['UbchYf'
dYfgcb'hc'dYfZ'ca 'Ub'UWUXYa]WfUg_ž'gh'U']b['cf'UW'ei]f]b['UbchYf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[
]h'cZ'Yf]b['hc'Wca d'Yh'UbchYf'dYfgcb'g'k cf_'cf'gYY_]b['dUma YbhZ'f'Wca d'Yh]b['UWUXYa]Wk cf_"

#Uddfcdf]UHY'W]h]cb. '7]b['gci fW'g'k \]W' \Uj Y'bhVYYb'fYUXžk]h'ci hUW_bck`YX[]b['hY
"gYWcbXUfm'gci fW'Zca 'k \]W'_bck`YX[Y'cZhYa '\Ug'VYYb'cVhU]bYX"

8i d`]WU]cb'f'f'gY'Z'd`U[]Uf]ga "E'Gi Va]h]b['mci f'ck b'k cf_ž]b'k \c'Y'cf]'b'dUfhžk \YfY']h'Ug'dfY]]ci g'm
VYYb'dfYdUfYX'cf'gi Va]h'YX'Z'f'UbchYf'UggYgga Ybhcf'W'ei fgY'Uhi BGK 'cf'UbchYf'i b]j Yfg]m'

7c'ffYWh'fYZYfYbW]b['dfUW]W'g'

H\Y'[I BGK '5WUXYa \]WG_ \]'g'gi ddcfh'cZ'Yfg'fYgci fW'g'UbX'\]bX\] \]Xi U'W'bg' \]h\]cbg'"Gh'XYbhg'UfY'U'gc
fYa \]bYX'h'UhWfYZ' \]h'a Y'a UbU\[Ya Ybh\]g'Ub'ja dcfh'UbhdUfh'cZ'gh'Xm' 'C bY'cZhY' \]XYbh\]ZYX'Wli gYg'cZ
d`U\[\]Uf\]ga \]g'dccf'h'a Y'a UbU\[Ya Ybh'Gh'XYbhg'g'ci 'X'U'ck'gi Z\]W\]Ybh\]h'a Y'Z'f'fYgYUfW'ž'XfUZ\]b\['UbX
dfcdYf'fYZYfYbW\]b\['cZ'gci fW'g' \]b'dfYdUf\]b\['U'U'ggYgga Ybh\]h'a g"](#)

I BGK '@]VfUfm\Ug'[hY'9@G9'hc'`Uj U'\]UV'Y'hc'Ugg\]gh'mci 'k \]h'mci f'gh'XmiUhi BGK "'9@G9' \]g'XYg\]\[bYX'hc
\]bh'cXi W'bYk'gh'XYbhg'hc'gh'Xm\]b\['Uhi BGK 'Vi h\]h'Wb'U'gc'VY'U' \[fYUhfY'ZYg\Yf'Xi \]b\['mci f'gh'Xm'
7ca d'Yh\]b\['hY'9@G9'h'hc'f\]U'UbX'ei \]n'k \]'YbUV'Y'mci 'hc.](#)

