



# UEST6001

F YghcfUhj Y '9Wc`c [ ]Yg. 'DYfa UW `hi fy 'Df]bW]d`Yg/  
DfUW]W

HYfa `Hk c `##`&\$&%

7 ci fgY`Cj Yfj ]Yk

GhJZZ'7 cbhJWw'8YhU]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
>UW`i ]'6Yg[ fcj Y	^vYg[ fcj Y4 i bgk "YXi "Ui	6mUddc]bħa Ybh Xi f]b[ `W`bgi `h]h]cb `ci fg`fK`YXbYgXUmġ (.' \$`da `-' ).' \$`da Ĺ" -b`dYfgcb`cf`cb`]bY"	H67	B5

GW`cc``7cbhJWw`bZcfa U]h]cb

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

@cW]h]cb.`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`\*%&`-' , ) `\* , %

: Ul.`ž`\*%&`-' , ) ` , +\$)

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

## 7 ci fgY'8YHJ)`g

7 fYX]hDc]bHg`\*`

Gi a a UfmicZ\Y'7 ci fgY

H\]g`Wci fgY`k ]`b]fcXi W`Zci bXU]cbU`WcbW`dHg`cZ\Y`Yh]Mg`UbX`df]bW]d`Yg`cZdYfa UW`hi fY`ZU  
fY[ YbYfU]j`Y`gmghYa`g`UddfcUW`Zci bXYX`]b`5i`gfU`]U`UbX`[ `cVU`]b`]a`dUW`W`b`h]g`Wci fgY`Zmci`k`]`[ U]b  
WcbZXYbW`]b`dYfa UW`hi fY`fYg]c]fU]j`Y`ZUa`Yk`cf`\_g`UbX`a`Yh]cXc`c`[ ]Yg`]b`hY`Wcb]h]I`hg`cZYbj`]fcb`a`Yb]U`  
a`UbU[ Ya`Yb]Z`YUXYfg\`]dZ`UbX`gi`g]U]b]UV`]]m`DYfa UW`hi fY`XYg][ b`gYY`\_g`hc`fYWcb]bYW]dYcd`Y`k`]h  
YWc`c`[ ]W`d`fcW`ggYgZ`]b]h]f]fY`U]h]cbg\`]dgZ`UbX`]b]h]fYdYbXYbW`cZ`]] b[ `h]b[ g`UbX`hc`]b]h]f`fU]h`h]YgY  
\_bck`YX[ Yg`hc`h]bX`hc`YWc`gmghYa`g`]b`k`Um]g`h]U]h]W]fY`Zc`f`h]Y`9`U]f]h]Z`W]fY`Zc`f`dYcd`Y`Z`UbX`i`gY`U`Z]f`g`U]fY  
cZfYgci`fW`g`DYfa UW`hi fY`U]g`Ub`]a`dc]f]U]b]h]f`Y`hc`d`Um]b`h]Y`fUd]X`h]fU]bg]h]cb`hc`nYfc`W]fVcb`cf`bYh  
bY[ U]h]j`Y`W]fVcb`h]fci`[ \`fYg]c]fU]j`Y`UbX`fY[ YbYfU]j`Y`YWc`c`[ ]W`Z`gcW]U`Z`UbX`W`hi fU`d`fUW]h]W`g`H\Y  
Wci fgY`k ]`U]Y`U`Z`W`g`cb`]a`d`Ya`Yb]b[ `dYfa UW`hi fY`gc`i`h]cbgZ`XYa`cbg]fU]h]b[ `lck`h]Ycfm`YUfbYX  
Xi`f]b[ `gYa`]b]U]f]g`Udd`]Yg`hc`fYU`k`cfX`gmghYa`g`]`b`gi`W]W`ggZ`m`Wc`a`d`Y`h]b[ `h]g`Wci fgY`Zmci`k`]`XYj`Y`cd  
Udd`]YX`g`\_g`hc`XYg][ b`UbX`]a`d`Ya`Yb]i`fVUb`#gi`Vi`fVUb`dYfa UW`hi fY`gc`i`h]cbg`UbX`mci`k`]`YUfb`U  
dYfa UW`hi fY`XYg][ b`W`f]h]Z`W]h]h`"

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

%`9i`d`U]b`YWc`c`[ ]W`U`bX`gcW]U`Wc`a`dcbYb]hg`cZdYfa UW`hi fY  
&`XYb]h]Zm`lck`dYfa UW`hi fY`Yh]Mg`UbX`df]bW]d`Yg`]bZcfa`XYg][ b`Zc`f`fYWcb]bYW]b[ `i`a`Ubg`k`]h]#Ug  
"bU]h`fY`k` \]Y`d]fc]j]X]b[ `UVi`bXUbW`  
" `8Ya`cbg]fU]h`h]Y`Z`bXUa`Yb]U]g`cZ`Y`Wc`gmghYa`g]f]i`W]i`fY`UbX`Z`bW]h]cb  
(`h]h]f`fU]h`h]Y`\_Ymid]f]bW]d`Yg`cZk`U]h]fZ`gc]Z`W]a`U]h]Z`h]fY`gZ`d`Ub]hg`UbX`gcW]U`dYfa UW`hi fY  
)`5dd`midYfa UW`hi fY`XYg][ b`a`Yh]cXc`c`[ m]h`Ybj`]fcb`a`Yb]U]bX`gcW]Y]h]m]g]h]U]h]cbg`UbX`gY]h]b[ g

## HYUW]b[ `G]fU]h] [ ]Yg`

HYUW]b[ `G]fU]h] [ ]Yg`Zc`f`=>GH\*\$\$%Yb[ U[ Y`h]k`c`Zc`fa`U]hg.

%`b]W]U]gg`gYa`]b]U]f]g`]b`dYfa UW`hi fY`XYg][ b`Y`d`mci`XYj`Y`cd`Ub`i`bXYf]g]h]U]b]b[ `cZdYfa UW`hi fY`Yh]Mg  
UbX`df]bW]d`Yg`?`Ym]h]YcfY]h]W]W`WcbW`d]hg`fY[ U]f]X]b[ `k`U]h]fZ`gc]Z`W]a`U]h]Z`h]fY`gZ`d`Ub]hg`gY`Y`gZ`UbX`gcW]Y]m  
U]a`YX`U]h]XYj`Y`cd]b[ `\_bck`YX[ Y`cZbU]h]fU`d`U]h]f]bg`k`]`]bZcfa`XYg][ b`?`Ym]h]YcfY]h]W]XYg][ b`WcbW`d]hg  
U]fY`Wci`d`YX`k`]h]Y]Ua`d`Yg`cZdYfa UW`hi fY`]b`U]W]h]cb`"

&`F`YgYU]fW]!gYf]j]W]!`YUfb]b[ `Z]Y`X`gh`Xm]gYa`]b]U]f]g`]b]fcXi`W`mci`hc`j`U]f]ci`g`dYfa UW`hi fY`g]h]g`]b]W]i`X]b[  
ga`U`i`fVUb`d]fcdY]f]YgZ`gi`Vi`fVUb`g]h]YgZ`UbX`Wc`a`a`i`b]m]U]bX`i`fVUb`Z]fa`g`W]Y`g]h]g`Mci`k`]`VY`Y]dY]W]W]X  
hc`d`U]f]h]W]d`U]h]`]b`d`fUW]h]W]`Y]dYf]YbW`Ug`d`U]f]h]cZ`Ub`YbYf[ m]Y]i`W]X`Ub[ Y`hc`Wc`a`dYbgU]h]`UbX`W`g]hcX]U]bg`Zc`f  
h]Y]f`h]a`Y`H\Y`Z]Y`X`Wc`a`dcbYb]h]g`XYg][ bYX`hc`Udd`m]U]bX`Vi`]X`i`dcb`h]Y`h]Ycfm]UbX`WcbW`d]hg`Wc`j`YfYX  
Xi`f]b[ `h]Y`]b]W]U]gg`Wc`a`dcbYb]h]cZ\Y`Wci`fgY`"

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g

5ggYgga YbhHUg_	K Y][ \h	8i Y'8UH	Gh XYbh@YUfb]b[ Ci hWta Yg'5ggYggYX
G]h'UbU`mg]g'UbX`WcbWdh XYg][ b`	' \$i	\$* # \$ + # & \$ % % % \$ \$ ' DA	%ž' &ž'
8Yg][ b'UbX`ja d`Ya YbhU]cb fYdcfh	) \$i	\$' # \$, # & \$ % % % \$ \$ ' DA	%ž' &ž' ž (
8Yg][ b`dYgYbhU]cb`	& \$i	Bch5dd`]WUVY	%ž' &ž' ž ( ž)

## 5ggYgga Ybh8YHU]`g

5ggYgga Ybh% 'G]h'UbU`mg]g'UbX`WcbWdhXYg][ b

GhUfhXUH. Bch5dd`]WUVY

@Yb[ h. %žžžž'k cfXg'fbch]bW X]b[ 'UHUW'a YbhgŁ'd'i g'WcbWdhXYg][ b'Xfuk ]b[

8YHU]`g.

Gh XYbhg'k ]`WccgY'Ub'i fVUbžgi Vi fVUb'cf'fi fU`g]h' h.YmUfY'dUfh]W`Uf'm]bhYfYghX#WcbYWYX'hc'UbX  
k ]`Wta d`Yh'U'g]h'UbU`mg]g'UbX`WcbWdhXYg][ b'f' d'hc' %žžžž'k cfXg'ž'XYg][ bŁ'H\]g'g]h'k ]`VY'h.Y  
gi VYWicZhY'a U'cfXYg][ b'UggYgga Ybh'

5ggYgga Ybh' . '8Yg][ b'dfYgYbhU]cb

@Yb[ h. 'B5

8YhU]g.

H\Y`ZbU`k YY\_cZhY`Wci fgY`k ]`U`ck `ghi XYbhg`hc`dfYgYbhH\Y]f`XYg][ b`hc`h\Y`WUgg" `H\Y`dfYgYbhU]cb  
g\ci `X`hU`Y`Ufci bX`' \$`a` ]bi`hYg"

⊖`UXX]h]cb`hc`a`Uf\_g`žei`Ygh]cbg`UbX`ZYXVUW`k`j`VY`[`j`Yb`Zc`ck`]b[ `h\Y`dfYgYbhU]cb"

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



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

Mci f\_YmfYUX]b[ g`UbX`chYf`a UHf]U`g`k ]`VY`Uj U]UV`Y`j ]U`mci f`A ccX`Y`g]H"

F YWca a YbXYX`F Ygci fWg

Mci `UfY`YI dYWYX`hc`a U\_Y`[ ccX`i gY`cZ`hY`fYUX]b[ g`dfcj ]XYX`Zc`f`hY`Wci fgYž`UbX`hc`fYUX`VYmcbX`hcgY



<YdVi fb`Gdf]b[ gžJ ]W`.A Y``cXcfU`Di V`g\]b[ ž&\$\$

[H\Y`hfUbg\]h\]cb`. `hc`U`gi`gfU\]bUV`Y`UbX`↑ghk`cfX](#)

: ``9``HfU]bYf

7 UbhYfVi fnžB "G"K "``9bj ]fcVcc\_žW&\$\$

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

H\]g`]g`U`bYk`W`i fgYž`WYUHYX`Ug`dUfhcZHY`Uf[ Yf`fyj ]g]cb`cZHY`A UghYf`cZ9bj ]fcba YbhU`A UbU[ Ya Ybh  
dfc[ fUa`Ui bWYX`]b`&\$\$%`DUghYI dYf]YbW`UbX`gh XYbhZYXVUW`cb`hY`I B GK`cb`]bY`gi fj Ymhc`  
a m9I dYf]YbW`]bX]WUHYg`hY`ja`dcfU`bVW`cZgh XYbhg`Xc]b[ `WcgY`UbX`WfYZ`fYUX]b[ `cZHY`k YY`m  
Ugg][ bYX`fYUX]b[ g`VY`Zc`fY`UHY`bX]b[ `gYa`]bUfgž`Yb[ U[ YX`gh XYbh`dUfh]W]dU]cb`]b`WUgg`X]gW`gg]cbg  
UbX`Z]Y`X`hf]dgž`UbX`cZgh XYbh]bXYdYbXYbh`fYgYUfVX`"

Gi Va ]gg]cb'cZ5ggYgga YbhiHUg\_g

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

Ẓmci YbWci bHyf'U'dfcV'Ya 'k \Yb'UHyYa dh]b[ 'hc'gi Va ]hmc i f'Ugg][ ba YbhiH'fci [ \ 'Hi fb]h]bž'd'YUgY  
Hy'Yd\cbY'9I HyfbU'Gi ddcfhcb'-', ) "' ' ' %cf'Ya U]'H'Ya 'cb'YI HyfbU'Hy'hygi ddcfh4 i bgk "YXi "Ui "'Gi ddcfh  
\ci fg'UfY', .\$\$Ua '—%\$. \$\$da 'cb'k YY\_XUmg'UbX'-. .\$\$Ua '—'). \$\$da 'cb'k YY\_YbXg'f1 \*) 'XUmg'U'mYUfL" Ẓmci  
UfY'i bUV'Y'hc'gi Va ]hmc i f'Ugg][ ba YbhiXi Y'hc'U'Zi 'hk ]H'Hi fb]h]b'mci 'a UmiUdd'mZcf'Ub'YI Hybg]cbž'Vi hmc i  
a i ghfYH]b'mci f'h]W'Yhbi a VYf'Z'ca '9I HyfbU'Gi ddcfhfU'cb[ 'k ]H'UbmicH'Yf'fY'Yj UbhXcW a Yb'gk'hc  
]bWi XY'Ug'Yj ]XYbW'hc'gi ddcfhmc i f'YI Hybg]cb'Udd'jW]h]cb" Ẓmci 'Ya U]'9I HyfbU'Gi ddcfhmc i 'k ]`

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

D`U[ ]Uf]ga `]g`i`g]b[ `h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[ `h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`b`h`U`\_`Y`a` `U`b`m`  
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[ `h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[ `Z`c`a` `U`g`c`i`f`W`k`]h`c`i`h`U`W`b`c`k` `Y`X[ `Y`a` `Y`b`h`

- 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'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'jb'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj ]Wg'UbX'jbZcfa 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 ""

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

## 5 WUXYa ]WbZcfa Uh]cb

: cfYggYbh]U`gh XYbh]bZcfa Uh]cb fY`Uh]b[ `tc.

- fYei Yghg`Zcf`YI H`bg]cb/
- `UhY`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I BGK `<YU`h`UbX`GUZY`mdc`]WYg/
- YI Ua ]bUh]cb`dfcW`Xi fYg/
- gdYW]U`W`bg]XYfUh]cb`]b`hY`Yj YbhicZ]`bYgg`cf`a ]gUXj Ybh fY/
- gh XYbhYei ]m]UbX`X]gUV`]m/
- UbX`c`hYf`YggYbh]U`UWUXYa ]W]bZcfa Uh]cbz`gYY

[\fhdg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbh\]gh XYbh\]UWUXYa \]W\]bZcfa Uh\]cb#dfchW`g`\[ i \]XY`\]bYg#](#)

⇒ U[ Y`7fYX]h

6mi>UWèi ]`6Yg[ fcj Y`"Gi bf]gY`]b`K c`cb[ cb[ "

7F ⇒ CG

7F ⇒ CG`Dfcj ]XYf`7cXY.`\$\$\$- ;

5W\_bck `YX[ Ya YbhicZ7ci bhfm

K Y`UW\_bck `YX[ Y`hY`6YXY[ U`dYcd`Y`k `c`UfY`hY`fUX]h]cbU`W`ghcX]Ubg`cZ`hY`UbXg`cb`k `]W`I BGK  
? Ybg]b[ hcb`W]a di g`]g`cW]hYX"